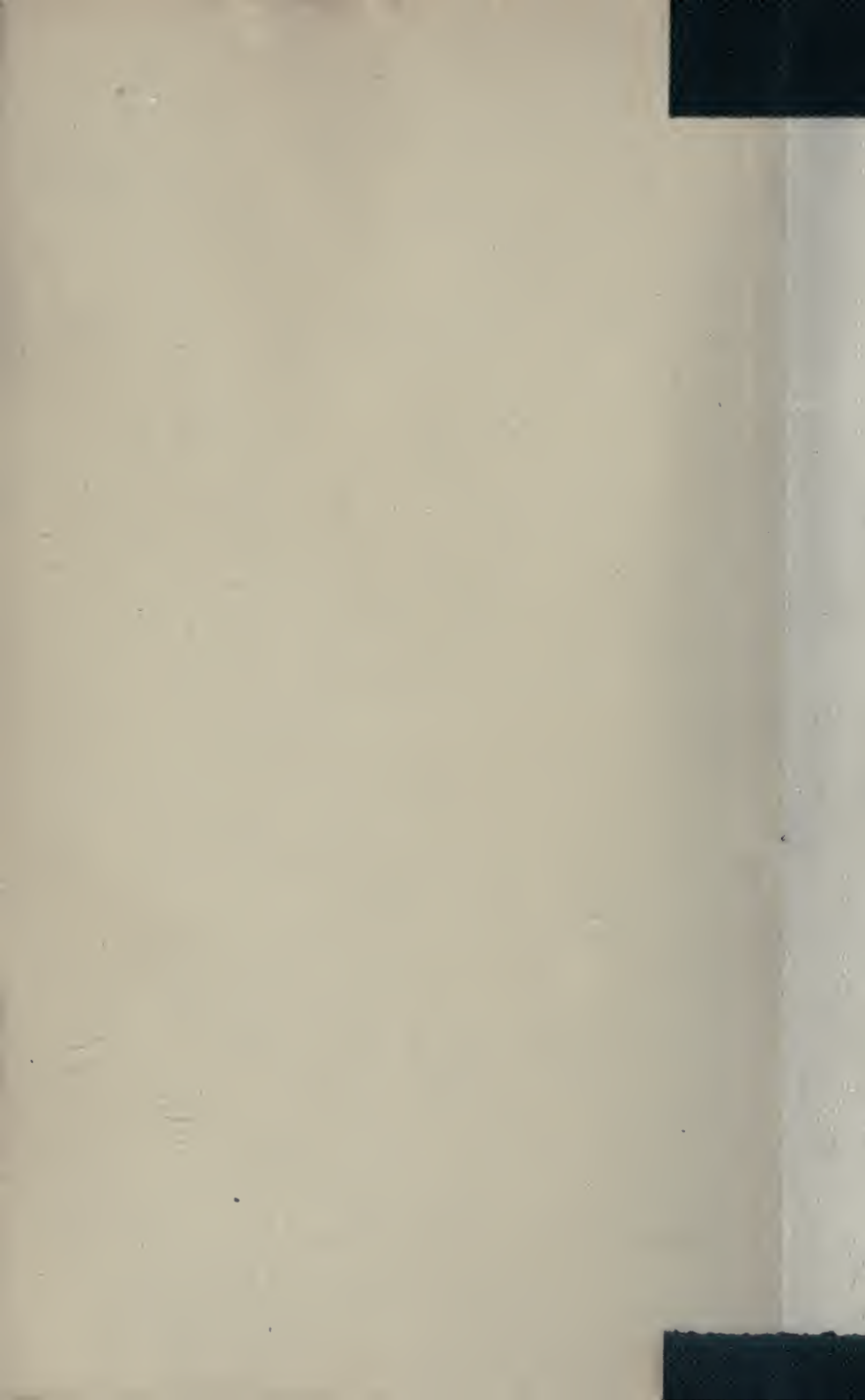
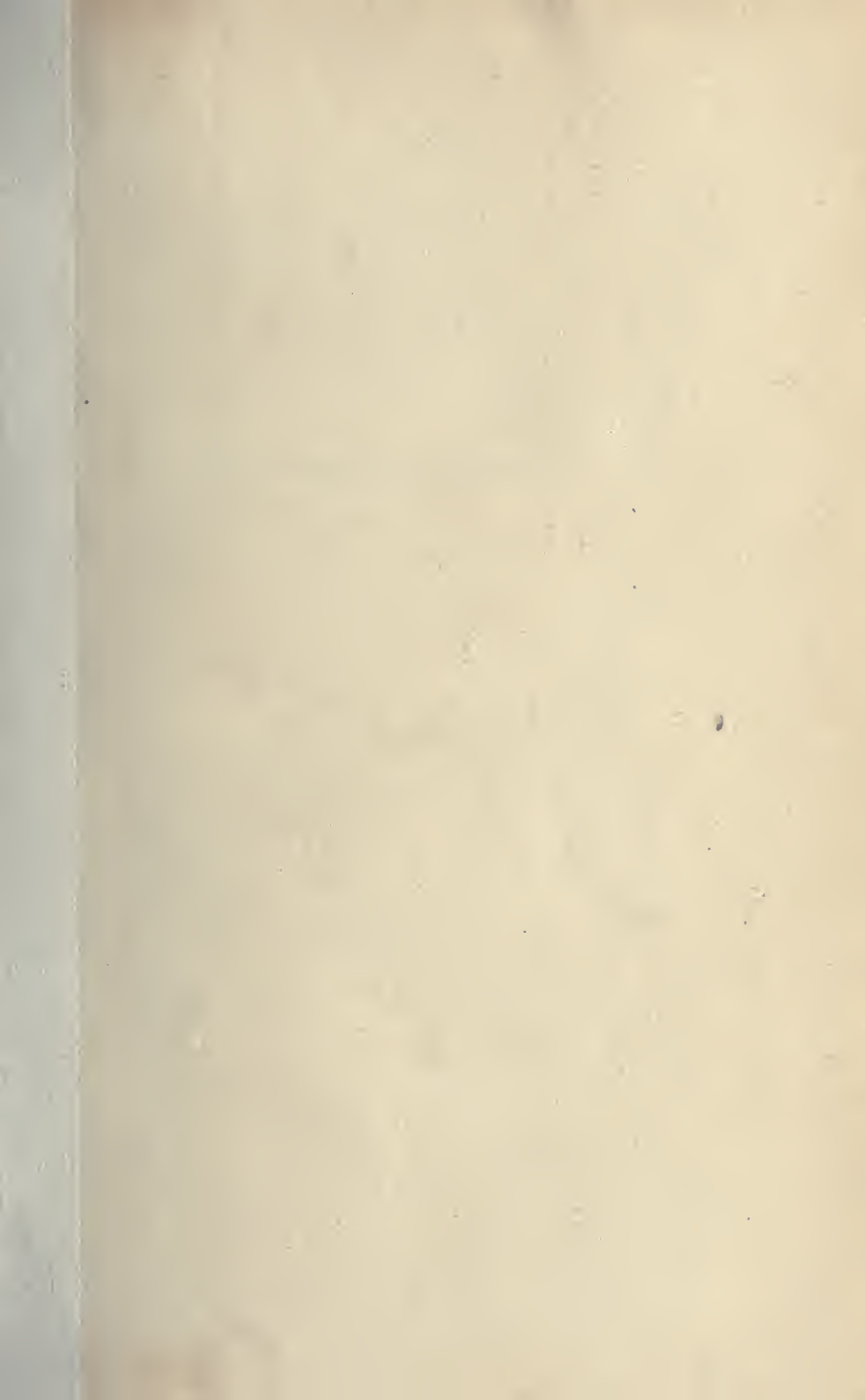


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THE COMPLETE WORKS

OF

JOHN RUSKIN

VOLUME XV



THE EAGLE'S NEST

ARIADNE FLORENTINA

LOVE'S MEINIE



The Complete Works of
John Ruskin

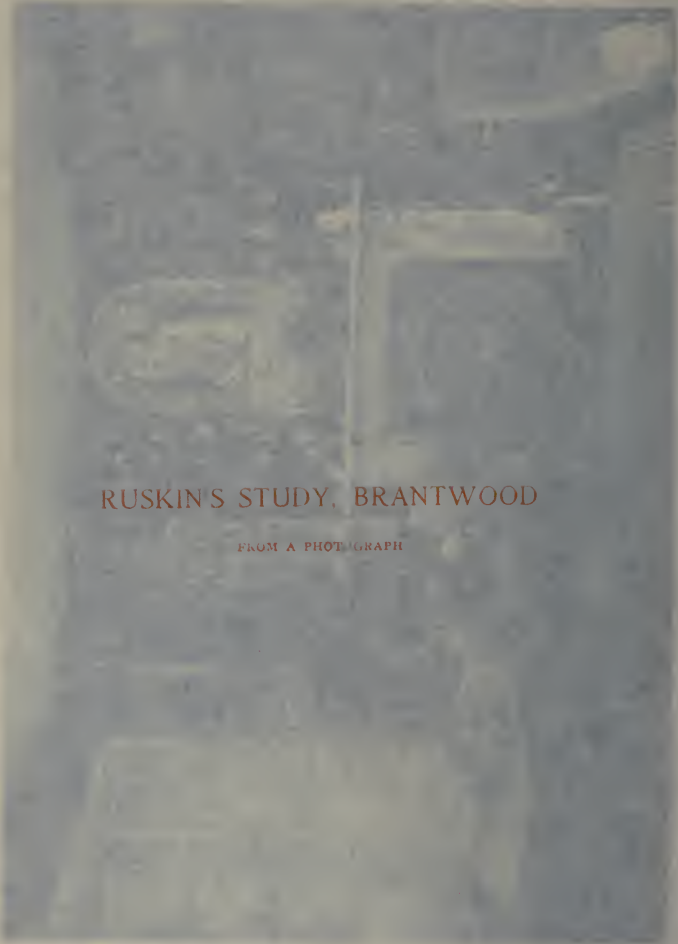
The Eagle's Nest
Eagle's Nest
Archie's Excursions
The O'Arms

BY THE AUTHOR

— 1871 —



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RUSKIN'S STUDY, BRANTWOOD

FROM A PHOTOGRAPH

The Complete Works of
John Ruskin

The Eagle's Nest
Lobe's Meinie
Ariadne Florentina
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THE EAGLE'S NEST.

TEN LECTURES

ON THE RELATION OF

NATURAL SCIENCE TO ART,

GIVEN BEFORE THE UNIVERSITY OF OXFORD,

IN LENT TERM, 1872.

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PREFACE.

THE following Lectures have been written, not with less care, but with less pains, than any in former courses, because no labor could have rendered them exhaustive statements of their subjects, and I wished, therefore, to take from them every appearance of pretending to be so: but the assertions I have made are entirely deliberate, though their terms are unstudied; and the one which to the general reader will appear most startling, that the study of anatomy is destructive to art, is instantly necessary in explanation of the system adopted for the direction of my Oxford schools.

At the period when engraving might have become to art what printing became to literature, the four greatest point-draughtsmen hitherto known, Mantegna, Sandro Botticelli, Dürer, and Holbein, occupied themselves in the new industry. All these four men were as high in intellect and moral sentiment as in art-power; and if they had engraved as Giotto painted, with popular and unscientific simplicity, would have left an inexhaustible series of prints, delightful to the most innocent minds, and strengthening to the most noble.

But two of them, Mantegna and Dürer, were so polluted and paralyzed by the study of anatomy that the former's best works (the magnificent mythology of the Vices in the Louvre, for instance) are entirely revolting to all women and children; while Dürer never could draw one beautiful female form or face; and, of his important plates, only four, the Melancholia, St. Jerome in his study, St. Hubert, and The Knight and Death, are of any use for popular instruction, because in these only, the figures being fully draped or armed, he was enabled to think and feel rightly, being delivered from the ghastly toil of bone-delineation.

Botticelli and Holbein studied the face first, and the limbs secondarily; and the works they have left are therefore (without exception) precious; yet saddened and corrupted by the influence which the contemporary masters of body-drawing exercised on them; and at last eclipsed by their false fame. I purpose, therefore, in my next course of lectures, to explain the relation of these two draughtsmen to other masters of design, and of engraving.

BRANTWOOD, *Sept. 2d, 1872.*

THE EAGLE'S NEST.

LECTURE I.

OF WISDOM AND FOLLY IN ART.*

8th February, 1872.

1. THE Lectures I have given hitherto, though, in the matter of them conscientiously addressed to my undergraduate pupils, yet were greatly modified in method by my feeling that this undergraduate class, to which I wished to speak, was indeed a somewhat imaginary one; and that, in truth, I was addressing a mixed audience, in greater part composed of the masters of the University, before whom it was my duty to lay down the principles on which I hoped to conduct, or prepare the way for the conduct of, these schools, rather than to enter on the immediate work of elementary teaching. But to-day, and henceforward most frequently, we are to be engaged in definite, and, I trust, continuous studies; and from this time forward, I address myself wholly to my undergraduate pupils; and wish only that my Lectures may be serviceable to them, and, as far as the subject may admit of it, interesting.

2. And, farther still, I must ask even my younger hearers to pardon me if I treat that subject in a somewhat narrow, and simple way. They have a great deal of hard work to

* The proper titles of these lectures, too long for page headings, are given in the Contents.

do in other schools: in these, they must not think that I underrate their powers, if I endeavor to make everything as easy to them as possible. No study that is worth pursuing seriously can be pursued without effort; but we need never make the effort painful merely for the sake of preserving our dignity. Also, I shall make my Lectures shorter than heretofore. What I tell you I wish you to remember; and I do not think it possible for you to remember well much more than I can easily tell you in half-an-hour. I will promise that, at all events, you shall always be released so well within the hour, that you can keep any appointment accurately for the next. You will not think me indolent in doing this; for, in the first place, I can assure you, it sometimes takes me a week to think over what it does not take a minute to say: and, secondly, believe me, the least part of the work of any sound art-teacher must be his talking. Nay, most deeply also, it is to be wished that, with respect to the study which I have to bring before you to-day, in its relation to art, namely, natural philosophy, the teachers of it, up to this present century, had done less work in talking, and more in observing: and it would be well even for the men of this century, pre-eminent and accomplished as they are in accuracy of observation, if they had completely conquered the old habit of considering, with respect to any matter, rather what is to be said, than what is to be known.

3. You will, perhaps, readily admit this with respect to science; and believe my assertion of it with respect to art. You will feel the probable mischief, in both these domains of intellect, which must follow on the desire rather to talk than to know, and rather to talk than to do. But the third domain, into the midst of which, here, in Oxford, science and art seem to have thrust themselves hotly, like intrusive rocks, not without grim disturbance of the anciently fruitful plain;—your Kingdom or Princedom of Literature? Can we carry our statement into a third parallelism, for that? It is ill for Science, we say, when men desire to talk rather than to know; ill for Art, when they desire to talk rather than

to do. Ill for Literature, when they desire to talk—is it? and rather than—what else? Perhaps you think that literature means nothing else than talking?—that the triple powers of science, art, and scholarship, mean simply the powers of knowing, doing, and saying. But that is not so in any wise. The faculty of saying or writing anything well, is an art, just as much as any other; and founded on a science as definite as any other. Professor Max Müller teaches you the science of language; and there are people who will tell you that the only art I can teach you myself, is the art of it. But try your triple parallelism once more, briefly, and see if another idea will not occur to you. In science, you must not talk before you know. In art, you must not talk before you do. In literature you must not talk before you—think.

That is your third Province. The Kingdom of Thought, or Conception.

And it is entirely desirable that you should define to yourselves the three great occupations of men in these following terms:—

- SCIENCE . . . The knowledge of things, whether Ideal or Substantial.
- ART The modification of Substantial things by our Substantial Power.
- LITERATURE . . . The modification of Ideal things by our Ideal Power.

4. But now observe. If this division be a just one, we ought to have a word for literature, with the 'Letter' left out of it. It is true that, for the most part, the modification of ideal things by our ideal power is not complete till it is expressed; nor even to ourselves delightful, till it is communicated. To letter it and label it—to inscribe and to word it rightly—this is a great task, and it is the part of literature which can be most distinctly taught. But it is only the formation of its body. And the soul of it can exist without the body; but not at all the body without the

soul; for that is true no less of literature than of all else in us or of us—"litera occidit, spiritus autem vivificat."

Nevertheless, I must be content to-day with our old word. We cannot say 'spiriture' nor 'animature,' instead of literature; but you must not be content with the vulgar interpretation of the word. Remember always that you come to this University,—or, at least, your fathers came,—not to learn how to say things, but how to think them.

5. "How to think them! but that is only the art of logic," you perhaps would answer. No, again, not at all: logic is a method, not a power; and we have defined literature to be the modification of ideal things by ideal power, not by mechanical method. And you come to the University to get that power, or develop it; not to be taught the mere method of using it.

I say you come to the University for this; and perhaps some of you are much surprised to hear it! You did not know that you came to the University for any such purpose. Nay, perhaps you did not know that you had come to a University at all? You do not at this instant, some of you, I am well assured, know what a University means. Does it mean, for instance—can you answer me in a moment, whether it means—a place where everybody comes to learn something; or a place where somebody comes to learn everything? It means—or you are trying to make it mean—practically and at present, the first; but it means theoretically, and always, the last; a place where only certain persons come, to learn *everything*; that is to say, where those who wish to be able to think, come to learn to think: not to think of mathematics only, nor of morals, nor of surgery, nor chemistry, but of everything, rightly.

6. I say you do not all know this; and yet, whether you know it or not,—whether you desire it or not,—to some extent the everlasting fitness of the matter makes the facts conform to it. For we have at present, observe, schools of three kinds, in operation over the whole of England. We have—I name it first, though, I am sorry to say, it is last

in influence—the body consisting of the Royal Academy, with the Institute of Architects, and the schools at Kensington, and their branches; teaching various styles of fine or mechanical art. We have, in the second place, the Royal Society, as a central body; and, as its satellites, separate companies of men devoted to each several science: investigating, classing, and describing facts with unwearied industry. And lastly and chiefly, we have the great Universities, with all their subordinate public schools, distinctively occupied in regulating,—as I think you will at once admit,—not the language merely, nor even the language principally, but the modes of philosophical and imaginative thought in which we desire that youth should be disciplined, and age informed and majestic. The methods of language, and its range; the possibilities of its beauty, and the necessities for its precision, are all dependent upon the range and dignity of the unspoken conceptions which it is the function of these great schools of literature to awaken, and to guide.

7. The range and dignity of *conceptions!* Let us pause a minute or two at these words, and be sure we accept them.

First, what is a conception? What is this separate object of our work, as scholars, distinguished from artists, and from men of science?

We shall discover this better by taking a simple instance of the three agencies.

Suppose that you were actually on the plain of Pæstum, watching the drift of storm-cloud which Turner has here engraved.* If you had occupied yourself chiefly in schools of science, you would think of the mode in which the electricity was collected; of the influence it had on the shape and motion of the cloud; of the force and duration of its flashes, and of other such material phenomena. If you were an artist, you would be considering how it might be possible, with the means at your disposal, to obtain the brilliancy of the light, or the depth of the gloom. Finally, if you were

* Educational Series, No. 8, E.

a scholar, as distinguished from either of these, you would be occupied with the imagination of the state of the temple in former times; and as you watched the thunder-clouds drift past its columns, and the power of the God of the heavens put forth, as it seemed, in scorn of the departed power of the god who was thought by the heathen to shake the earth—the utterance of your mind would become, whether in actual words or not, such as that of the Psalmist:—“ Clouds and darkness are round about Him—righteousness and judgment are the habitation of His throne.” Your thoughts would take that shape, of their own accord, and if they fell also into the language, still your essential scholarship would consist, not in your remembering the verse, still less in your knowing that “ judgment ” was a Latin word, and “ throne ” a Greek one; but in your having power enough of conception, and elevation enough of character, to understand the nature of justice, and be appalled before the majesty of dominion.

8. You come, therefore, to this University, I repeat once again, that you may learn how to form conceptions of proper range or grasp, and proper dignity, or worthiness. Keeping then the ideas of a separate school of art, and separate school of science, what have you to learn in these? You would learn in the school of art, the due range and dignity of deeds; or doings—(I prefer the word to “ makings,” as more general), and in the school of science, you would have to learn the range and dignity of knowledges.

Now be quite clear about this: be sure whether you really agree with me or not.

You come to the School of Literature, I say, to learn the range and dignity of conceptions.

To the School of Art, to learn the range and dignity of deeds.

To the School of Science, to learn the range and dignity of knowledges.

Do you agree to that, or not? I will assume that you admit my triple division; but do you think, in opposition to me, that a school of science is still a school of science, what-

ever sort of knowledge it teaches; and a school of art still a school of art, whatever sort of deed it teaches; and a school of literature still a school of literature, whatever sort of notion it teaches?

Do you think that? for observe, my statement denies that. My statement is, that a school of literature teaches you to have one sort of conception, not another sort; a school of art to do a particular sort of deed, not another sort; a school of science to possess a particular sort of knowledge, not another sort.

9. I assume that you differ with me on this point;—some of you certainly will. Well then, let me go back a step. You will all go thus far with me, that—now taking the Greek words—the school of literature teaches you to have *νοῦς*, or conception of things, instead of *ἄνοια*,—no conception of things; that the school of art teaches you *τέχνη* of things, instead of *ἀτεχνία*; and the school of science *ἐπιστήμη*, instead of *ἄγνοια* or ‘ignorantia.’ But, you recollect, Aristotle names two other faculties with these three,—*φρόνησις*, namely, and *σοφία*. He has altogether five, *τέχνη*, *ἐπιστήμη*, *φρονησις*, *σοφία*, *νοῦς*; that is to say, in simplest English,—art, science, sense, wisdom, and wit. We have got our art, science, and wit, set over their three domains; and we old people send you young ones to those three schools, that you may not remain artless, scienceless, nor witless. But how of the sense, and the wisdom? What domains belong to these? Do you think our trefoil division should become cinquefoil, and that we ought to have two additional schools; one of *Philosophia*, and one of *Philopronesia*? If Aristotle’s division were right it would be so. But his division is wrong, and he presently shows it is; for he tells you in the next page, (in the sentence I have so often quoted to you,) that “the virtue of art is the wisdom which consists in the wit of what is honorable.” Now that is perfectly true; but it of course vitiates his division altogether. He divides his entire subject into *A*, *B*, *C*, *D*, and *E*; and then he tells you that the virtue of *A* is the *B* which consists in *C*. Now you will continually find, in

this way, that Aristotle's assertions are right, but his divisions illogical. It is quite true that the virtue of art is the wisdom which consists in the wit of what is honorable; but also the virtue of science is the wit of what is honorable, and in the same sense, the virtue of *νοῦς*, or wit itself, consists in its *being* the wit or conception of what is honorable. *Σοφία*, therefore, is not only the *ἀρετή τέχνης*, but, in exactly the same sense, the *ἀρετή ἐπιστήμης*, and in this sense, it is the *ἀρετή νόου*. And if not governed by *σοφία*, each school will teach the vicious condition of its own special faculty. As *σοφία* is the *ἀρετή* of all three, so *μωρία* will be the *κακία* of all three.

10. Now in this, whether you agree with me or not, let me be at least sure you understand me. *Σοφία*, I say, is the virtue, *μωρία* is the vice, of all the three faculties of art, science, and literature. There is for each of them a negative and a positive side, as well as a zero. There is a *nescience* for zero in science—with wise science on one side, foolish science on the other: *ἀτεχνία* for zero in art, with wise art on one side, foolish art on the other; and *ἄνοια* for zero in *νοῦς*, with wise *νοῦς* on one side, foolish *νοῦς* on the other.

11. You will smile at that last expression, 'foolish *νοῦς*.' Yet it is, of all foolish things, the commonest and deadliest. We continually complain of men, much more of women, for reasoning ill. But it does not matter how they reason, if they don't conceive basely. Not one person in a hundred is capable of seriously reasoning; the difference between man and man is in the quickness and quality, the accipitrine intensity, the olfactory choice, of his *νοῦς*. Does he hawk at game or carrion? What you choose to grasp with your mind is the question;—not how you handle it afterwards. What does it matter how you build, if you have bad bricks to build with; or how you reason, if every idea with which you begin is foul or false? And in general all fatal false reasoning proceeds from people's having some one false no-

tion in their hearts, with which they are resolved that their reasoning *shall* comply.

But, for better illustration, I will now take my own special subject out of the three;—τέχνη. I have said that we have, for its zero, ἀτεχνία, or artlessness—in Latin, ‘inertia,’ opposed to ‘ars.’ Well, then, we have, from that zero, wise art on the one side, foolish art on the other; and the finer the art, the more it is capable of this living increase, or deadly defect. I will take, for example, first, a very simple art, then a finer one; but both of them arts with which most of you are thoroughly acquainted.

12. One of the simplest pieces of perfect art, which you are yourselves in the habit of practicing, is the stroke of an oar given in true time. We have defined art to be the wise modification of matter by the body (substantial things by substantial power, § 3). With a good oar-stroke you displace a certain quantity of water in a wise way. Supposing you missed your stroke, and caught a crab, you would displace a certain quantity of water in a foolish way, not only ineffectually, but in a way the reverse of what you intended. The perfectness of the stroke implies not only absolutely accurate knowledge or science of the mode in which water resists the blade of an oar, but the having in past time met that resistance repeatedly with greater and greater rightness of adaptation to the end proposed. That end being perfectly simple,—the advance of the boat as far as possible with a given expenditure of strength, you at once recognize the degree in which the art falls short of, or the artlessness negatives, your purpose. But your being ‘σοφός,’ as an oarsman, implies much more than this mere art founded on pure science. The fact of your being able to row in a beautiful manner depends on other things than the knowledge of the force of water, or the repeated practice of certain actions in resistance to it. It implies the practice of those actions under a resolved discipline of the body, involving regulation of the passions. It signifies submission to the authority, and amicable concurrence with the humors, of other persons; and so far as it is

beautifully done at last, absolutely signifies therefore a moral and intellectual rightness, to the necessary extent influencing the character honorably and graciously. This is the sophia, or wit, of what is most honorable, which is concerned in rowing, without which it must become no rowing, or the reverse of rowing.

13. Let us next take example in an art which perhaps you will think (though I hope not) much inferior to rowing, but which is in reality a much higher art—dancing. I have just told you (§ 11) how to test the rank of arts—namely, by their corruptibility, as you judge of the fineness of organic substance. The moria,* or folly, of rowing, is only ridiculous, but the moria, or folly, of dancing, is much worse than ridiculous; and, therefore, you may know that its sophia, or wisdom, will be much more beautiful than the wisdom of rowing. Suppose, for instance, a minuet danced by two lovers, both highly bred, both of noble character, and very much in love with each other. You would see, in that, an art of the most highly finished kind, under the government of a sophia which dealt with the strongest passions, and most exquisite perceptions of beauty, possible to humanity.

14. For example of the contrary of these, in the same art, I cannot give you one more definite than that which I saw at, I think, the Gaiety Theater—but it might have been at any London theater now,—two years ago.

The supposed scene of the dance was Hell, which was painted in the background with its flames. The dancers were supposed to be demons, and wore black masks, with red tinsel for fiery eyes; the same red light was represented as coming out of their ears also. They began their dance by ascending through the stage on spring trap-doors, which threw them at once ten feet into the air; and its performance consisted in the expression of every kind of evil passion, in frantic excess.

* If the English reader will pronounce the o in this word as in fold, and in sophia as in sop, but accenting the o, not the i, I need not any more disturb my pages with Greek types.

15. You will not, I imagine, be at a loss to understand the sense in which the words *sophia* and *moria* are to be rightly used of these two methods of the same art. But those of you who are in the habit of accurate thinking will at once perceive that I have introduced a new element into my subject by taking an instance in a higher art. The folly of rowing consisted mainly in not being able to row; but this folly of dancing does not consist in not being able to dance, but in dancing well with evil purpose; and the better the dancing, the worse the result.

And now I am afraid I must tease you by asking your attention to what you may at first think a vain nicety in analysis, but the nicety is here essential, and I hope throughout this course of Lectures, not to be so troublesome to you again.

16. The mere negation of the power of art—the zero of it—you say, in rowing, is ridiculous. It is, of course, not less ridiculous in dancing. But what do you mean by ridiculous? You mean contemptible, so as to provoke laughter. The contempt, in either case, is slight, in ordinary society; because, though a man may neither know how to row, or dance, he may know many other things. But suppose he lived where he could not know many other things? By a stormy sea-coast, where there could be no fresco-painting, in a poor country, where could be none of the fine arts connected with wealth, and in a simple, and primitive society, not yet reached by refinements of literature; but where good rowing was necessary for the support of life, and good dancing, one of the most vivid aids to domestic pleasure. You would then say that inability to row, or to dance, was far worse than ridiculous; that it marked a man for a good-for-nothing fellow, to be regarded with indignation, as well as contempt.

Now, remember, the inertia or zero of art always involves this kind of crime, or at least, pitiableness. The want of opportunity of learning takes away the moral guilt of artlessness; but the want of opportunity of learning such arts as are

becoming in given circumstances, may indeed be no crime in an individual, but cannot be alleged in its defense by a nation. National ignorance of decent art is always criminal, unless in earliest conditions of society; and then it is brutal.

17. To that extent, therefore, culpably or otherwise, a kind of moria, or folly, is always indicated by the zero of art-power. But the true folly, or assuredly culpable folly, is in the exertion of our art power in an evil direction. And here we need the finesse of distinction, which I am afraid will be provoking to you. Observe, first, and simply, that the possession of any art-power at all implies a sophia of *some* kind. These demon dancers, of whom I have just spoken, were earning their bread by severe and honest labor. The skill they possessed could not have been acquired but by great patience and resolute self-denial; and the very power with which they were able to express, with precision, states of evil passion, indicated that they had been brought up in a society which, in some measure, knew evil from good, and which had, therefore, some measure of good in the midst of it. Nay, the farther probability is, that if you inquired into the life of these men, you would find that this demon dance had been invented by some one of them with a great imaginative power, and was performed by them not at all in preference of evil, but to meet the demand of a public whose admiration was capable of being excited only by violence of gesture, and vice of emotion.

18. In all cases, therefore, observe, where the opportunity of learning has been given; the existence of the art-power indicates sophia and its absence indicates moria. That great fact I endeavored to express to you, two years since, in my third introductory Lecture. In the present course I have to show you the action of the final, or higher sophia, which directs the skill of art to the best purposes; and of the final, or lower moria, which misdirects them to the worst. And the two points I shall endeavor to bring before you throughout will be these:—First, that the object of University teach-

ing is to form your conceptions;—not to acquaint you with arts, nor sciences. It is to give you a notion of what is meant by smith's work, for instance;—but not to make you blacksmiths. It is to give you a notion of what is meant by medicine, but not to make you physicians. The proper academy for blacksmiths is a blacksmith's forge; the proper academy for physicians is an hospital. Here you are to be taken away from the forge, out of the hospital, out of all special and limited labor and thought, into the 'Universitas' of labor and thought, that you may in peace, in leisure, in calm of disinterested contemplation, be enabled to conceive rightly the laws of nature, and the destinies of Man.

19. Then the second thing I have to show you is that over these three kingdoms of imagination, art, and science, there reigns a virtue or faculty, which from all time, and by all great people, has been recognized as the appointed ruler and guide of every method of labor, or passion of soul; and the most glorious recompense of the toil, and crown of the ambition of man. "She is more precious than rubies, and all the things thou canst desire are not to be compared unto her. Lay fast hold upon her; let her not go; keep her, for she is thy life."

Are not these, and the innumerable words like to these, which you remember as I read them, strange words, if Aristotle's statement respecting wisdom be true; that it never contemplates anything that can make men happy, "*ἡ μὲν γὰρ σοφία οὐδέν θεωρεῖ ἐξ ὧν ἔσται εὐδαιμόνων ἄνθρωπος*"?

When we next meet, therefore, I purpose to examine what it is which wisdom, by preference, contemplates; what choice she makes among the thoughts and sciences open to her, and to what purpose she employs whatever science she may possess.

And I will briefly tell you, beforehand, that the result of the inquiry will be, that instead of regarding none of the sources of happiness, she regards nothing else; that she measures all worthiness by pure felicity; that we are permitted to conceive her as the cause even of gladness to God—

“I was daily His delight, rejoicing always before Him,”—and that we are commanded to *know* her as queen of the populous world, “rejoicing in the habitable parts of the Earth, and whose delights are with the sons of Men.”

LECTURE II.

OF WISDOM AND FOLLY IN SCIENCE.

10th February, 1872.

20. IN my last lecture I asserted the positive and negative powers of literature, art, and science; and endeavored to show you some of the relations of wise art to foolish art. To-day we are to examine the nature of these, positive and negative powers in science; it being the object of every true school to teach the positive or constructive power, and by all means to discourage, reprove, and extinguish the negative power.

It is very possible that you may not often have thought of, or clearly defined to yourselves, this destructive or deadly character of some elements of science. You may indeed have recognized with Pope that a little knowledge was dangerous, and you have therefore striven to drink deep; you may have recognized with Bacon, that knowledge might partially become venomous; and you may have sought, in modesty and sincerity, antidote to the inflating poison. But that there is a ruling spirit or *σοφία*, under whose authority you are placed, to determine for you, first the choice, and then the use of all knowledge whatsoever; and that if you do not appeal to that ruler, much more if you disobey her, all science becomes to you ruinous in proportion to its accumulation, and as a net to your soul, fatal in proportion to the fineness of its thread,—this, I imagine, few of you, in the zeal of learning, have suspected, and fewer still have pressed their suspicion so far as to recognize or believe.

21. You must have nearly all heard of, many must have seen, the singular paintings; some also may have read the poems, of William Blake. The impression that his drawings once made is fast, and justly, fading away, though they are not without noble merit. But his poems have much more than merit; they are written with absolute sincerity, with infinite tenderness, and, though in the manner of them diseased and wild, are in verity the words of a great and wise mind, disturbed, but not deceived, by its sickness; nay, partly exalted by it, and sometimes giving forth in fiery aphorism some of the most precious words of existing literature. One of these passages I will ask you to remember; it will often be serviceable to you—

“ Doth the Eagle know what is in the pit,
Or wilt thou go ask the Mole?”

It would be impossible to express to you in briefer terms the great truth that there is a different kind of knowledge good for every different creature, and that the glory of the higher creatures is in ignorance of what is known to the lower.

22. And, above all, this is true of man; for every other creature is compelled by its instinct to learn its own appointed lesson, and must centralize its perception in its own being. But man has the choice of stooping in science beneath himself, and striving in science beyond himself; and the “ Know thyself ” is, for him, not a law to which he must in peace submit; but a precept which of all others is the most painful to understand, and the most difficult to fulfill. Most painful to understand, and humiliating: and this alike, whether it be held to refer to the knowledge beneath us, or above. For, singularly enough, men are always most conceited of the meanest science:—

“ Doth the Eagle know what is in the pit,
Or wilt thou go ask the Mole?”

It is just those who grope with the mole, and cling with the bat, who are vainest of their sight and of their wings.

23. "Know *thyself*;" but can it indeed be sophia,—can it be the noble wisdom, which thus speaks to science? Is not this rather, you will ask, the voice of the lower virtue of prudence, concerning itself with right conduct, whether for the interests of this world or of the future? Does not sophia regard all that is above and greater than man; and by so much as we are forbidden to bury ourselves in the mole's earth-heap, by so much also, are we not urged to raise ourselves towards the stars?

Indeed, it would at first seem so; nay, in the passage of the *Ethics*, which I proposed to you to-day for question, you are distinctly told so. There are, it is said, many different kinds of phronesis, by which every animal recognizes what is for its own good: and man, like any other creature, has his own separate phronesis telling him what he is to seek, and to do, for the preservation of his life: but above all these forms of prudence, the Greek sage tells you, is the sophia of which the objects are unchangeable and eternal, the methods consistent, and the conclusions universal; and this wisdom has no regard whatever to the things in which the happiness of man consists, but acquaints itself only with the things that are most honorable; so that "we call Anaxagoras and Thales, and such others, wise indeed, but not prudent, in that they know nothing of what is for their own advantage, but know surpassing things, marvelous things, difficult things, and divine things."

24. Now here is a question which evidently touches *us* closely. We profess at this day to be an especially prudent nation;—to regard only the things which are for our own advantage; to leave to other races the knowledge of surpassing things, marvelous things, divine things, or beautiful things; and in our exceeding prudence we are, at this moment, refusing the purchase of, perhaps, the most interesting picture by Raphael in the world, and, certainly, one of the most beautiful works ever produced by the art-wisdom of

man, for five-and-twenty thousand pounds, while we are debating whether we shall not pay three hundred millions to the Americans, as a fine for selling a small frigate to Captain Semmes. Let me reduce these sums from thousands of pounds, to single pounds; you will then see the facts more clearly; (there is not one person in a million who knows what a "million" means; and that is one reason the nation is always ready to let its ministers spend a million or two in cannon, if they can show they have saved twopence-halfpenny in tape). These are the facts then, stating pounds for thousands of pounds; you are offered a Nativity, by Raphael, for five-and-twenty pounds, and cannot afford it; but it is thought you may be bullied into paying three hundred thousand pounds, for having sold a ship to Captain Semmes. I do not say you will pay it. Still your present position is one of depreciation and humility, and that is the kind of result which you bring about by acting with what you call "practical common sense," instead of Divine wisdom.

25. Perhaps you think I am losing Aristotle's notion of common sense, by confusing it with our vulgar English one; and that selling ships or ammunition to people whom we have not courage to fight either for or against, would not by Aristotle have been held a phronetic, or prudent proceeding. Be it so; let us be certain then, if we can, what Aristotle does mean. Take the instance I gave you in the last lecture, of the various modes of feeling in which a master of literature, of science, and of art, would severally regard the storm round the temples of Pæstum.

The man of science, we said, thought of the origin of the electricity; the artist of its light in the clouds, and the scholar, of its relation to the power of Zeus and Poseidon. There you have Episteme; Techne; and Nous; well, now what does Phronesis do?

Phronesis puts up his umbrella, and goes home as fast as he can. Aristotle's Phronesis at least does; having no regard for marvelous things. But are you sure that Aristotle's Phronesis is indeed the right sort of Phronesis? May

there not be a commonsense, as well as an art, and a science, under the command of sophia? Let us take an instance of a more subtle kind.

26. Suppose that two young ladies, (I assume in my present lectures, that none are present, and that we may say among ourselves what we like; and we do like, do we not, to suppose that young ladies excel us only in prudence, and not in wisdom?) let us suppose that two young ladies go to the observatory on a winter night, and that one is so anxious to look at the stars that she does not care whether she gives herself cold, or not; but the other is prudent, and takes care, and looks at the stars only as long as she can without catching cold. In Aristotle's mind the first young lady would properly deserve the name of Sophia, and the other that of Prudence. But in order to judge them fairly, we must assume that they are acting under exactly the same conditions. Assume that they both equally desire to look at the stars; then, the fact that one of them stops when it would be dangerous to look longer, does not show that she is less wise,—less interested, that is to say, in surpassing and marvelous things;—but it shows that she has more self-command, and is able therefore to remember what the other does not think of. She is equally wise, and more sensible. But suppose that the two girls are originally different in disposition; and that the one, having much more imagination than the other, is more interested in these surpassing and marvelous things; so that the self-command, which is enough to stop the other, who cares little for the stars, is not enough to stop her who cares much for them;—you would say, then, that, both the girls being equally sensible, the one that caught cold was the wisest.

27. Let us make a farther supposition. Returning to our first condition, that both the girls desire equally to look at the stars; let us put it now that both have equal self-command, and would therefore, supposing no other motives were in their minds, together go on star-gazing, or together stop star-gazing; but that one of them has greater consideration for her friends than the other, and though she would not mind

catching cold for her own part, would mind it much for fear of giving her mother trouble. She will leave the stars first, therefore; but should we be right now in saying that she was only more sensible than her companion, and not more wise? This respect for the feelings of others, this understanding of her duty towards others, is a much higher thing than the love of stars. It is an imaginative knowledge, not of balls of fire or differences of space, but of the feelings of living creatures, and of the forces of duty by which they justly move. This is a knowledge, or perception, therefore, of a thing more surpassing and marvelous than the stars themselves, and the grasp of it is reached by a higher sophia.

28. Will you have patience with me for one supposition more? We may assume the attraction of the spectacle of the heavens to be equal in degree, and yet, in the minds of the two girls, it may be entirely different in kind. Supposing the one versed somewhat in abstract Science, and more or less acquainted with the laws by which what she now sees may be explained; she will probably take interest chiefly in questions of distance and magnitude, in varieties of orbit, and proportions of light. Supposing the other not versed in any science of this kind, but acquainted with the traditions attached by the religion of dead nations to the figures they discerned in the sky: she will care little for arithmetical or geometrical matters, but will probably receive a much deeper emotion, from witnessing in clearness what has been the amazement of so many eyes long closed; and recognizing the same lights, through the same darkness, with innocent shepherds and husbandmen, who knew only the risings and settings of the immeasurable vault, as its lights shone on their own fields or mountains; yet saw true miracle in them, thankful that none but the Supreme Ruler could bind the sweet influences of Pleiades, or loose the bands of Orion. I need not surely tell you, that in this exertion of the intellect and the heart, there would be a far nobler sophia than any concerned with the analysis of matter, or the measurement of space.

29. I will not weary you longer with questions, but simply tell you, what you will find ultimately to be true, that sophia is the form of thought, which makes common sense unselfish,—knowledge unselfish,—art unselfish,—and wit and imagination unselfish. Of all these, by themselves, it is true that they are partly venomous; that, as knowledge puffeth up, so does prudence—so does art—so does wit; but, added to all these, wisdom, or (you may read it as an equivalent word), added to all these—charity, edifieth.

30. Note the word; builds forward, or builds up, and builds securely because on modest and measured foundation, wide, though low, and in the natural and living rock.

Sophia is the faculty which recognizes in all things their bearing upon life, in the entire sum of life that we know, bestial and human; but, which, understanding the appointed objects of that life, concentrates its interest and its power on Humanity, as opposed on the one side to the Animalism which it must rule, and distinguished on the other side from the Divinity which rules it, and which it cannot imagine.

It is as little the part of a wise man to reflect much on the nature of beings above him, as of beings beneath him. It is immodest to suppose that he can conceive the one, and degrading to suppose that he should be busied with the other. To recognize his everlasting inferiority, and his everlasting greatness; to know himself, and his place; to be content to submit to God without understanding Him; and to rule the lower creation with sympathy and kindness, yet neither sharing the passion of the wild beast, nor imitating the science of the Insect;—this you will find is to be modest towards God, gentle to His creatures, and wise for himself.

31. I think you will now be able to fasten in your minds, first the idea of unselfishness, and secondly, that of modesty, as component elements of sophia; and having obtained thus much, we will at once make use of our gain, by rendering more clear one or two points respecting its action on art, that we may then see more surely its obscurer function in science.

It is absolutely unselfish, we say, not in the sense of being without desire, or effort to gratify that desire; on the contrary, it longs intensely to see, or know the things it is rightly interested in. But it is not interested specially in itself. In the degree of his wisdom, an artist is unconcerned about his work as his own;—concerned about it only in the degree in which he would be, if it were another man's—recognizing its precise value, or no value, from that outer standpoint. I do not think, unless you examine your minds very attentively, that you can have any conception of the difficulty of doing this. Absolutely to do it is impossible, for we are all intended by nature to be a little unwise, and to derive more pleasure, therefore, from our own success than that of others. But the intense degree of the difference is usually unmeasured by us. In preparing the drawings for you to use as copies in these schools, my assistant and I are often sitting beside each other; and he is at work, usually, on the more important drawing of the two. I so far recognize that greater importance, when it exists, that if I had the power of determining which of us should succeed, and which fail, I should be wise enough to choose his success rather than my own. But the actual effect on my own mind, and comfort, is very different in the two cases. If *he* fails, I am sorry, but not mortified;—on the contrary, perhaps a little pleased. I tell him, indulgently, “he will do better another time,” and go down with great contentment to my lunch. But, if *I* fail, though I would rather, for the sake of the two drawings, have had it so, the effect on my temper is very different. I say, philosophically, that it was better so—but I can't eat any lunch.

32. Now, just imagine what this inherently selfish passion—unconquerable as you will find it by the most deliberate and maintained efforts—fancy what it becomes, when, instead of striving to subdue, we take every means in our power to increase and encourage it; and when all the circumstances around us concur in the deadly cultivation. In all base schools of Art, the craftsman is dependent for his bread on

originality; that is to say, on finding in himself some fragment of isolated faculty, by which his work may be recognized as distinct from that of other men. We are ready enough to take delight in our little doings, without any such stimulus;—what must be the effect of the popular applause which continually suggests that the little thing we can separately do is as excellent as it is singular! and what the effect of the bribe, held out to us through the whole of life, to produce—it being also at our peril *not* to produce—something different from the work of our neighbors? In all great schools of art these conditions are exactly reversed. An artist is praised in these, not for what is different in him from others, nor for solitary performance of singular work; but only for doing most strongly what all are endeavoring; and for contributing, in the measure of his strength, to some great achievement, to be completed by the unity of multitudes, and the sequence of ages.

33. And now, passing from art to science, the unselfishness of sophia is shown by the value it therein attaches to every part of knowledge, new or old, in proportion to its real utility to mankind, or largeness of range in creation. The selfishness which renders sophia impossible, and enlarges the elastic and vaporous kingdom of folly, is shown by our caring for knowledge only so far as we have been concerned in its discovery, or are ourselves skilled and admired in its communication. If there is an art which “puffeth up,” even when we are surrounded by magnificence of achievement of past ages, confessedly not by us to be rivaled, how much more must there be a science which puffeth up, when, by the very condition of science, it must be an advance on the attainments of former time, and however slight, or however slow, is still always as the leaf of a pleasant spring compared to the dried branches of years gone by? And, for the double calamity of the age in which we live, it has chanced that the demand of the vulgar and the dull for originality in Art, is associated with the demand of a sensual economy for originality in science; and the praise which is

too readily given always to discoveries that are new, is enhanced by the reward which rapidity of communication now ensures to discoveries that are profitable. What marvel if future time shall reproach us with having destroyed the labors, and betrayed the knowledge of the greatest nations and the wisest men, while we amused ourselves with fantasy in art, and with theory in science: happy, if the one was idle without being vicious, and the other mistaken without being mischievous. Nay, truth, and success, are often to us more deadly than error. Perhaps no progress more triumphant has been made in any science than that of Chemistry; but the practical fact which will remain for the contemplation of the future, is that we have lost the art of painting on glass, and invented gun-cotton and nitro-glycerine. "Can you imagine," the future will say, "those English fools of the nineteenth century, who went about putting up memorials of themselves in glass which they could not paint, and blowing their women and children to pieces with cartridges they would not fight with?"

34. You may well think, gentlemen, that I am unjust and prejudiced in such sayings;—you may imagine that when all our mischievous inventions have done their worst, and the wars they provoked by cowardice have been forgotten in dishonor, our great investigators will be remembered, as men who laid first the foundations of fruitful knowledge, and vindicated the majesty of inviolable law. No, gentlemen; it will not be so. In a little while, the discoveries of which we are now so proud will be familiar to all. The marvel of the future will not be that we should have discerned them, but that our predecessors were blind to them. We may be envied, but shall not be praised, for having been allowed first to perceive and proclaim what could be concealed no longer. But the misuse we made of our discoveries will be remembered against us, in eternal history; our ingenuity in the vindication, or the denial, of species, will be disregarded in the face of the fact that we destroyed, in civilized Europe, every rare bird and secluded

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flower; our chemistry of agriculture will be taunted with the memories of irremediable famine; and our mechanical contrivance will only make the age of the mitrailleuse more abhorred than that of the guillotine.

35. Yes, believe me, in spite of our political liberality, and poetical philanthropy; in spite of our almshouses, hospitals, and Sunday-schools; in spite of our missionary endeavors to preach abroad what we cannot get believed at home; and in spite of our wars against slavery, indemnified by the presentation of ingenious bills,—we shall be remembered in history as the most cruel, and therefore the most unwise generation of men that ever yet troubled the earth:—the most cruel in proportion to their sensibility,—the most unwise in proportion to their science. No people, understanding pain, ever inflicted so much: no people, understanding facts, ever acted on them so little. You execrate the name of Eccelin of Padua, because he slew two thousand innocent persons to maintain his power; and Dante cries out against Pisa that she should be sunk in the sea, because, in revenge for treachery, she put to death, by the slow pangs of starvation, not the traitor only, but his children. But we men of London, we of the modern Pisa, slew, a little while since, *five hundred* thousand men instead of *two* thousand—(I speak in official terms, and know my numbers)—these we slew, all guiltless; and these we slew, not for defense, nor for revenge, but most literally in *cold* blood; and these we slew, fathers and children together, by slow starvation—simply because, while we contentedly kill our own children in competition for places in the Civil Service, we never ask, when once they have got the places, whether the Civil Service is done.

36. That was our missionary work in Orissa, some three or four years ago;—our Christian miracle of the five loaves, assisted as we are in its performance, by steam-engines for the threshing of the corn, and by railroads for carrying it, and by proposals from English noblemen to cut down all the trees in England, for better growing it. That, I repeat, is

what we did, a year or two ago; what are we doing now? Have any of you chanced to hear of the famine in Persia? Here, with due science, we arrange the roses in our botanic garden, thoughtless of the country of the rose. With due art of horticulture, we prepare for our harvest of peaches;—it might perhaps seriously alarm us to hear, next autumn, of a coming famine of peaches. But the famine of all things, in the country of the peach—do you know of it, care for it:—quaint famine that it is, in the fruitfulest, fairest, richest of the estates of earth; from which the Magi brought their treasures to the feet of Christ?

How much of your time, scientific faculty, popular literature, has been given, since this year began, to ascertain what England can do for the great countries under her command, or for the nations that look to her for help; and how much to discuss the chances of a single impostor's getting a few thousands a year?

Gentlemen, if your literature, popular and other; or your art, popular and other; or your science, popular and other, is to be eagle-eyed, remember that question I to-day solemnly put to you—will you hawk at game or carrion? Shall it be only said of the thoughts of the heart of England—“Wheresoever the *carcase* is, thither shall the eagles be gathered together”?

LECTURE III.

THE RELATION OF WISE ART TO WISE SCIENCE.

"The morrow after St. Valentine's," 1872.

37. OUR task to-day is to examine the relation between art and science, each governed by sophia, and becoming capable, therefore, of consistent and definable relation to each other. Between foolish art and foolish science, there may indeed be all manner of reciprocal mischievous influence; but between wise art and wise science there is essential relation, for each other's help and dignity.

You observe, I hope, that I always use the term 'science,' merely as the equivalent of 'knowledge.' I take the Latin word, rather than the English, to mark that it is knowledge of constant things, not merely of passing events: but you had better lose even that distinction, and receive the word "scientia" as merely the equivalent of our English "knowledge," than fall into the opposite error of supposing that science means systematization or discovery. It is not the arrangement of new systems, nor the discovery of new facts, which constitutes a man of science; but the submission to an eternal system; and the proper grasp of facts already known. —

38. And, at first, to-day, I use the word "art" only of that in which it is my special office to instruct you; graphic imitation; or, as it is commonly called, Fine art. Of course, the arts of construction,—building, carpentering, and the like, are directly dependent on many sciences, but in a manner which needs no discussion, so that we may put that part of the business out of our way. I mean by art, to-day, only imitative art; and by science, to-day, not the knowledge

of general laws, but of existent facts. I do not mean by science, for instance, the knowledge that triangles with equal bases and between parallels, are equal, but the knowledge that the stars in Cassiopeia are in the form of a W.

Now, accepting the terms 'science' and 'art' under these limitations, wise art is only the reflex or shadow of wise science. Whatever it is really desirable and honorable to know, it is also desirable and honorable to know as completely and as long as possible; therefore, to present, or re-present, in the most constant manner; and to bring again and again, not only within the thoughts, but before the eyes; describing it, not with vague words, but distinct lines, and true colors, so as to approach always as nearly as may be to the likeness of the thing itself.

39. Can anything be more simple, more evidently or indisputably natural and right, than such connection of the two powers? That you should desire to know what you ought; what is worthy of your nature, and helpful to your life: to know that;—nothing less,—nothing more; and to keep record and definition of such knowledge near you, in the most vivid and explanatory form?

Nothing, surely, can be more simple than this; yet the sum of art judgment and of art practice is in this. You are to recognize, or know, beautiful and noble things—notable, notabilia, or nobilia; and then you are to give the best possible account of them you can, either for the sake of others, or for the sake of your own forgetful or apathetic self, in the future.

Now as I gave you and asked you to remember without failing, an aphorism which embraced the law of wise knowledge, so, to-day, I will ask you to remember, without fail, one, which absolutely defines the relation of wise art to it. I have, already, quoted our to-day's aphorism to you, at the end of my fourth lecture on sculpture. Read the few sentences at the end of that lecture now, down to

“THE BEST, IN THIS KIND, ARE BUT SHADOWS.”

That is Shakespeare's judgment of his own art. And by strange coincidence, he has put the words into the mouth of the hero whose shadow, or semblance in marble, is admittedly the most ideal and heroic we possess, of man; yet, I need not ask you, whether of the two, if it were granted you to see the statue by Phidias, or the hero Theseus himself, you would choose rather to see the carved stone, or the living King. Do you recollect how Shakespeare's Theseus concludes his sentence, spoken of the poor tradesmen's kindly offered art, in the "Midsummer Night's Dream"?

"The best in this kind are but shadows: and the worst are no worse, if imagination amend them."

It will not burden your memories painfully, I hope, though it may not advance you materially in the class list, if you will learn this entire sentence by heart, being, as it is, a faultless and complete epitome of the laws of mimetic art.

40. "BUT SHADOWS!" Make them as beautiful as you can; use them only to enable you to remember and love what they are cast by. If ever you prefer the skill of them to the simplicity of the truth, or the pleasure of them to the power of the truth, you have fallen into that vice of folly, (whether you call her *κακία* or *μωρία*;) which concludes the subtle description of her given by Prodicus, that she might be seen continually *εἰς τὴν ἑαυτῆς σκιάν ἀποβλέπειν*—to look with love, and exclusive wonder, at *her own* shadow.

41. There is nothing that I tell you with more eager desire that you should believe—nothing with wider ground in my experience for requiring you to believe, than this, that you never will love art well, till you love what she mirrors better.

It is the widest, as the clearest experience I have to give you; for the beginning of all my own right art work in life, (and it may not be unprofitable that I should tell you this,) depended not on my love of art, but of mountains and sea. All boys with any good in them are fond of boats, and of course I liked the mountains best when they had lakes at the bottom; and I used to walk always in the middle of the loosest gravel I could find in the roads of the midland coun-

ties, that I might hear, as I trod on it, something like the sound of the pebbles on sea-beach. No chance occurred for some time to develop what gift of drawing I had; but I would pass entire days in rambling on the Cumberland hillsides, or staring at the lines of surf on a low sand; and when I was taken annually to the Water-color Exhibition, I used to get hold of a catalogue before-hand, mark all the Robsons, which I knew would be of purple mountains, and all the Copley Fieldings, which I knew would be of lakes or sea; and then go deliberately round the room to these, for the sake, observe, not of the pictures, in any wise, but only of the things painted.

And through the whole of following life, whatever power of judgment I have obtained, in art, which I am now confident and happy in using, or communicating, has depended on my steady habit of always looking for the subject principally, and for the art, only as the means of expressing it.

42. At first, as in youth one is almost sure to be, I was led too far by my certainty of the rightness of this principle: and provoked into its exclusive assertion by the pertinacity with which other writers denied it: so that, in the first volume of "Modern Painters," several passages occurred setting the subject or motive of the picture so much above the mode of its expression, that some of my more feebly gifted disciples supposed they were fulfilling my wishes by choosing exactly the subjects for painting which they were least able to paint. But the principle itself, I maintain, now in advanced life, with more reverence and firmness than in earliest youth: and though I believe that among the teachers who have opposed its assertion, there are few who enjoy the mere artifices of composition or dexterities of handling so much as I, the time which I have given to the investigation of these has only farther assured me that the pictures were noblest which compelled me to forget them.

43. Now, therefore, you see that on this simple theory, you have only to ask what will be the subjects of wise science; these also, will be, so far as they can be imitatively

or suggestively represented, the subjects of wise art: and the wisdom of both the science and art will be recognized by their being lofty in their scope, but simple in their language; clear in fancy, but clearer in interpretation; severe in discernment, but delightful in display.

44. For example's sake, since we have just been listening to Shakespeare as a teacher of science and art, we will now examine him as a *subject* of science and art.

Suppose we have the existence and essence of Shakespeare to investigate, and give permanent account of; we shall see that, as the scope and bearing of the science become nobler, art becomes more helpful to it; and at last, in its highest range, even necessary to it; but still only as its minister.

We examine Shakespeare, first, with the science of chemistry, which informs us that Shakespeare consists of about seventy-five parts in the hundred of water, some twelve or fifteen of nitrogen, and the rest, lime, phosphorus, and essential earthy salts.

We next examine him by the science of anatomy, which tells us (with other such matters,) that Shakespeare has seven cervical, twelve dorsal, and five lumbar vertebræ; that his fore arm has a wide sphere of rotation; and that he differs from other animals of the ape species by being more delicately prehensile in the fingers, and less perfectly prehensile in the toes.

We next approach Shakespeare with the science of natural history, which tells us the color of his eyes and hair, his habits of life, his temper, and his predilection for poaching.

There ends, as far as this subject is concerned, our possible science of substantial things. Then we take up our science of ideal things: first of passion, then of imagination; and we are told by these that Shakespeare is capable of certain emotions, and of mastering or commanding them in certain modes. Finally, we take up our science of theology, and ascertain that he is in relation, or in supposed relation, with such and such a Being, greater than himself.

45. Now, in all these successive stages of scientific de-

scription, we find art become powerful as an aid or record, in proportion to the importance of the inquiry. For chemistry, she can do scarcely anything: merely keep note of a color, or of the form of a crystal. For anatomy, she can do somewhat more; and for natural history, almost all things: while in recording passion, and affectionate intellect, she walks hand in hand with the highest science; and to theology, can give nobler aid even than verbal expression of literature.

46. And in considering this power of hers, remember that the theology of art has only of late been thought deserving of attention: Lord Lindsay, some thirty years ago, was the first to recognize its importance; and when I entered upon the study of the schools of Tuscany in 1845, his "Christian Mythology" was the only guide I could trust. Even as late as 1860, I had to vindicate the true position, in Christian science, of Luini, the despised pupil of Leonardo. But only assuming, what with general assent I might assume, that Raphael's dispute of the Sacrament—(or by its less frequently given, but true name—Raphael's Theologia,) is the most perfect effort yet made by art to illustrate divine science, I am prepared hereafter to show you that the most finished efforts of theologic literature, as compared with that piece of pictorial interpretation, have expressed less fully the condition of wise religious thought; and have been warped more dangerously into unwise religious speculation.

47. Upon these higher fields of inquiry we are not yet to enter. I shall endeavor for some time only to show you the function of modest art, as the handmaid of natural science; and the exponent, first of the beauty of the creatures subject to your own human life; and then of the history of that life in past time; of which one chief source of illustration is to be found in the most brilliant, and in its power on character, hitherto the most practically effective of the arts—Heraldry.

In natural history, I at first intended to begin with the lower types of life; but as the enlarged schools now give

me the means of extending the use of our examples, we will at once, for the sake of more general service, take up ornithology, of the uses of which, in general culture, I have one or two grave words to say.

48. Perhaps you thought that in the beginning of my lecture to-day I too summarily dismissed the arts of construction and action. But it was not in disrespect to them; and I must indeed ask you carefully to note one or two points respecting the arts of which an example is set us by birds;—building, and singing.

The other day, as I was calling on the ornithologist whose collection of birds is, I suppose, altogether unrivaled in Europe,—(at once a monument of unwearied love of science, and an example, in its treatment, of the most delicate and patient art)—Mr. Gould—he showed me the nest of a common English bird; a nest which, notwithstanding his knowledge of the dexterous building of birds in all the world, was not without interest even to him, and was altogether amazing and delightful to me. It was a bullfinch's nest, which had been set in the fork of a sapling tree, where it needed an extended foundation. And the bird had built this first story of her nest with withered stalks of clematis blossom; and with nothing else. These twigs it had interwoven lightly, leaving the branched heads all at the outside, producing an intricate Gothic boss of extreme grace and quaintness, apparently arranged both with triumphant pleasure in the art of basket-making, and with definite purpose of obtaining ornamental form.

49. I fear there is no occasion to tell you that the bird had no purpose of the kind. I say that I *fear* this, because I would much rather have to undeceive you in attributing too much intellect to the lower animals, than too little. But I suppose the only error which, in the present condition of natural history, you are likely to fall into, is that of supposing that a bullfinch is merely a mechanical arrangement of nervous fiber, covered with feathers by a chronic cuta-

neous eruption; and impelled by a galvanic stimulus to the collection of clematis.

50. You would be in much greater, as well as in a more shameful error, in supposing this, than if you attributed to the bullfinch the most deliberate rivalry with Mr. Street's prettiest Gothic designs. The bird has exactly the degree of emotion, the extent of science, and the command of art, which are necessary for its happiness; it had felt the clematis twigs to be lighter and tougher than any others within its reach, and probably found the forked branches of them convenient for reticulation. It had naturally placed these outside, because it wanted a smooth surface for the bottom of its nest; and the beauty of the result was much more dependent on the blossoms than the bird.

51. Nevertheless, I am sure that if you had seen the nest,—much more, if you had stood beside the architect at work upon it,—you would have greatly desired to express your admiration to her; and that if Wordsworth, or any other simple and kindly person, could even wish, for a little flower's sake,

“That to this mountain daisy's self were known
The beauty of its star-shaped shadow, thrown
On the smooth surface of this naked stone,”

much more you would have yearned to inform the bright little nest-builder of your sympathy; and to explain to her, on art principles, what a pretty thing she was making.

52. Does it never occur to you, then, that to some of the best and wisest artists among ourselves, it may not be always possible to explain what pretty things they are making; and that, perhaps, the very perfection of their art is in their knowing so little about it?

Whether it has occurred to you or not, I assure you that it is so. The greatest artists, indeed, will condescend, occasionally, to be scientific;—will labor, somewhat systematically, about what they are doing, as vulgar persons do; and are privileged, also, to enjoy what they have made more than

birds do; yet seldom, observe you, as being beautiful, but very much in the sort of feeling which we may fancy the bullfinch had also,—that the thing, whether pretty or ugly, could not have been better done; that they could not have made it otherwise, and are thankful it is no worse. And, assuredly, they have nothing like the delight in their own work which it gives to other people.

53. But putting the special simplicities of good artists out of question, let me ask you, in the second place, whether it is not possible that the same sort of simplicity might be desirable in the whole race of mankind; and that we ought all to be doing human work which would appear better done to creatures much above us, than it does to ourselves. Why should not *our* nests be as interesting things to angels, as bullfinches' nests are to us?

You will, probably, both smile at, and shrink from, such a supposition, as an insolent one. But to my thought, it seems, on the contrary, the only modest one. That *we* should be able to admire the work of angels seems to me the impertinent idea; not, at all, that they should be able to admire ours.

54. Under existing circumstances, I confess the difficulty. It cannot be imagined that either the back streets of our manufacturing towns, or the designs of our suburban villas, are things which the angels desire to look into: but it seems to me an inevitable logical conclusion that if we are, indeed, the highest of the brute creation, we should, at least, possess as much unconscious art as the lower brutes; and build nests which shall be, for ourselves, entirely convenient; and may, perhaps, in the eyes of superior beings, appear more beautiful than to our own.

55. "Which shall be, for ourselves, entirely *convenient*." Note the word;—becoming, decorous, harmonious, satisfying. We may not be able to build anything sublime; but, at all events, we should, like other flesh-invested creatures, be able to contrive what was decent, and it should be a

human privilege to think that we may be admired in heaven for our contrivance.

I have some difficulty in proceeding with what I want to say, because I know you must partly think I am jesting with you. I feel indeed some disposition to smile myself; not because I jest, but in the sense of contrast between what, logically, it seems, ought to be; and what we must confess, not jestingly, to be the facts. How great also,—how quaint, the confusion of sentiment in our minds, as to this matter! We continually talk of honoring God with our buildings; and yet, we dare not say, boldly, that, in His sight, we in the least expect to honor ourselves by them! And admitting, though I by no means feel disposed to admit, that here and there we may, at present, be honoring Him by work that is worthy of the nature He gave us, in how many places, think you, are we offending Him by work that is disgraceful to it?

56. Let me return, yet for an instant, to my bird and her nest. If not actually complacent and exultant in her architecture, we may at least imagine that she, and her mate, and the choir they join with, cannot but be complacent and exultant in their song. I gave you, in a former lecture, the skylark as a type of mastership in music; and remembering—some of you, I suppose, are not likely soon to forget,—the saint to whom yesterday was dedicated, let me read to you to-day some of the prettiest English words in which our natural feeling about such song is expressed.

“ And anone, as I the day espide,
 No lenger would I in my bed abide,
 But unto a wood that was fast by,
 I went forth alone boldely,
 And held the way downe by a brook side,

Till I came to a laund of white and green,
 So faire one had I never in been.
 The ground was green, ypoured with daisie,
 The floures and the greves like hie,
 All greene and white, was nothing els seene,

There sat I downe among the faire flours,
 And saw the birds trip out of hir bours,
 There as they rested hem all the night,
 They were so joyfull of the dayes light,
 They began of May for to done honours.

They coud that service all by rote,
 There was many a lovely note,
 Some sang loud, as they had plained,
 And some in other manner voice yfained,
 And some all out with the full throte.

They proyned hem and made hem right gay,
 And daunceden and lepten on the spray,
 And evermore two and two in fere,
 Right so as they had chosen hem to yere
 In Feverere, upon saint Valentines day."

You recollect, perhaps, the dispute that follows between the cuckoo and the nightingale, and the promise which the sweet singer makes to Chaucer for rescuing her.

"And then came the Nightingale to me
 And said Friend, forsooth I thanke thee
 That thou hast liked me to rescue,
 And one avow to Love make I now
 That all this May, I will thy singer be.

I thanked her, and was right well apaied,
 Yea, quoth she, and be not thou dismaied,
 Tho' thou have heard the cuckoo erst than me;
 For, if I live, it shall amended be,
 The next May, if I be not affraied."

"If I be not affraied." Would she not put the "if" more timidly now, in making the same promise to any of you, or in asking for the judgment between her and her enemy, which was to be past, do you remember, on this very day of the year, so many years ago, and within eight miles of this very spot?

"And this shall be without any Nay
 On the morrow after St. Valentine's day,
 Under a maple that is faire and green
 Before the chamber window of the Queen
 At Woodstoke, upon the greene lawn.

She thanked them; and then her leave took
 And into an hawthorn by that broke.
 And there she sate, and sang upon that tree
 'Terme of life love hath withheld me'
 So loud, that I with that song awoke."

57. "Terme of life love hath withheld me!" Alas, how have we men reversed this song of the nightingale! so that our words must be "Terme of life, hatred hath withheld me."

This, then, was the old English science of the song of birds; and perhaps you are indignant with me for bringing any word of it back to you? You have, I doubt not, your new science of song, as of nest-building: and I am happy to think you could all explain to me, or at least you will be able to do so before you pass your natural science examination, how, by the accurate connection of a larynx with a bill, and by the action of heat, originally derived from the sun, upon the muscular fiber, an undulatory motion is produced in the larynx, and an opening and shutting one in the bill, which is accompanied, necessarily, by a piping sound.

58. I will not dispute your statement; still less do I wish to answer for the absolute truth of Chaucer's. You will find that the complete truth embraces great part of both; and that you may study, at your choice, in any singing bird, the action of universal heat on a marvelous mechanism, or of individual life, on a frame capable of exquisite passion. But the point I wish you to consider is the relation to this lower creature's power, of your own human agencies in the production of sound, where you can best unite in its harmony.

59. I had occasion only the other day to wait for half an hour at the bottom of Ludgate Hill. Standing as much out of the way as I could, under the shadow of the railroad bridge, I watched the faces, all eager, many anxious, and some intensely gloomy, of the hurried passers by; and listened to the ceaseless crashing, whistling, and thundering sounds which mingled with the murmur of their steps and voices. And in the midst of the continuous roar, which

differed only from that of the wildest sea in storm by its complexity and its discordance, I was wondering, if the sum of what all these people were doing, or trying to do, in the course of the day, could be made manifest, what it would come to.

60. The sum of it would be, I suppose, that they had all contrived to live through the day in that exceedingly unpleasant manner, and that nothing serious had occurred to prevent them from passing the following day likewise. Nay, I knew also that what appeared in their way of life painful to me, might be agreeable to them; and it chanced, indeed, a little while afterwards, that an active and prosperous man of business, speaking to one of my friends of the disappointment he had felt in a visit to Italy, remarked, especially, that he was not able to endure more than three days at Venice, because there was no noise there.

61. But, granting the contentment of the inhabitants of London in consistently producing these sounds, how shall we say this vocal and instrumental art of theirs may compare, in the scheme of Nature, with the vocal art of lower animals? We may indeed rank the danger-whistle of the engines on the bridge as an excruciating human improvement on that of the marmot; and the trampling of feet and grinding of wheels, as the human accentuation of the sounds produced by insects, by the friction of their wings or thighs against their sides: but, even in this comparison, it may cause us some humiliation to note that the cicada and the cricket, when pleased to sing in their vibratory manner, have leisure to rest in their delight; and that the flight of the firefly is silent. But how will the sounds we produce compare with the song of birds? This London is the principal nest of men in the world; and I was standing in the center of it. In the shops of Fleet Street and Ludgate Hill, on each side of me, I do not doubt I could have bought any quantity of books for children, which by way of giving them religious, as opposed to secular, instruction, informed them that birds praised God in their songs. Now, though, on the one hand,

you may be very certain that birds are not machines, on the other hand it is just as certain that they have not the smallest intention of praising God in their songs; and that we cannot prevent the religious education of our children more utterly than by beginning it in lies. But it might be expected of *ourselves* that we should do so, in the songs we send up from our principal nest! And although, under the dome at the top of Ludgate Hill, some attempt of the kind may be made every seventh day, by a limited number of persons, we may again reflect, with humiliation, that the birds, for better or worse, sing all, and every day; and I could not but ask myself, with momentarily increasing curiosity, as I endeavored to trace the emotions and occupations of the persons who passed by me, in the expression of their faces—what would be the effect on them, if any creatures of higher order were suddenly to appear in the midst of them with any such message of peace, and invitation to rejoicing, as they had all been professing to commemorate at Christmas.

62. Perhaps you recollect, in the lectures given on landscape during the spring of this year, my directing your attention to a picture of Mantegna's in the loan exhibition, representing a flight of twelve angels in blue sky, singing that Christmas song. I ought to tell you, however, that one of our English artists of good position dissented from my opinion about the picture; and remarked that in England "we wanted good art, and not funny art." Whereas, to me, it is this vocal and architectural art of Ludgate Hill which appears funny art; and not Mantegna's. But I am compelled to admit that could Mantegna's picture have been realized, the result would, in the eyes of most men, have been funnier still. For suppose that over Ludgate Hill the sky had indeed suddenly become blue instead of black; and that a flight of twelve angels, "covered with silver wings, and their feathers with gold," had alighted on the cornice of the railroad bridge, as the doves alight on the cornices of St. Mark's at Venice; and had invited the eager men of business below, in the center of a city confessedly the most

prosperous in the world, to join them for five minutes in singing the first five verses of such a psalm as the 103d—“Bless the Lord, oh my soul, and *all that is within me,*” (the opportunity now being given for the expression of their most hidden feelings) “all that is within me, bless His holy name, and forget not all His benefits.” Do you not even thus, in mere suggestion, feel shocked at the thought, and as if my now reading the words were profane? And cannot you fancy that the sensation of the crowd at so violent and strange an interruption of traffic, might be somewhat akin to that which I had occasion in my first lecture on sculpture to remind you of,—the feeling attributed by Goethe to Mephistopheles at the song of the angels: “Discord I hear, and intolerable jingling”?

63. Nay, farther, if indeed none of the benefits bestowed on, or accomplished by, the great city, were to be forgotten, and if search were made, throughout its confines, into the results of its wealth, might not the literal discord in the words themselves be greater than the felt discord in the sound of them?

I have here in my hand a cutting from a newspaper, which I took with me three years ago, to a meeting in the interest of social science, held in the rooms of the Society of Arts, and under the presidency of the Prime Minister of England. Under the (so called) ‘classical’ paintings of Barry, representing the philosophy and poetry of the ancients; Mr. Gladstone was in the chair; and in his presence a member of the Society for the Promotion of Social Science propounded and supported the statement, not irrelevant to our present inquiry, that the essential nature of man was that of a beast of prey. Though, at the time, (suddenly called upon by the author of “Tom Brown at Oxford,”) I feebly endeavored to contradict that Socially Scientific person, I do not at present desire to do so. I have given you a creature of prey for comparison of knowledge. “Doth the eagle know what is in the pit?”—and in this great nest of ours in London, it would be well if to all our children

the virtue of the creature of prey were fulfilled, and that, indeed, the stir and tumult of the city were "as the eagle stirreth up her nest and fluttereth over her young." But the slip of paper I had then, and have now, in my hand,* contains information about the state of the nest, inconsistent with such similitude. I am not answerable for the juxtaposition of paragraphs in it. The first is a proposal for the building of a new church in Oxford, at the cost of twenty thousand pounds; the second is the account of the inquest on a woman and her child who were starved to death in the Isle of Dogs. The bodies were found lying, without covering, on a bed made of heaped rags; and there was no furniture in the room but a wooden stool, on which lay a tract entitled "*The Goodness of God.*" The husband, who had been out of work for six months, went mad two days afterwards; and being refused entrance at the workhouse because it was "full of mad people," was carried off, the "Pall Mall Gazette" says not where.

64. Now, gentlemen, the question I wish to leave with you to-day is whether the Wisdom which rejoices in the habitable parts of the earth, and whose delights are with the sons of men, can be supposed, under circumstances such as these, to delight herself in that most closely and increasingly inhabited portion of the globe which we ourselves now dwell on; and whether, if she cannot grant us to surpass the art of the swallow or the eagle, she may not require of us at least, to reach the level of their happiness. Or do you seriously think that, either in the life of Ludgate Hill, or death of the Isle of Dogs; in the art of Ludgate Hill, or idleness of the Isle of Dogs; and in the science and sanity of Ludgate Hill, or nescience and insanity of the Isle of Dogs, we have, as matters stand now, any clear encouragement to repeat, in that 103d psalm, the three verses following the five I named; and to believe in our hearts, as we say with our lips, that we have yet, dwelling among us, unoffended, a God "who forgiveth all our iniquities, who healeth all

* "Pall Mall Gazette," January 29th, 1869.

our diseases; who redeemeth our life from destruction, who crowneth us with loving-kindness and tender mercies, and *who satisfieth our mouth with good things, so that our youth is RENEWED LIKE THE EAGLE'S*”?

LECTURE IV.

THE POWER OF MODESTY IN SCIENCE AND ART.

17th February, 1872.

65. I BELIEVE, gentlemen, that some of you must have been surprised,—and, if I succeeded in making my last lecture clearly intelligible, many ought to have been surprised,—at the limitations I asked you to admit with respect to the idea of science, and the position which I asked you to assign to it. We are so much, by the chances of our time, accustomed to think of science as a process of discovery, that I am sure some of you must have been gravely disconcerted by my requesting, and will to-day be more disconcerted by my firmly recommending, you to use the word, and reserve the thought, of science, for the acquaintance with things long since discovered, and established as true. We have the misfortune to live in an epoch of transition from irrational dullness to irrational excitement; and while once it was the highest courage of science to question anything, it is now an agony to her to leave anything unquestioned. So that, unawares, we come to measure the dignity of a scientific person by the newness of his assertions, and the dexterity of his methods in debate; entirely forgetting that science cannot become perfect, as an occupation of intellect, while anything remains to be discovered; nor wholesome as an instrument of education, while anything is permitted to be debated.

66. It appears, doubtless, a vain idea to you that an end should ever be put to discovery; but remember, such impossibility merely signifies that mortal science must remain imperfect. Nevertheless, in many directions, the limit to

practically useful discovery is rapidly being approached; and you, as students, would do well to suppose that it has been already attained. To take the science of ornithology, for instance: I suppose you would have very little hope of shooting a bird in England; which should be strange to any master of the science, or of shooting one anywhere, which would not fall under some species already described. And although at the risk of life, and by the devotion of many years to observation, some of you might hope to bring home to our museum a titmouse with a spot on its tail which had never before been seen, I strongly advise you not to allow your studies to be disturbed by so dazzling a hope, nor your life exclusively devoted even to so important an object. In astronomy, the fields of the sky have not yet, indeed, been ransacked by the most costly instruments; and it may be in store for some of you to announce the existence, or even to analyze the materials, of some luminous point which may be seen two or three times in the course of a century, by any one who will journey to India for the purpose; and, when there, is favored by the weather. But, for all practical purposes, the stars already named and numbered are as many as we require to hear of; and if you thoroughly know the visible motions, and clearly conceive the known relations, even of those which can be seen by the naked eye, you will have as much astronomy as is necessary, either for the occupation of thought or the direction of navigation.

67. But, if you were discontented with the limit I proposed for your sciences, much more, I imagine, you were doubtful of the ranks I assigned to them. It is not, I know, in your modern system, the general practice to put chemistry, the science of atoms, lowest, and theology, the science of Deity, highest: nay, many of us have ceased to think of theology as a science at all, but rather as a speculative pursuit, in subject, separate from science; and in temper, opposed to her.

Yet it can scarcely be necessary for me to point out to you, in so many terms, that what we call theology, if true,

is a science; and if false, is not theology; or that the distinction even between natural science and theology is illogical: for you might distinguish indeed between natural and unnatural science, but not between natural and spiritual, unless you had determined first that a spirit had no nature. You will find the facts to be, that entirely true knowledge is both possible and necessary—first of facts relating to matter, and then of the forces and passions that act on or in matter;—that, of all these forces, the noblest we can know is the energy which either imagines, or perceives, the existence of a living power greater than its own; and that the study of the relations which exist between this energy, and the resultant action of men, are as much subjects of pure science as the curve of a projectile. The effect, for instance, upon your temper, intellect, and conduct during the day, of your going to chapel with or without belief in the efficacy of prayer, is just as much a subject of definite science, as the effect of your breakfast on the coats of your stomach. Which is the higher knowledge, I have, with confidence, told you; and am not afraid of any test to which you may submit my assertion.

68. Assuming such limitation, then, and such rank, for our knowledge; assuming, also, what I have now, perhaps to your weariness, told you, that graphic art is the shadow, or image, of knowledge,—I wish to point out to you to-day the function, with respect to both, of the virtue called by the Greeks ‘σωφροσύνη,’ ‘safeness of mind,’ corresponding to the ‘salus’ or ‘sanitas’ mentis, of the Latins; ‘health of heart’ is, perhaps, the best English; if we receive the words ‘mens,’ ‘μῆνις,’ or ‘φρήν,’ as expressing the passionate soul of the human being, distinguished from the intellectual; the ‘mens sana’ being possible to all of us, though the contemplative range of height her wisdom may be above our capacities; so that to each of us Heaven only permits the ambition of being σοφός, but commands the resolution to be σώφρων.

69. And, without discussing the use of the word by dif-

ferent writers, I will tell you that the clearest and safest idea of the mental state itself is to be gained from the representations of it by the words of ancient Christian religion, and even from what you may think its superstitions. Without any discussion also as to the personal existence or traditional character of evil spirits, you will find it a practical fact, that external temptations and inevitable trials of temper, have power against you which your health and virtue depend on your resisting; that, if not resisted, the evil energy of them will pass into your own heart, *φρήν*, or *μῆνις*; and that the ordinary and vulgarized phrase "the Devil, or betraying Spirit, is *in him*" is the most scientifically accurate which you can apply to any person so influenced. You will find also that, in the compass of literature, the casting out of, or cleansing from, such a state is best symbolized for you by the image of one who had been wandering wild and naked *among tombs*, sitting still, clothed, and in his right mind, and that in whatever literal or figurative sense you receive the Biblical statement of what followed, this is absolutely certain, that the herd of swine hastening to their destruction, in perfect sympathy with each other's fury, is the most accurate symbol ever given, in literature, of consummate human *ἀφροσύνη*.

* * * *

(The conditions of insanity,* delighting in scenes of death, which affect at the present time the arts of revolutionary Europe, were illustrated in the sequel of this lecture: but I neither choose to take any permanent notice of the examples I referred to, nor to publish any part of what I said, until I can enter more perfectly into the analysis of the elements of evil passion which always distorted and polluted even the highest arts of Greek and Christian loyal religion; and now occupy in deadly entireness, the chambers of imagination, devastated, and left desolate of joy, by impiety, and disobedience.

* I use this word always meaning it to be understood literally, and in its full force,

In relation to the gloom of gray color characteristic especially of the modern French revolutionary school, I entered into some examination of the conditions of real temperance and reserve in color, showing that it consisted not in refusing color, but in governing it; and that the most pure and bright colors might be thus perfectly governed, while the most dull were probably also the most violent and intemperate. But it would be useless to print this part of the lecture without the color-illustrations used.

Passing to the consideration of intemperance and immodesty in the choice even of landscape subjects, I referred thus for contrast, to the quietude of Turner's "Greta and Tees.")

70. If you wish to feel the reserve of this drawing, look, first, into the shops at their display of common chromolithotints; see how they are made up of Matterhorns, Monte Rosas, blue glaciers, green lakes, white towers, magnificent banditti, romantic peasantry, or always successful sportsmen or fishermen in Highland costume; and then see what Turner is content with. No Matterhorns are needful, or even particularly pleasing to him. A bank, some eight or ten feet high, of Yorkshire shale is enough. He would not thank you for giving him all the giant forests of California:—would not be so much interested in them nor half so happy among them, as he is here with a switch of oak sapling, which the Greta has pulled down among the stones, and teased awhile, and which, now that the water is lower, tries to get up again, out of its way.

He does not want any towers or towns. Here you are to be contented with three square windows of a country gentleman's house. He does not want resplendent banditti. Behold! here is a brown cow and a white one: what would you have more? And this scarcely-falling rapid of the Tees—here pausing to circle round a pool, and there laughing as it trips over a ledge of rock, six or seven inches high, is more to him—ininitely more—than would be the whole colossal drainage of Lake Erie into Lake Ontario, which Carlyle has

justly taken for a type of the Niagara of our national precipitous ἀφροσύνη.

71. I need not point out to you the true temperance of color in this drawing—how slightly green the trees are, how softly blue the sky.

Now I put a chromo-lithotint beside it.

Well, why is that good, this bad? Simply because if you think, and work, and discipline yourselves nobly, you will come to like the Greta and Tees; if not, you will come to like *this*. The one is what a strong man likes; the other what a weak one likes: that is modest, full of true αἰδώς, noble restraint, noble reverence;—this has no αἰδώς, no fear, no measure;—not even purpose, except, by accumulation of whatever it can see or snatch, to move the vile apathy of the public ἀφροσύνη into sensation.

72. The apathy of ἀφροσύνη—note the expression! You might think that it was σωφροσύνη which was apathetic, and that intemperance was full of passion. No; the exact contrary is the fact. It is death in ourselves which seeks the exaggerated external stimulus. I must return for a moment to the art of modern France.

The most complete rest and refreshment I can get, when I am overworked, in London (for if I try to rest in the fields, I find them turned into villas in the course of the week before) is in seeing a French play. But the French act so perfectly that I am obliged to make sure beforehand that all is to end well, or it is as bad as being helplessly present at some real misery.

I was beguiled the other day, by seeing it announced as a "Comédie," into going to see "Frou-Frou." Most of you probably know that the three first of its five acts *are* comedy, or at least playful drama, and that it plunges down, in the two last, to the sorrowfulest catastrophe of all conceivable—though too frequent in daily life—in which irretrievable grief is brought about by the passion of a moment, and the ruin of all that she loves, caused by the heroic error of an entirely good and unselfish person. The sight of it

made me thoroughly ill, and I was not myself again for a week.

But, some time afterwards, I was speaking of it to a lady who knew French character well; and asked her how it was possible for a people so quick in feeling to endure the action before them of a sorrow so poignant. She said, "It is because they have not sympathy enough: they are interested only by the external scene, and are, in truth, at present, dull, not quick in feeling. My own French maid went the other evening to see that very play: when she came home, and I asked her what she thought of it, she said 'it was charming, and she had amused herself immensely.' 'Amused! but is not the story very sad?' 'Oh yes, mademoiselle, it is bien triste, but it is charming; and then, how pretty Frou-Frou looks in her silk dress!'"

73. Gentlemen, the French maid's mode of regarding the tragedy is, if you think of it, a most true image of the way in which fashionable society regards the world-suffering, in the midst of which, so long as it can amuse itself, all seems to it well. If the ball-room is bright, and the dresses pretty, what matter how much horror is beneath or around? Nay, this apathy checks us in our highest spheres of thought, and chills our most solemn purposes. You know that I never join in the common outcries against Ritualism; yet it is too painfully manifest to me that the English Church itself has withdrawn her eyes from the tragedy of all churches, to perk herself up anew with casement and vestment, and say of herself, complacently, in her sacred *ποιικιλία*, "How pretty Frou-Frou is, in her silk dress!"

74. We recognize, however, without difficulty, the peril of insatiableness and immodesty in the pleasures of Art. Less recognized, but therefore more perilous, the insatiableness and immodesty of Science tempts us through our very virtues. The fatalest furies of scientific *ἀφροσύνη* are consistent with the most noble powers of self-restraint and self-sacrifice. It is not the lower passions, but the loftier hopes and most honorable desires which become deadliest when the charm

of them is exalted by the vanity of science. The patience of the wisest of Greek heroes never fails, when the trial is by danger or pain; but do you recollect that, before his trial by the song of the Sirens, the sea becomes calm? And in the few words which Homer has told you of their song, you have not perhaps yet with enough care observed that the form of temptation is precisely that to which a man victorious over every fleshly trial would be likely to yield. The promise is not that his body shall be gratified, but that his soul shall rise into rapture; he is not urged, as by the subtlety of Comus, to disdain the precepts of wisdom, but invited, on the contrary, to learn,—as you are all now invited by the *ἀφροσύνη* of your age,—better wisdom from the wise.

“For we know all” (they say) “that was done in Troy according to the will of the gods, and we know everything that is upon the all-nourishing earth.”

All heavenly and earthly knowledge, you see. I will read you Pope’s expansion of the verses; for Pope never alters idly, but always illustrates when he expands.

“Oh stay, oh pride of Greece!

(You hear, they begin by flattery).

Ulysses, stay,

Oh cease thy course, and listen to our lay.
 Blest is the man ordained our voice to hear,
 The song instructs the soul, and charms the ear.
 Approach! Thy soul shall into raptures rise;
 Approach! and learn new wisdom from the wise.
 We know whate’er the kings of mighty name
 Achieved at Ilion in the field of Fame,
 Whate’er beneath the Sun’s bright journey lies.
 Oh, stay, and learn new wisdom from the wise.”

Is it not singular that so long ago the danger of this novelty of wisdom should have been completely discerned? Is it not stranger still that three thousand years have passed by, and we have not yet been able to learn the lesson, but

are still eager to add to our knowledge, rather than to use it; and every day more passionate in discovering,—more violent in competition,—are every day more cold in admiration, and more dull in reverence?

75. But, gentlemen, Homer's Ulysses, bound to the mast, survives. Dante's Ulysses is bound to the mast in another fashion. He, notwithstanding the protection of Athena, and after all his victories over fate, is still restless under the temptation to seek new wisdom. He goes forth past the pillars of Hercules, cheers his crew amidst the uncompassed solitudes of the Atlantic, and perishes in sudden Charybdis of the infinite sea. In hell, the restless flame in which he is wrapt continually, among the advisers of evil, is seen, from the rocks above, like the firefly's flitting to and fro; and the waving garment of torture, which quivers as he speaks, and aspires as he moves, condemns him to be led in eternal temptation, and to be delivered from evil nevermore.

LECTURE V.

THE POWER OF CONTENTMENT IN SCIENCE AND ART.

22d February, 1872.

76. I MUST ask you, in order to make these lectures of any permanent use, to be careful in keeping note of the main conclusion at which we arrive in the course of each, and of the sequence of such results. In the first, I tried to show you that Art was only wise when unselfish in her labor; in the second, that Science was only wise when unselfish in her statement; in the third, that wise Art was the shadow, or visible reflection, of wise Science; and in the fourth, that all these conditions of good must be pursued temperately and peacefully. I have now farther to tell you that they must be pursued independently.

77. You have not often heard me use that word "independence." And, in the sense in which of late it has been accepted, you have never heard me use it but with contempt. For the true strength of every human soul is to be dependent on as many nobler as it can discern, and to be depended upon, by as many inferior as it can reach.

But to-day I use the word in a widely different sense. I think you must have felt, in what amplification I was able to give you of the idea of wisdom as an unselfish influence in Art and Science, how the highest skill and knowledge were founded in human tenderness, and that the kindly Art-wisdom which rejoices in the habitable parts of the earth, is only another form of the lofty Scientific charity, which rejoices 'in the truth.' And as the first order of Wisdom is to know thyself—though the least creature that can be known,

—so the first order of Charity is to be sufficient for thyself, though the least creature that can be sufficed; and thus contented and appeased, to be girded and strong for the ministry to others. If sufficient to thy day is the evil thereof, how much more should be the good!

78. I have asked you to recollect one aphorism respecting Science, one respecting Art; let me—and I will ask no more at this time of asking—press you to learn, farther, by heart, those lines of the Song of the Sirens: six lines of Homer, I trust, will not be a weariness to you—

οὐ γάρ πώ τις τήδε παράλασε νηὶ μελαίνῃ,
 πρὶν γ' ἡμέων μελίγηρνον ἀπὸ στιμάτων ὄπ' ἀκοῦσαι·
 ἀλλ' ὄγε τερψάμενος νεῖται, καὶ πλείονα εἰδώς.
 ἴδμεν γάρ τοι πάνθ', ὅσ' ἐνὶ Τροίῃ εὐρέϊη
 Ἄργεῖοι Τρῳῆς τε θεῶν ἰότητι μόγησαν·
 ἴδμεν δ', ὅσσα γένηται ἐπὶ χθονὶ πουλυβοτείρῃ.

HOM., *Od.*, xii. 186.

“No one ever rowed past this way in his black ship, before he had listened to the honey-sweet singing of our lips. But he stays pleased, though he may know much. For we know all things which the Greeks and Trojans did in the wide Trojan plain, by the will of the gods, and we know what things take place in the much nourishing earth.” And this, remember, is absolutely true. No man ever went past in the black ship,—obeying the grave and sad law of life by which it is appointed for mortals to be victors on the ocean,—but he was tempted, as he drew near that deadly island, wise as he might be, (*καὶ πλείονα εἰδώς,*) by the voices of those who told him that they knew everything which had been done by the will of God, and everything which took place in earth for the service of man.

79. Now observe those two great temptations. You are to know everything that has been done by the will of God: and to know everything that is *vital* in the earth. And try to realize to yourselves, for a little while, the way in which these two siren promises have hitherto troubled the paths of men. Think of the books that have been written in false

explanation of Divine Providence: think of the efforts that have been made to show that the particular conduct which we approve in others, or wish ourselves to follow, is according to the will of God. Think what ghastly convulsions in thought, and vileness in action, have been fallen into by the sects which thought they had adopted, for their patronage, the perfect purposes of Heaven. Think of the vain research, the wasted centuries of those who have tried to penetrate the secrets of life, or of its support. The elixir vitæ, the philosopher's stone, the germ-cells in meteoric iron, 'ἐπὶ χθονὶ πολυβοτείρη.' But at this day, when we have loosed the last band from the masts of the black ship, and when, instead of plying every oar to escape, as the crew of Homer's Ulysses, we row like the crew of Dante's Ulysses, and of our oars make wings for our foolish flight,

E, volta nostra poppe nel mattino
De' remi facemmo ale al folle volo—

the song of the sirens becomes fatal as never yet it has been in time. We think ourselves privileged, first among men, to know the secrets of Heaven, and fulfill the economy of earth; and the result is, that of all the races that yet have been put to shame by their false wisdom or false art,—which have given their labor for that which is not bread, and their strength for that which satisfieth not,—we have most madly abandoned the charity which is for itself sufficing, and for others serviceable, and have become of all creatures the most insufficient to ourselves, and the most malignant to our neighbors. Granted a given degree of knowledge—granted the 'καὶ πλείονα εἰδώς' in science, in art, and in literature,—and the present relations of feeling between France and Germany, between England and America, are the most horrible at once in their stupidity and malignity, that have ever taken place on the globe we inhabit, even though all its great histories are of sin, and all its great songs, of death.

80. Gentlemen, I pray you very solemnly to put that

idea of knowing all things in Heaven and Earth out of your hearts and heads. It is very little that we can ever know, either of the ways of Providence, or the laws of existence. But that little is enough, and exactly enough: to strive for more than that little is evil for us; and be assured that beyond the need of our narrow being,—beyond the range of the kingdom over which it is ordained for each of us to rule in serene *αὐτάρχεια* and self-possession, he that increaseth toil, increaseth folly; and he that increaseth knowledge, increaseth sorrow.

81. My endeavor, therefore, to-day will be to point out to you how in the best wisdom, that there may be happy advance, there must first be happy contentment; that, in one sense, we must always be entering its kingdom as a little child, and pleased yet for a time *not* to put away childish things. And while I hitherto have endeavored only to show how modesty and gentleness of disposition purified Art and Science, by permitting us to recognize the superiority of the work of others to our own—to-day, on the contrary, I wish to indicate for you the uses of infantine self-satisfaction; and to show you that it is by no error or excess in our nature, by no corruption or distortion of our being, that we are disposed to take delight in the little things that we can do ourselves, more than in the great things done by other people. So only that we recognize the littleness and the greatness, it is as much a part of true Temperance to be pleased with the little we know, and the little we can do, as with the little that we have. On the one side Indolence, on the other Covetousness, are as much to be blamed, with respect to our Arts, as our possessions; and every man is intended to find an exquisite personal happiness in his own small skill, just as he is intended to find happiness in his own small house or garden, while he respects, without coveting, the grandeur of larger domains.

82. Nay, more than this: by the wisdom of Nature, it has been appointed that more pleasure may be taken in small things than in great, and more in rude Art than in

the finest. Were it otherwise, we might be disposed to complain of the narrow limits which have been set to the perfection of human skill.

I pointed out to you, in a former lecture, that the excellence of sculpture had been confined in past time to the Athenian and Etrurian vales. The absolute excellence of painting has been reached only by the inhabitants of a single city in the whole world; and the faultless manner of religious architecture holds only for a period of fifty years out of six thousand. We are at present tormenting ourselves with the vain effort to teach men everywhere to rival Venice and Athens,—with the practical result of having lost the enjoyment of Art altogether;—instead of being content to amuse ourselves still with the painting and carving which were possible once, and would be pleasant always, in Paris, and London, at Strasbourg, and at York.

I do not doubt that you are greatly startled at my saying that greater pleasure is to be received from inferior Art than from the finest. But what do you suppose makes all men look back to the time of childhood with so much regret, (if their childhood has been, in any moderate degree, healthy or peaceful)? That rich charm, which the least possession had for us, was in consequence of the pooriness of our treasures. That miraculous aspect of the nature around us, was because we had seen little, and knew less. Every increased possession loads us with a new weariness; every piece of new knowledge diminishes the faculty of admiration; and Death is at last appointed to take us from a scene in which, if we were to stay longer, no gift could satisfy us, and no miracle surprise.

83. Little as I myself know, or can do, as compared with any man of essential power, my life has chanced to be one of gradual progress in the things which I began in childish choice; so that I can measure with almost mathematical exactitude the degree of feeling with which less and greater degrees of wealth or skill affect my mind.

I well remember the delight with which, when I was

beginning mineralogy, I received from a friend, who had made a voyage to Peru, a little bit of limestone about the size of a hazel nut, with a small film of native silver adhering to its surface. I was never weary of contemplating my treasure, and could not have felt myself richer had I been master of the mines of Copiapo.

I am now about to use as models for your rock drawings stones which my year's income, when I was a boy, would not have bought. But I have long ceased to take any pleasure in their possession; and am only thinking, now, to whom else they can be of use, since they can be of no more to me.

84. But the loss of pleasure to me caused by advance in knowledge of drawings has been far greater than that induced by my riches in minerals.

I have placed, in your reference series, one or two drawings of architecture, made when I was a youth of twenty, with perfect ease to myself, and some pleasure to other people. A day spent in sketching then brought with it no weariness, and infinite complacency. I know better now what drawing should be; the effort to do my work rightly fatigues me in an hour, and I never care to look at it again from that day forward.

85. It is true that men of great and real power do the best things with comparative ease; but you will never hear them express the complacency which simple persons feel in partial success. There is nothing to be regretted in this; it is appointed for all men to enjoy, but for few to achieve.

And do not think that I am wasting your time in dwelling on these simple moralities. From the facts I have been stating we must derive this great principle for all effort. That we must endeavor to *do*, not what is absolutely best, but what is easily within our power and adapted to our temper and condition.

86. In your educational series is a lithographic drawing, by Prout, of an old house in Strasbourg. The carvings of its woodwork are in a style altogether provincial, yet of which the origin is very distant. The delicate Renaissance

architecture of Italy was affected, even in its finest periods, by a tendency to throw out convex masses at the bases of its pillars; the wood-carvers of the 16th century adopted this bulged form as their first element of ornamentation, and these windows of Strasbourg are only imitations by the German peasantry of what, in its finest type, you must seek as far away as the Duomo of Bergamo.

But the burgher, or peasant, of Alsace enjoyed his rude imitation, adapted, as it was, boldly and frankly to the size of his house and the grain of the larch logs of which he built it, infinitely more than the refined Italian enjoyed the floral luxuriance of his marble; and all the treasures of a great exhibition could not have given him the tenth part of the exultation with which he saw the gable of his roof completed over its jutting fret-work; and wrote among the rude intricacies of its sculpture, in flourished black letter, that "He and his wife had built their house with God's help, and prayed Him to let them live long in it,—they, and their children."

87. But it is not only the rustic method of architecture which I wish you to note in this plate; it is the rustic method of drawing also. The manner in which these blunt timber carvings are drawn by Prout is just as provincial as the carvings themselves. Born in a far-away district of England, and learning to draw, unhelped, with fishing-boats for his models; making his way instinctively until he had command of his pencil enough to secure a small income by lithographic drawing; and finding picturesque character in buildings from which all the finest lines of their carving had been effaced by time; possessing also an instinct in the expression of such subjects so peculiar as to win for him a satisfying popularity, and, far better, to enable him to derive perpetual pleasure in the seclusion of country hamlets, and the quiet streets of deserted cities,—Prout had never any motive to acquaint himself with the refinements, or contend with the difficulties, of a more accomplished art. So far from this, his manner of work was, by its very imperfection,

in the most perfect sympathy with the subjects he enjoyed. The broad chalk touches in which he has represented to us this house at Strasbourg are entirely sufficient to give true idea of its effect. To have drawn its ornaments with subtlety of Leonardesque delineation would only have exposed their faults, and mocked their rusticity. The drawing would have become painful to you from the sense of the time which it had taken to represent what was not worth the labor, and to direct your attention to what could only, if closely examined, be matter of offense. But here you have a simple and provincial draughtsman happily and adequately expressing a simple and provincial architecture; nor could either builder or painter have become wiser, but to their loss.

88. Is it then, you will ask me, seriously to be recommended, and, however recommendable, is it possible, that men should remain contented with attainments which they know to be imperfect? and that now, as in former times, large districts of country, and generations of men, should be enriched or amused by the products of a clumsy ignorance? I do not know how far it is possible, but I know that wherever you desire to have true art, it is necessary. Ignorance, which is contented and clumsy, will produce what is imperfect, but not offensive. But ignorance *discontented* and *dexterous*, learning what it cannot understand, and imitating what it cannot enjoy, produces the most loathsome forms of manufacture that can disgrace or mislead humanity. Some years since, as I was looking through the modern gallery at the quite provincial German School of Düsseldorf, I was fain to leave all their epic and religious designs, that I might stay long before a little painting of a shepherd boy carving his dog out of a bit of deal. The dog was sitting by, with the satisfied and dignified air of a personage about for the first time in his life to be worthily represented in sculpture; and his master was evidently succeeding to his mind in expressing the features of his friend. The little scene was one which, as you know, must take place continually among the cottage artists who supply the toys of Nuremberg and Berne.

Happy, these! so long as, undisturbed by ambition, they spend their leisure time in work pretending only to amuse, yet capable, in its own way, of showing accomplished dexterity, and vivid perception of nature. We, in the hope of doing great things, have surrounded our workmen with Italian models, and tempted them with prizes into competitive mimicry of all that is best, or that we imagine to be best, in the work of every people under the sun. And the result of our instruction is only that we are able to produce,—I am now quoting the statement I made last May, “the most perfectly and roundly ill-done things” that ever came from human hands. I should thankfully put upon my chimney-piece the wooden dog cut by the shepherd boy; but I should be willing to forfeit a large sum rather than keep in my room the number 1 of the Kensington Museum—thus described in its catalogue—“Statue in black and white marble, of a Newfoundland dog standing on a serpent, which rests on a marble cushion;—the pedestal ornamented with Pietra Dura fruits in relief.”

89. You will, however, I fear, imagine me indulging in my usual paradox, when I assure you that all the efforts we have been making to surround ourselves with heterogeneous means of instruction, will have the exactly reverse effect from that which we intend;—and that, whereas formerly we were able only to do a little well, we are qualifying ourselves now to do everything ill. Nor is the result confined to our workmen only. The introduction of French dexterity and of German erudition has been harmful chiefly to our most accomplished artists—and in the last Exhibition of our Royal Academy there was, I think, no exception to the manifest fact that every painter of reputation painted worse than he did ten years ago.

90. Admitting, however, (not that I suppose you will at once admit, but for the sake of argument, supposing,) that this is true, what, we have further to ask, can be done to discourage ourselves from calamitous emulation, and with-

draw our workmen from the sight of what is too good to be of use to them?

But this question is not one which can be determined by the needs, or limited to the circumstances of Art. To live generally more modest and contented lives; to win the greatest possible pleasure from the smallest things; to do what is likely to be serviceable to our immediate neighbors, whether it seem to them admirable or not; to make no pretense of admiring what has really no hold upon our hearts; and to be resolute in refusing all additions to our learning, until we have perfectly arranged and secured what learning we have got;—these are conditions, and laws, of unquestionable σοφία and σωφροσύνη, which will indeed lead us up to fine art if we are resolved to have it fine; but will also do what is much better, make rude art precious.

91. It is not, however, by any means necessary that provincial art *should* be rude, though it may be singular. Often it is no less delicate than quaint, and no less refined in grace than original in character. This is likely always to take place when a people of naturally fine artistic temper work with the respect which, as I endeavored to show you in a former lecture, ought always to be paid to local material and circumstance.

I have placed in your educational series the photograph of the door of a wooden house in Abbeville, and of the winding stair above; both so exquisitely sculptured that the real vine-leaves which have wreathed themselves about their pillars, cannot, in the photograph, be at once discerned from the carved foliage. The latter, quite as graceful, can only be known for art by its quaint setting.

Yet this school of sculpture is altogether provincial. It could only have risen in a richly-wooded chalk country, where the sapling trees beside the brooks gave example to the workman of the most intricate tracery, and the white cliffs above the meadows furnished docile material to his hand.

92. I have now, to my sorrow, learned to despise the

elaborate intricacy, and the playful realizations, of the Norman designers; and can only be satisfied by the reserved and proud imagination of the master schools. But the utmost pleasure I now take in these is almost as nothing, compared to the joy I used to have, when I knew no better, in the fretted pinnacles of Rouen, and white lace, rather than stonework, of the chapels of Reu and Amboise.

Yet observe that the first condition of this really precious provincial work is its being the best that can be done under the given circumstances; and the second is, that though provincial, it is not in the least frivolous or ephemeral, but as definitely civic, or public, in design, and as permanent in the manner of it, as the work of the most learned academies: while its execution brought out the energies of each little state, not necessarily in rivalry, but severally in the perfecting of styles which Nature had rendered it impossible for their neighbors to imitate.

93. This civic unity, and the feeling of the workman that he is performing his part in a great scene which is to endure for centuries, while yet, within the walls of his city, it is to be a part of his own peculiar life, and to be separate from all the world besides, develops, together, whatever duty he acknowledges as a patriot, and whatever complacency he feels as an artist.

We now build, in our villages, by the rules of the Academy of London; and if there be a little original vivacity or genius in any provincial workman, he is almost sure to spend it in making a ridiculous toy. Nothing is to me much more pathetic than the way that our neglected workmen thus throw their lives away. As I was walking the other day through the Crystal Palace, I came upon a toy which had taken the leisure of five years to make; you dropped a penny into the chink of it, and immediately a little brass steam-engine in the middle started into nervously hurried action; some bell-ringers pulled strings at the bottom of a church steeple which had no top; two regiments of cavalry marched out from the sides, and maneuvered in

the middle; and two well-dressed persons in a kind of opera-box expressed their satisfaction by approving gestures.

In old Ghent, or Bruges, or York, such a man as the one who made this toy, with companions similarly minded, would have been taught how to employ himself, not to their less amusement, but to better purpose; and in their five years of leisure hours they would have carved a flamboyant crown for the belfry-tower, and would have put chimes into it that would have told the time miles away, with a pleasant tune for the hour, and a variation for the quarters, and cost the passers-by in all the city and plain not so much as the dropping of a penny into a chink.

94. Do not doubt that I feel, as strongly as any of you can feel, the utter impossibility at present of restoring provincial simplicity to our country towns.

My despondency respecting this, and nearly all other matters which I know to be necessary, is at least as great,—it is certainly more painful to me,—in the decline of life,—than that which any of my younger hearers can feel. But what I have to tell you of the unchanging principles of nature, and of art, must not be affected by either hope or fear. And if I succeed in convincing you what these principles are, there are many practical consequences which you may deduce from them, if ever you find yourselves, as young Englishmen are often likely to find themselves, in authority over foreign tribes of peculiar or limited capacities.

Be assured that you can no more drag or compress men into perfection than you can drag or compress plants. If ever you find yourselves set in a position of authority, and are entrusted to determine modes of education, ascertain first what the people you would teach have been in the habit of doing, and encourage them to do *that* better. Set no other excellence before their eyes; disturb none of their reverence for the past; do not think yourselves bound to dispel their ignorance, or to contradict their superstitions; teach them only gentleness and truth; redeem them by example from habits which you know to be unhealthy or degrading;

but cherish, above all things, *local associations*, and *hereditary skill*.

It is the curse of so-called civilization to pretend to originality by the willful invention of new methods of error, while it quenches wherever it has power, the noble originality of nations, rising out of the purity of their race, and the love of their native land.

95. I could say much more, but I think I have said enough to justify for the present what you might otherwise have thought singular in the methods I shall adopt for your exercise in the drawing-schools. I shall indeed endeavor to write down for you the laws of the art which is centrally best; and to exhibit to you a certain number of its unquestionable standards: but your own actual practice shall be limited to objects which will explain to you the meaning, and awaken you to the beauty, of the art of your own country.

The first series of my lectures on sculpture must have proved to you that I do not despise either the workmanship or the mythology of Greece; but I must assert with more distinctness than even in my earliest works, the absolute unfitness of all its results to be made the guides of English students or artists.

Every nation can represent, with prudence, or success, only the realities in which it delights. What you have with you, and before you, daily, dearest to your sight and heart, *that*, by the magic of your hand, or of your lips, you can gloriously express to others; and what you ought to have in your sight and heart,—what, if you have not, nothing else can be truly seen or loved,—is the human life of your own people, understood in its history, and admired in its presence.

And unless that be first made beautiful, idealism must be false and imagination monstrous.

It is your influence on the existing world which, in your studies here, you ought finally to consider; and although it is not, in that influence, my function to direct you, I hope you will not be discontented to know that I shall ask no effort from your art-genius, beyond the rational suggestion of what

we may one day hope to see actually realized in England, in the sweetness of her landscape, and the dignity of her people.

In connection with the subject of this lecture, I may mention to you that I have received an interesting letter, requesting me to assist in promoting some improvements designed in the city of Oxford.

But as the entire charm and educational power of the city of Oxford, so far as that educational power depended on reverent associations, or on visible solemnities and serenities of architecture, have been already destroyed; and, as far as our own lives extend, destroyed, I may say, forever, by the manufacturing suburb which heaps its ashes on one side, and the cheap-lodging suburb which heaps its brickbats on the other; I am myself, either as antiquary or artist, absolutely indifferent to what happens next; except on grounds respecting the possible health, cleanliness, and decency which may yet be obtained for the increasing population.

How far cleanliness and decency bear on art and science, or on the changed functions of the university to its crowd of modern students, I have partly to consider in connection with the subject of my next lecture, and I will reserve therefore any definite notice of these proposed improvements in the city, until the next occasion of meeting you.

LECTURE VI.

THE RELATION TO ART OF THE SCIENCE OF LIGHT.

24th February, 1872.

96. I HAVE now, perhaps to the exhaustion of your patience, but you will find, not without real necessity, defined the manner in which the mental tempers, ascertained by philosophy to be evil or good, retard and advance the parallel studies of science and art.

In this and the two next following lectures I shall endeavor to state to you the literal modes in which the virtues of art are connected with the principles of exact science; but now, remember, I am speaking, not of the consummate science of which art is the image; but only of what science we have actually attained, which is often little more than terminology (and even that uncertain), with only a gleam of true science here and there.

I will not delay you by any defence of the arrangement of sciences I have chosen. Of course we may at once dismiss chemistry and pure mathematics from our consideration. Chemistry can do nothing for art but mix her colors, and tell her what stones will stand weather; (I wish, at this day, she did as much;) and with pure mathematics we have nothing whatever to do; nor can that abstract form of high mathesis stoop to comprehend the simplicity of art. To a first wrangler at Cambridge, under the present conditions of his trial, statues will necessarily be stone dolls, and imaginative work unintelligible. We have, then, in true fellowship with art, only the sciences of light and form, (optics and geometry). If you will take the first syllable of the word 'geometry' to

mean earth in the form of flesh, as well as of clay, the two words sum every science that regards graphic art, or of which graphic art can represent the conclusions.

97. To-day we are to speak of optics, the science of seeing;—of that power, whatever it may be, which (by Plato's definition), "through the eyes, manifests color to us."

Hold that definition always, and remember that 'light' means accurately the power that affects the eyes of animals with the sensation proper to them. The study of the effect of light on nitrate of silver is chemistry, not optics; and what is light to *us* may indeed shine on a stone; but is not light to the stone. The "fiat lux" of creation is, therefore, in the deep sense of it, "fiat anima."

We cannot say that it is merely "fiat oculus," for the effect of light on living organism, even when sightless, cannot be separated from its influence on sight. A plant consists essentially of two parts, root and leaf: the leaf by nature seeks light, the root by nature seeks darkness: it is not warmth or cold, but essentially light and shade, which are to them, as to us, the appointed conditions of existence.

98. And you are to remember still more distinctly that the words "fiat lux" mean indeed "fiat anima," because even the power of the eye itself, as such, is *in* its animation. You do not see *with* the lens of the eye. You see *through* that, and by means of that, but you see with the soul of the eye.

99. A great physiologist said to me the other day—it was in the rashness of controversy, and ought not to be remembered, as a deliberate assertion, therefore I do not give his name, still he did say—that sight was "altogether mechanical." The words simply meant, if they meant anything, that all his physiology had never taught him the difference between eyes and telescopes. Sight is an absolutely spiritual phenomenon; accurately, and only, to be so defined; and the "Let there be light," is as much, when you understand it, the ordering of intelligence, as the ordering of vision. It is the appointment of change of what had been else only a mechanical effluence from things unseen to things unseeing,—from

stars that did not shine to earth that could not perceive;—the change, I say, of that blind vibration into the glory of the sun and moon for human eyes; so rendering possible also the communication out of the unfathomable truth, of that portion of truth which is good for us, and animating to us, and is set to rule over the day and night of our joy and sorrow.

100. The sun was set thus ‘to rule the day.’ And of late you have learned that he was set to rule everything that we know of. You have been taught that, by the Sirens, as a piece of entirely new knowledge, much to be exulted over. We painters, indeed, have been for some time acquainted with the general look of the sun, and long before there were painters there were wise men,—Zoroastrian and other,—who had suspected that there was power in the sun; but the Sirens of yesterday have somewhat new, it seems, to tell you of his authority, ἐπὶ χθονὶ πουλοβοτείρη. I take a passage, almost at random, from a recent scientific work.

“Just as the phenomena of water-formed rocks all owe their existence directly or indirectly chiefly to the sun’s energy, so also do the phenomena interwoven with life. This has long been recognized by various eminent British and foreign physicists; and in 1854 Professor —, in his memoir on the method of palæontology, asserted that organisms were but *manifestations of applied physics and applied chemistry*. Professor — puts the generalizations of physicists in a few words: When speaking of the sun, it is remarked—‘He rears the whole vegetable world, and through it the animal; the lilies of the field are his workmanship, the verdure of the meadows, and the cattle upon a thousand hills. He forms the muscle, he urges the blood, he builds the brain. His fleetness is in the lion’s foot; he springs in the panther, he soars in the eagle, he slides in the snake. He builds the forest and hews it down, the power which raised the tree and that which wields the axe being one and the same.’”

All this is exceedingly true; and it is new in *one* respect, namely, in the ascertainment that the quantity of solar force necessary to produce motive power is measurable, and, in its

sum, unalterable. For the rest, it was perfectly well known in Homer's time, as now, that animals could not move till they were warm; and the fact that the warmth which enables them to do so is finally traceable to the sun, would have appeared to a Greek physiologist, no more interesting than, to a Greek poet, would have been the no less certain fact, that "Tout ce qui se peut dire de beau est dans les dictionnaires; il n'y a que les mots qui sont transposés"—Everything fine, that can be said, is in the dictionaries; it is only that the words are transposed.

Yes, indeed; but to the ποιητής the gist of the matter is *in* the transposition. The sun does, as the delighted physicist tells you, unquestionably "slide in the snake;" but how comes he to adopt that manner, we artists ask, of (literally) transposition?

101. The summer before last, as I was walking in the woods near the Giesbach, on the Lake of Brienz, and moving very quietly, I came suddenly on a small steel-gray serpent, lying in the middle of the path; and it was greatly surprised to see me. Serpents, however, always have complete command of their feelings, and it looked at me for a quarter of a minute without the slightest change of posture: then, with an almost imperceptible motion, it began to withdraw itself beneath a cluster of leaves. Without in the least hastening its action, it gradually concealed the whole of its body. I was about to raise one of the leaves, when I saw what I thought was the glance of another serpent, in the thicket at the path side; but it was the same one, which having once withdrawn itself from observation beneath the leaves, used its utmost agility to spring into the wood; and with so instantaneous a flash of motion, that I never saw it leave the covert, and only caught the gleam of light as it glided away into the copse.

102. Now, it was to me a matter of supreme indifference whether the force which the creature used in this action was derived from the sun, the moon, or the gas-works at Berne. What was, indeed, a matter of interest to me, was just that

which would have struck a peasant, or a child;—namely, the calculating wisdom of the creature's device; and the exquisite grace, strength, and precision of the action by which it was accomplished.

103. I was interested then, I say, more in the device of the creature, than in its source of motion. Nevertheless, I am pleased to hear, from men of science, how necessarily that motion proceeds from the sun. But where did its *device* come from? There is no wisdom, no device in the dust, any more than there is warmth in the dust. The springing of the serpent is from the sun:—the wisdom of the serpent,—whence that?

104. From the sun also, is the only answer, I suppose, possible to physical science. It is not a false answer: quite true, like the other, up to a certain point. To-day, in the strength of your youth, you may know what it is to have the power of the sun taken out of your arms and legs. But when you are old, you will know what it is to have the power of the sun taken out of your minds also. Such a thing may happen to you, sometimes, even now; but it will continually happen to you when you are my age. You will no more, then, think over a matter to any good purpose after twelve o'clock in the day. It may be possible to think over, and, much more, to talk over, matters, to little, or to bad, purpose after twelve o'clock in the day. The members of your national legislature do their work, we know, by gaslight; but you don't suppose the power of the sun is in any of *their* devices? Quite seriously, all the vital functions,—and, like the rest and with the rest, the pure and wholesome faculties of the brain,—rise and set with the sun: your digestion and intellect are alike dependent on its beams; your thoughts, like your blood, flow from the force of it, in all scientific accuracy and necessity. Sol illuminatio nostra est; Sol salus nostra; Sol sapientia nostra.

And it is the final act and outcome of lowest national atheism, since it cannot deny the sun, at least to strive to do without it; to blast the day in heaven with smoke, and prolong the

dance, and the council, by night, with tapers, until at last, rejoicing—*Dixit insipiens in corde suo, non est Sol.*

105. Well, the sliding of the serpent, and the device of the serpent, we admit, come from the sun. The flight of the dove, and its harmlessness,—do they also?

The flight—yes, assuredly. The Innocence?—It is a new question. How of that? Between movement and non-movement—nay, between sense and non-sense—the difference rests, we say, in the power of Apollo; but between malice and innocence, where shall we find the root of *that* distinction?

106. Have you ever considered how much literal truth there is in the words—“The light of the body is the eye. If, therefore, thine eye be evil”—and the rest? How *can* the eye be evil? How, if evil, can it fill the whole body with darkness?

What is the meaning of having one's body *full* of darkness? It cannot mean merely being blind. Blind, you may fall in a ditch if you move; but you may be well, if at rest. But to be evil-eyed, is not that worse than to have no eyes? and instead of being only in darkness, to have darkness in *us*, portable, perfect, and eternal?

107. Well, in order to get at the meaning we may, indeed, now appeal to physical science, and ask her to help us. How many manner of eyes are there? You physical-science students should be able to tell us painters that. We only know, in a vague way, the external aspect and expression of eyes. We see, as we try to draw the endlessly-grotesque creatures about us, what infinite variety of instruments they have; but you know, far better than we do, how those instruments are constructed and directed. You know how some play in their sockets with independent revolution,—project into near-sightedness on pyramids of bone,—are brandished at the points of horns,—studded over backs and shoulders,—thrust at the ends of antennæ to pioneer for the head, or pinched up into tubercles at the corners of the lips. But how do the creatures see out of all these eyes?

108. No business of ours, you may think? Pardon me.

This is no Siren's question—this is altogether business of ours, lest, perchance, any of us should see partly in the same manner. Comparative sight is a far more important question than comparative anatomy. It is no matter, though we sometimes walk—and it may often be desirable to climb—like apes; but suppose we only *see* like apes, or like lower creatures? I can tell you, the science of optics is an essential one to us; for exactly according to these infinitely grotesque directions and multiplications of instrument you have correspondent, not only intellectual but moral, faculty in the soul of the creatures. Literally, if the eye be pure, the body is pure; but, if the light of the body be but darkness, how great is that darkness!

109. Have you ever looked attentively at the study I gave you of the head of the rattlesnake? The serpent will keep its eyes fixed on you for an hour together, a vertical slit in each admitting such image of you as is possible to the rattlesnake retina, and to the rattlesnake mind. How much of you do you think it sees? I ask that, first, as a pure physical question. I do not know; it is not my business to know. You, from your schools of physical science, should bring me answer. How much of a man can a snake see? What sort of image of him is received through that deadly vertical cleft in the iris;—through the glazed blue of the ghastly lens? Make me a picture of the appearance of a man, as far as you can judge it can take place on the snake's retina. Then ask yourselves, farther, how much of speculation is possible to the snake, touching this human aspect?

110. Or, if that seem too far beneath possible inquiry, how say you of a tiger's eye, or a cat's? A cat may look at a king;—yes; but can it *see* a king when it looks at him? The beasts of prey never seem to me to *look*, in our sense, at all. Their eyes are fascinated by the motion of anything, as a kitten's by a ball;—they fasten, as if drawn by an inevitable attraction, on their food. But when a cat caresses you, it never looks at you. Its heart seems to be in its back and paws, not its eyes. It will rub itself against you, or pat you

with velvet tufts, instead of talons; but you may talk to it an hour together, yet not rightly catch its eye. Ascend higher in the races of being—to the fawn, the dog, the horse; you will find that, according to the clearness of sight, is indeed the kindness of sight, and that at last the noble eyes of humanity look through humanity, from heart into heart, and with no mechanical vision. And the Light of the body is the eye—yes, and in happy life, the light of the heart also.

111. But now note farther: there is a mathematical power in the eye which may far transcend its moral power. When the moral power is feeble, the faculty of measurement, or of distinct delineation, may be supreme; and of comprehension none. But here, again, I want the help of the physical science schools. I believe the eagle has no scent, and hunts by sight, yet flies higher than any other bird. Now, I want to know what the appearance is to an eagle, two thousand feet up, of a sparrow in a hedge, or of a partridge in a stubble-field. What kind of definition on the retina do these brown spots take to manifest themselves as signs of a thing eatable; and if an eagle sees a partridge so, does it see everything else so? And then tell me, farther, does it see only a square yard at a time, and yet, as it flies, take summary of the square yards beneath it? When next you are traveling by express sixty miles an hour, past a grass bank, try to see a grasshopper, and you will get some idea of an eagle's optical business, if it takes only the line of ground underneath it. Does it take more?

112. Then, besides this faculty of clear vision, you have to consider the faculty of metric vision. Neither an eagle, nor a kingfisher, nor any other darting bird, can see things with both their eyes at the same time as completely as you and I can; but think of their faculty of measurement as compared with ours! You will find that it takes you months of labor before you can acquire accurate power, even of *deliberate* estimate of distances with the eye; it is one of the points to which, most of all, I have to direct your work. And the curious thing is that, given the degree of practice, you

will measure ill or well with the eye in proportion to the quantity of life in you. No one can measure with a glance, when they are tired. Only the other day I got half an inch out of a foot, in drawing merely a coat of arms, because I was tired. But fancy what would happen to a swallow, if *it* was half an inch out in a foot, in flying round a corner!

113. Well, that is the first branch of the questions which we want answered by optical science;—the actual distortion, contraction, and other modification, of the sight of different animals, as far as it can be known from the forms of their eyes. Then, secondly, we ourselves need to be taught the connection of the sense of color with health; the difference in the physical conditions which lead us to seek for gloom, or brightness of hue; and the nature of purity in color, first in the object seen, and then in the eye which prefers it.

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(The portion of lecture here omitted referred to illustrations of vulgarity and delicacy in color, showing that the vulgar colors, even when they seemed most glaring, were in reality impure and dull; and destroyed each other by contention; while noble color, intensely bright and pure, was nevertheless entirely governed and calm, so that every color bettered and aided all the rest.)

114. You recollect how I urged you in my opening course of lectures rather to work in the school of crystalline color than in that of shade.

Since I gave that first course of lectures, my sense of the necessity of this study of brightness primarily, and of purity and gaiety beyond all other qualities, has deeply been confirmed by the influence which the unclean horror and impious melancholy of the modern French school—most literally the school of death—has gained over the popular mind. I will not dwell upon the evil frenzy to-day. But it is in order at once to do the best I can, in counteraction of its deadly influence, though not without other and constant reasons, that I give you heraldry, with all its splendor and its pride, its

brightness of color, and honorableness of meaning, for your main elementary practice.

115. To-day I have only time left to press on your thoughts the deeper law of this due joy in color and light.

On any morning of the year, how many pious supplications, do you suppose, are uttered throughout educated Europe for "light"? How many lips at least pronounce the word, and, perhaps, in the plurality of instances, with some distinct idea attached to it? It is true the speakers employ it only as a metaphor. But why is their language thus metaphorical? If they mean merely to ask for spiritual knowledge or guidance, why not say so plainly, instead of using this jaded figure of speech? No boy goes to his father when he wants to be taught, or helped, and asks his father to give him 'light.' He asks what he wants, advice or protection. Why are not we also content to ask our Father for what we want, in plain English?

The metaphor, you will answer, is put into our mouths, and felt to be a beautiful and necessary one.

I admit it. In your educational series, first of all examples of modern art, is the best engraving I could find of the picture which, founded on that idea of Christ's being the Giver of Light, contains, I believe, the most true and useful piece of religious vision which realistic art has yet embodied. But why is the metaphor so necessary, or, rather, how far is it a metaphor at all? Do you think the words 'Light of the World' mean only 'Teacher or Guide of the World'? When the Sun of Justice is said to rise with health in its wings, do you suppose the image only means the correction of error? Or does it even mean so much? The Light of Heaven is needed to do that perfectly. But what we are to pray for is the Light of the *World*; nay, the Light "that lighteth *every man that cometh into the world.*"

116. You will find that it is no metaphor—nor has it ever been so.

To the Persian, the Greek, and the Christian, the sense of the power of the God of Light has been one and the same.

That power is not merely in teaching or protecting, but in the enforcement of purity of body, and of equity or justice in the heart; and this, observe, not heavenly purity, nor final justice; but, now, and here, actual purity in the midst of the world's foulness,—practical justice in the midst of the world's iniquity. And the physical strength of the organ of sight,—the physical purity of the flesh, the actual love of sweet light and stainless color,—are the necessary signs, real, inevitable, and visible, of the prevailing presence, with any nation, or in any house, of the “Light that lighteth every man that cometh into the world.”

117. *Physical* purity;—actual love of sweet light, and of fair color. This is one palpable sign, and an entirely needful one, that we have got what we pretend to pray for every morning. That, you will find, is the meaning of Apollo's war with the Python—of your own St. George's war with the dragon. You have got that battle stamped again on every sovereign in your pockets, but do you think the sovereigns are helping, at this instant; St. George in his battle? Once, on your gold of the Henrys' times, you had St. Michael and the dragon, and called your coins ‘angels.’ How much have they done lately, of angelic work, think you, in purifying the earth?

118. Purifying, literally, purging and cleansing. That is the first “sacred art” all men have to learn. And the words I deferred to the close of this lecture, about the proposed improvements in Oxford, are very few. Oxford is, indeed, capable of much improvement, but only by undoing the greater part of what has been done to it within the last twenty years; and, at present, the one thing that I would say to well-meaning persons is, ‘For Heaven's sake—literally for Heaven's sake—let the place alone, and clean it.’ I walked last week to Iffley—not having been there for thirty years. I did not know the church inside; I found it pitch-dark with painted glass of barbarous manufacture, and the old woman who showed it infinitely proud of letting me in at the front door instead of the side one. But close by it, not fifty yards

down the hill, there was a little well—a holy well it should have been; beautiful in the recess of it, and the lovely ivy and weeds above it, had it but been cared for in a human way; but so full of frogs that you could not have dipped a cup in it without catching one.

What is the use of pretty painted glass in your churches when you have the plagues of Egypt outside of them?

119. I walked back from Iffley to Oxford by what was once the most beautiful approach to an academical city of any in Europe. Now it is a wilderness of obscure and base buildings. You think it a fine thing to go into Iffley church by the front door;—and you build cheap lodging-houses over all the approach to the chief university of English literature! That, forsooth, is your luminous cloister, and porch of Polygnotus to your temple of Apollo. And in the center of that temple, at the very foot of the dome of the Radelyffe, between two principal colleges, the lane by which I walked from my own college half an hour ago, to this place,—Brasen-nose Lane—is left in a state as loathsome as a back-alley in the East end of London.

120. These, I suppose, are the signs of extending liberality, and disseminated advantages of education.

Gentlemen, if, as was lately said by a leading member of your Government, the function of a university be only to examine, it may indeed examine the whole mob of England in the midst of a dunghill; but it cannot teach the gentlemen of England in the midst of a dunghill; no, nor even the people of England. How many of her people it *ought* to teach is a question. We think, now-a-days, our philosophy is to light every man that cometh into the world, and to light every man equally. Well, when indeed you give up all other commerce in this island, and, as in Bacon's "New Atlantis," only buy and sell to get God's first creature, which was light, there may be some equality of gain for us in that possession. But until then,—and we are very far from such a time—the light cannot be given to all men equally. Nay, it is becoming questionable whether, instead of being equally distributed to

all, it may not be equally withdrawn from us all: whether the ideas of purity and justice,—of loveliness which is to sanctify our peace,—and of justice which is to sanctify our battle, are not vanishing from the purpose of our policy, and even from the conception of our education.

The uses, and the desire, of seclusion, of meditation, of restraint, and of correction—are they not passing from us in the collision of worldly interests, and restless contests of mean hope, and meaner fear? What light, what health, what peace, or what security,—youths of England—do you come here now to seek? In what sense do you receive—with what sincerity do you adopt for yourselves—the ancient legend of your schools, “*Dominus illuminatio mea, et salus mea; quem timebo*”?

121. Remember that the ancient theory on which this university was founded,—not the theory of any one founder, observe, nor even the concluded or expressed issue of the wisdom of many; but the tacit feeling by which the work and hope of all were united and completed—was, that England should gather from among her children a certain number of purest and best, whom she might train to become, each in their day of strength, her teachers and patterns in religion, her declarers and doers of justice in law and her leaders in battle. Bred, it might be, by their parents, in the fond poverty of learning, or amidst the traditions and discipline of illustrious houses,—in either manner separate, from their youth up, to their glorious offices—they came here to be kindled into the lights that were to be set on the hills of England, brightest of the pious, the loyal, and the brave. Whatever corruption blighted, whatever worldliness buried, whatever sin polluted their endeavor, this conception of its meaning remained; and was indeed so fulfilled in faithfulness, that to the men whose passions were tempered, and whose hearts confirmed, in the calm of these holy places, you, now living, owe all that is left to you of hope in heaven, and all of safety or honor that you have to trust and defend on earth.

Their children have forfeited, some by guilt, and many in folly, the leadership they inherited; and every man in England now is to do and to learn what is right in his own eyes. How much need, therefore, that we should learn first of all what eyes are; and what vision they ought to possess—science of sight granted only to clearness of soul; but granted in its fulness even to mortal eyes: for though, after the skin, worms may destroy their body, happy the pure in heart, for they, yet in their flesh, shall see the Light of Heaven, and know the will of God.

LECTURE VII.

THE RELATION TO ART OF THE SCIENCES OF INORGANIC FORM.

February 9th, 1872.

122. I DID not wish in my last lecture, after I had directed your attention to the special bearing of some of the principles I pleaded for, to enforce upon you any farther general conclusions. But it is necessary now to collect the gist of what I endeavored to show you respecting the organs of sight; namely, that in proportion to the physical perfectness or clearness of them is the degree in which they are raised from the perception of prey to the perception of beauty and of affection. The imperfect and brutal instrument of the eye may be vivid with malignity, or wild with hunger, or manifoldly detective with microscopic exaggeration, assisting the ingenuity of insects with a multiplied and permanent monstrosity of all things round them; but the noble human sight, careless of prey, disdainful of minuteness, and reluctant to anger, becomes clear in gentleness, proud in reverence, and joyful in love. And finally, the physical splendor of light and color, so far from being the perception of a mechanical force by a mechanical instrument, is an entirely spiritual consciousness, accurately and absolutely proportioned to the purity of the moral nature, and to the force of its natural and wise affections.

123. That was the sum of what I wished to show you in my last lecture; and observe, that what remains to me doubtful in these things,—and it is much—I do not trouble you with. Only what I know that on experiment you can ascertain for yourselves, I tell you, and illustrate, for the time,

as well as I can. Experiments in art are difficult, and take years to try; you may at first fail in them, as you might in a chemical analysis; but in all the matters which in this place I shall urge on your attention I can assure you of the final results.

That, then, being the sum of what I could tell you with certainty respecting the methods of sight, I have next to assure you that this faculty of sight, disciplined and pure, is the only proper faculty which the graphic artist is to use in his inquiries into nature. His office is to show her appearances; his duty is to know them. It is not his duty, though it may be sometimes for his convenience, while it is always at his peril, that he knows more;—knows the *causes* of appearances, or the essence of the things that produce them.

124. Once again, therefore, I must limit my application of the word science with respect to art. I told you that I did not mean by 'science' such knowledge as that triangles on equal bases and between parallels are equal, but such knowledge as that the stars in Cassiopeia are in the form of a W. But, farther still, it is not to be considered as science, for an artist, that they are stars at all. What *he* has to know is that they are luminous points which twinkle in a certain manner, and are pale yellow, or deep yellow, and may be quite deceptively imitated at a certain distance by brass-headed nails. This he ought to know, and to remember accurately, and his art knowledge—the science, that is to say—of which his art is to be the reflection, is the sum of knowledges of this sort; his memory of the look of the sun and moon at such and such times, through such and such clouds; his memory of the look of the mountains,—of the look of sea,—of the look of human faces.

125. Perhaps you would not call that 'science' at all. It is no matter what either you or I call it. It is science of a certain order of facts. Two summers ago, looking from Verona at sunset, I saw the mountains beyond the Lago di Garda of a strange blue, vivid and rich like the bloom of a damson. I never saw a mountain-blue of that particular quality before

or since. My science as an artist consists in my knowing that sort of blue from every other sort, and in my perfect recollection that this particular blue had such and such a green associated with it in the near fields. I have nothing whatever to do with the atmospheric causes of the color: that knowledge would merely occupy my brains wastefully, and warp my artistic attention and energy from their point. Or to take a simpler instance yet: Turner, in his early life, was sometimes good-natured, and would show people what he was about. He was one day making a drawing of Plymouth harbor, with some ships at the distance of a mile or two, seen against the light. Having shown this drawing to a naval officer, the naval officer observed with surprise, and objected with very justifiable indignation, that the ships of the line had no port-holes. "No," said Turner, "certainly not. If you will walk up to Mount Edgecumbe, and look at the ships against the sunset, you will find you can't see the port-holes." "Well, but," said the naval officer, still indignant, "you know the port-holes are there." "Yes," said Turner, "I know that well enough; but my business is to draw what I see, and not what I know is there."

126. Now, that is the law of all fine artistic work whatsoever; and, more than that, it is, on the whole, perilous to you, and undesirable, that you *should* know what is there. If, indeed, you have so perfectly disciplined your sight that it cannot be influenced by prejudice;—if you are sure that none of your knowledge of what is there will be allowed to assert itself; and that you can reflect the ship as simply as the sea beneath it does, though you may know it with the intelligence of a sailor,—then, indeed, you may allow yourself the pleasure, and what will sometimes be the safeguard from error, of learning what ships or stars, or mountains, are in reality; but the ordinary powers of human perception are almost certain to be disturbed by the knowledge of the real nature of what they draw: and, until you are quite fearless of your faithfulness to the appearances of things, the less you know of their reality the better.

127. And it is precisely in this passive and naïve simplicity that art becomes, not only greatest in herself, but most useful to science. If she *knew* anything of what she was representing, she would exhibit that partial knowledge with complacency; and miss the points beside it, and beyond it. Two painters draw the same mountain; the one has got unluckily into his head some curiosity about glacier marking; and the other has a theory of cleavage. The one will scratch his mountain all over;—the other split it to pieces; and both drawings will be equally useless for the purposes of honest science.

128. Any of you who chance to know my books cannot but be surprised at my saying these things; for, of all writers on art, I suppose there is no one who appeals so often as I do to physical science. But observe, I appeal as a critic of art, never as a master of it. Turner made drawings of mountains and clouds which the public said were absurd. I said, on the contrary, they were the only true drawings of mountains and clouds ever made yet: and I proved this to be so, as only it could be proved, by steady test of physical science: but Turner had drawn his mountains rightly, long before their structure was known to any geologist in Europe; and has painted perfectly truths of anatomy in clouds which I challenge any meteorologist in Europe to explain at this day.

129. And indeed I was obliged to leave "Modern Painters" incomplete, or, rather, as a mere sketch of intention, in analysis of the forms of cloud and wave, because I had not scientific data enough to appeal to. Just reflect for an instant how absolutely whatever has been done in art to represent these most familiar, yet most spectral forms of cloud—utterly inorganic, yet, by spiritual ordinance, in their kindness fair, and in their anger frightful,—how all that has yet been done to represent them, from the undulating bands of blue and white which give to heraldry its nebule bearing, to the finished and deceptive skies of Turner, has been done without one syllable of help from the lips of science.*

* Rubens' rainbow, in the Loan Exhibition this year, was of dull

130. The rain which flooded our fields the Sunday before last, was followed, as you will remember, by bright days, of which Tuesday the 20th was, in London, notable for the splendor, towards the afternoon, of its white cumulus clouds. There has been so much black east wind lately, and so much fog and artificial gloom, besides, that I find it is actually some two years since I last saw a noble cumulus cloud under full light. I chanced to be standing under the Victoria Tower at Westminster, when the largest mass of them floated past, that day, from the north-west; and I was more impressed than ever yet by the awfulness of the cloud-form, and its unaccountableness, in the present state of our knowledge. The Victoria Tower, seen against it, had no magnitude: it was like looking at Mont Blanc over a lamp-post. The domes of cloud-snow were heaped as definitely; their broken flanks were as gray and firm as rocks, and the whole mountain, of a compass and height in heaven which only became more and more inconceivable as the eye strove to ascend it, was passing behind the tower with a steady march, whose swiftness must in reality have been that of a tempest: yet, along all the ravines of vapor, precipice kept pace with precipice, and not one thrust another.

131. What is it that hews them out? Why is the blue sky pure there,—cloud solid here; and edged like marble: and why does the state of the blue sky pass into the state of cloud, in that calm advance?

It is true that you can more or less imitate the forms of cloud with explosive vapor or steam; but the steam melts instantly, and the explosive vapor dissipates itself. The cloud, of perfect form, proceeds unchanged. It is not an explosion, but an enduring and advancing presence. The more you think of it, the less explicable it will become to you.

blue, *darker* than the sky, in a scene lighted from the side of the rainbow. Rubens is not to be blamed for ignorance of optics, but for never having so much as looked at a rainbow carefully: and I do not believe that my friend Mr. Alfred Hunt, whose study of rainbow, in the rooms of the Water Color Society last year, was unrivaled, for vividness and truth, by any I know, learned how to paint it by studying optics.

132. That this should yet be unexplained in the kingdom of the air is, however, no marvel, since aspects of a similar kind are unexplained in the earth, which we tread, and in the water which we drink and wash with. You seldom pass a day without receiving some pleasure from the cloudings in marble; can you explain how the stone was clouded? You certainly do not pass a day without washing your hands. Can you explain the frame of a soap-bubble?

133. I have allowed myself, by way of showing at once what I wanted to come to, to overlook the proper arrangement of my subject, and I must draw back a little.

For all his own purposes, merely graphic, we say, if an artist's eye is fine and faithful, the fewer points of science he has in his head, the better. But for purposes *more* than graphic, in order that he may feel towards things as he should, and choose them as *we* should, he ought to know something about them; and if he is quite sure that he can receive the science of them without letting himself become uncandid and narrow in observation, it is very desirable that he should be acquainted with a little of the alphabet of structure,—just as much as may quicken and certify his observation, without prejudicing it. Cautiously, therefore, and receiving it as a perilous indulgence, he may venture to learn, perhaps as much astronomy as may prevent his carelessly putting the new moon wrong side upwards; and as much botany as will prevent him from confusing, which I am sorry to say Turner did, too often, Scotch firs with stone pines. He may concede so much to geology as to choose, of two equally picturesque views, one that illustrates rather than conceals the structure of a crag: and perhaps, once or twice in his life, a portrait painter might advantageously observe how unlike a skull is to a face. And for you, who are to use your drawing as one element in general education, it is desirable that physical science should assist in the attainment of truth which a real painter seizes by practice of eye.

134. For this purpose I shall appeal to your masters in science to furnish us, as they have leisure, with some simple

and readable accounts of the structure of things which we have to draw continually. Such scientific accounts will not usually much help us to draw them, but will make the drawing, when done, far more valuable to us.

I have told you, for instance, that nobody—at least, no painter—can at present explain the structure of a bubble. To know that structure will not help you to draw sea-foam, but it will make you look at sea-foam with greater interest.

I am not able now to watch the course of modern science, and may perhaps be in error in thinking that the frame of a bubble is still unexplained. But I have not yet met, by any chance, with an account of the forces which, under concussion, arrange the particles of a fluid into a globular film; though, from what I know of cohesion, gravity, and the nature of the atmosphere, I can make some shift to guess at the kind of action that takes place in forming a single bubble. But how one bubble absorbs another without breaking it; or what exact methods of tension prepare for the change of form, and establish it in an instant, I am utterly at a loss to conceive.

Here, I think, then, is one familiar matter which up to the possible point, science might condescendingly interpret for us. The exhaustion of the film in preparation for its change: the determination of the smaller bubble to yield itself up to the larger; the instantaneous flash into the new shape, and the swift adjustment of the rectangular lines of intersection in the marvelous vaulting—all this I want to be explained to us, so that, if we cannot understand it altogether, we may at least know exactly how far we do, and how far we do not.

135. And, next to the laws of the formation of a bubble, I want to see, in simple statement, those of the formation of a bottle. Namely, the laws of its resistance to fracture, from without and within, by concussion or explosion; and the due relations of form to thickness of material; so that, putting the problem in a constant form, we may know, out of a given quantity of material, how to make the strongest bottle under given limitations as to shape. For instance,—you have so

much glass given you: your bottle is to hold two pints, to be flat-bottomed, and so narrow and long in the neck that you can grasp it with your hand. What will be its best ultimate form?

136. Probably, if you thought it courteous, you would laugh at me just now; and, at any rate, are thinking to yourselves that *this* art problem at least needs no scientific investigation, having been practically solved, long ago, by the imperative human instinct for the preservation of bottled stout. But you are only feeling now, gentlemen, and recognizing in one instance, what I tell you of all. Every scientific investigation is, in the same sense as this would be, useless to the trained master of any art. To the soap-bubble blower, and glass-blower,—to the pot-maker and bottle-maker,—if dexterous craftsmen, your science is of no account; and the imp of their art may be imagined as always looking triumphantly and contemptuously, out of its successfully-produced bottle, on the vain analysis of centrifugal impulse and inflating breath.

137. Nevertheless, in the present confusion of instinct and opinion as to beautiful form, it is desirable to have these two questions more accurately dealt with. For observe what they branch into. The colored segments of globe out of which foam is constituted, are portions of spherical vaults constructed of fluent particles. You cannot have the principles of spherical vaulting put in more abstract terms.

Then considering the arch as the section of a vault, the greater number of Gothic arches may be regarded as the intersections of two spherical vaults.

Simple Gothic foliation is merely the triple, quadruple, or variously multiple repetition of such intersection.

And the beauty—(observe this carefully)—the beauty of Gothic arches, and of their foliation, always involves reference to the strength of their structure; but only to their structure as *self-sustaining*; not as *sustaining superincumbent weight*. In the most literal of senses, “the earth hath bubbles as the water hath; and these are of them.”

138. What do you think made Michael Angelo look back to the dome of Santa Maria del Fiore, saying, "Like thee I will not build one, better than thee I cannot"? To you or to me there is nothing in that dome different from hundreds of others. Which of you, who have been at Florence, can tell me honestly he saw anything wonderful in it? But Michael Angelo knew the exact proportion of thickness to weight and curvature which enabled it to stand as securely as a mountain of adamant, though it was only a film of clay, as frail, in proportion to its bulk, as a sea shell. Over the massy war towers of the city it floated, fragile, yet without fear. "Better than thee I cannot."

139. Then think what the investigation of the bottle branches into, joined with that of its necessary companion, the cup. There is a sketch for you of the cup of cups, the pure Greek *κύπελλον*, which is always in the hand of Dionusos, as the thunderbolt is in that of Zeus. Learn but to draw that thoroughly, and you won't have much more to learn of abstract form; for the investigation of the kinds of line that limit this will lead you into all the practical geometry of nature; the ellipses of her sea-bays in perspective; the parabolas of her waterfalls and fountains in profile; the catenary curves of their falling festoons in front; the infinite variety of accelerated or retarded curvature in every condition of mountain débris. But do you think mere science can measure for you any of these things? That book on the table is one of the four volumes of Sir William Hamilton's "Greek Vases." He has measured every important vase vertically and horizontally, with precision altogether admirable, and which may, I hope, induce you to have patience with me in the much less complex, though even more scrupulous, measurements which I shall require on my own examples. Yet English pottery remains precisely where it was, in spite of all this investigation. Do you fancy a Greek workman ever made a vase by measurement? He dashed it from his hand on the wheel, and it was beautiful: and a Venetian glass-blower swept you a curve of crystal from the

end of his pipe; and Reynolds or Tintoret swept you a curve of color from their pencils, as a musician the cadence of a note, unerring, and to be measured, if you please, afterwards, with the exactitude of Divine law.

140. But, if the truth and beauty of art are thus beyond attainment by help of science, how much more its invention? I must defer what I have chiefly to say on this head till next lecture; but to-day I can illustrate, simply, the position of invention with respect to science in one very important group of inorganic forms—those of drapery.

141. If you throw at random over a rod a piece of drapery of any material which will fall into graceful folds, you will get a series of sinuous folds in catenary curves: and any given disposition of these will be nearly as agreeable as any other; though, if you throw the stuff on the rod a thousand times, it will not fall twice alike.

142. But suppose, instead of a straight rod, you take a beautiful nude statue, and throw the piece of linen over that. You may encumber and conceal its form altogether; you may entirely conceal portions of the limbs, and show others; or you may leave indications, under the thin veil, of the contours which are hidden; but in ninety-nine cases out of a hundred you will wish the drapery taken off again; you will feel that the folds are in some sort discrepant and harmful, and eagerly snatch them away. However passive the material, however softly accommodated to the limbs, the wrinklings will always look foreign to the form, like the drip of a heavy shower of rain falling off it, and will load themselves in the hollows uncomfortably. You will have to pull them about; to stretch them one way, loosen them in another, and supply the quantity of government which a living person would have given to the dress, before it becomes at all pleasing to you.

143. Doing your best, you will still not succeed to your mind, provided you have, indeed, a mind worth pleasing. No adjustment that you can make, on the quiet figure, will give any approximation to the look of drapery which has

previously accommodated itself to the action which brought the figure into the position in which it stays. On a really living person, gracefully dressed, and who has paused from graceful motion, you will get, again and again, arrangements of fold which you can admire: but they will not remain to be copied, the first following movement alters all. If you had your photographic plate ready and could photograph—I don't know if it has been tried—girls, like waves, as they move, you would get what was indeed lovely; and yet, when you compared even such results with fine sculpture, you would see that there was something wanting;—that, in the deepest sense, *all* was yet wanting.

144. Yet this is the most that the plurality of artists can do, or think of doing. They draw the nude figure with careful anatomy; they put their model or their lay figure into the required position; they arrange draperies on it to their mind, and paint them from the reality. All such work is absolutely valueless,—worse than valueless in the end of it, blinding us to the qualities of fine work.

In true design it is in this matter of drapery as in all else. There is not a fold too much, and all that are given aid the expression, whether of movement or character. Here is a bit of Greek sculpture, with many folds; here is a bit of Christian sculpture with few. From the many, not one could be removed without harm, and to the few, not one could be added. This alone is art, and no science will ever enable you to do this, but the poetic and fabric instincts only.

145. Nevertheless, however far above science, your work must comply with all the requirements of science. The first thing you have to ask is, Is it scientifically right? That is still nothing, but it is essential. In modern imitations of Gothic work the artists think it religious to be wrong, and that Heaven will be propitious only to saints whose stoles or petticoats stand or fall into incredible angles.

All that nonsense I will soon get well out of your heads by enabling you to make accurate studies from real drapery, so that you may be able to detect in a moment whether the

folds in any design are natural and true to the form, or artificial and ridiculous.

146. But this, which is the science of drapery, will never do more than guard you in your first attempts in the art of it. Nay, when once you have mastered the elements of such science, the most sickening of all work to you will be that in which the draperies are all right,—and nothing else is. In the present state of our schools one of the chief mean merits against which I shall have to warn you is the imitation of what milliners admire: nay, in many a piece of the best art I shall have to show you that the draperies are, to some extent, intentionally ill-done, *lest* you should look at them. Yet, through every complexity of desirableness, and counter-peril, hold to the constant and simple law I have always given you—that the best work must be right in the beginning, and lovely in the end.

147. Finally, observe that what is true respecting these simple forms of drapery is true of all other inorganic form. It must become organic under the artist's hand by his invention. As there must not be a fold in a vestment too few or too many, there must not, in noble landscape, be a fold in a mountain, too few or too many. As you will never get from real linen cloth, by copying it ever so faithfully, the drapery of a noble statue, so you will never get from real mountains, copy them never so faithfully, the forms of noble landscape. Anything more beautiful than the photographs of the Valley of Chamouni, now in your print-sellers' windows, cannot be conceived. For geographical and geological purposes they are worth anything; for art purposes, worth—a good deal less than zero. You may learn much from them, and will mislearn more. But in Turner's "Valley of Chamouni" the mountains have not a fold too much, nor too little. There are no such mountains at Chamouni: they are the ghosts of eternal mountains, such as have been, and shall be, for evermore.

148. So now in sum, for I may have confused you by illustration,—

I. You are, in drawing, to try only to represent the appearances of things, never what you know the things to be.

II. Those appearances you are to test by the appliance of the scientific laws relating to aspect; and to learn, by accurate measurement, and the most fixed attention, to represent with absolute fidelity.

III. Having learned to represent actual appearances faithfully, if you have any human faculty of your own, visionary appearances will take place to you which will be nobler and more true than any actual or material appearances; and the realization of these is the function of every fine art, which is founded absolutely, therefore, in truth, and consists absolutely in imagination. And once more we may conclude with, but now using them in a deeper sense, the words of our master—"The best in this kind are but shadows."

It is to be our task, gentlemen, to endeavor that they may be at least so much.

LECTURE VIII.

THE RELATION TO ART OF THE SCIENCES OF ORGANIC FORM.

March 2nd, 1872.

149. I HAVE next in order to speak of the relation of art to science, in dealing with its own principal subject—organic form, as the expression of life. And, as in my former lecture, I will tell you at once what I wish chiefly to enforce upon you.

First,—but this I shall have no time to dwell upon,—That the true power of art must be founded on a general knowledge of organic nature, not of the human frame only.

Secondly.—That in representing this organic nature, quite as much as in representing inanimate things, Art has nothing to do with structures, causes, or absolute facts; but only with appearances.

Thirdly.—That in representing these appearances, she is more hindered than helped by the knowledge of things which do not externally appear; and therefore, that the study of anatomy generally, whether of plants, animals, or man, is an impediment to graphic art.

Fourthly.—That especially in the treatment and conception of the human form, the habit of contemplating its anatomical structure is not only a hindrance, but a degradation; and farther yet, that even the study of the external form of the human body, more exposed than it may be healthily and decently in daily life, has been essentially destructive to every school of art in which it has been practised.

150. These four statements I undertake, in the course of

our future study, gradually to confirm to you. In a single lecture I, of course, have time to do little more than clearly state and explain them.

First, I tell you that art should take cognizance of all living things, and know them, so as to be able to name, that is to say, in the truest distinctive way, to describe them. The Creator daily brings, before the noblest of His creatures, every lower creature, that whatsoever Man calls it, may be the name thereof.

Secondly.—In representing, nay, in thinking of, and caring for, these beasts, man has to think of them essentially with their skins on them, and with their souls in them. He is to know how they are spotted, wrinkled, furred, and feathered: and what the look of them is, in the eyes; and what grasp, or cling, or trot, or pat, in their paws and claws. He is to take every sort of view of them, in fact, except one,—the Butcher's view. He is never to think of them as bones and meat.

Thirdly.—In the representation of their appearance, the knowledge of bones and meat, of joint and muscle, is more a hindrance than a help.

Lastly.—With regard to the human form, such knowledge is a degradation as well as a hindrance; and even the study of the nude is injurious, beyond the limits of honor and decency in daily life.

Those are my four positions. I will not detain you by dwelling on the first two—that we should know every sort of beast, and know it with its skin on it, and its soul within it. What you feel to be a paradox—perhaps you think an incredible and insolent paradox—is my telling you that you will be hindered from doing this by the study of anatomy. I address myself, therefore, only to the last two points.

151. Among your standard engravings, I have put that of the picture by Titian, in the Strozzi Palace, of a little Strozzi maiden feeding her dog. I am going to put in the Rudimentary Series, where you can always get at it (R. 125), this much more delightful, though not in all points standard, pic-

ture by Reynolds, of an infant daughter of George the Third's, with her Skye terrier.

I have no doubt these dogs are the authentic pets, given in as true portraiture as their mistresses; and that the little Princess of Florence and Princess of England were both shown in the company which, at that age, they best liked;—the elder feeding her favorite, and the baby with her arms about the neck of hers.

But the custom of putting either the dog, or some inferior animal, to be either in contrast, or modest companionship, with the nobleness of human form and thought, is a piece of what may be called mental comparative anatomy, which has its beginning very far back in art indeed. One of quite the most interesting Greek vases in the British Museum is that of which the painting long went under the title of "Anacreon and his Dog." It is a Greek lyric poet, singing with lifted head, in the action given to Orpheus and Philammon in their moments of highest inspiration; while, entirely unaffected by and superior to the music, there walks beside him a sharp-nosed and curly-tailed dog, painted in what the exclusive admirers of Greek art would, I suppose, call an ideal manner; that is to say, his tail is more like a display of fireworks than a tail; but the ideal evidently founded on the material existence of a charming, though supercilious, animal not unlike the one which is at present the chief solace of my labors in Oxford, Dr. Aeland's dog Bustle. I might go much farther back than this; but at all events, from the time of the golden dog of Pandareos, the fawn of Diana, and the eagle, owl, and peacock of the great Greek gods, you find a succession of animal types—centralized in the Middle Ages, of course, by the hound and the falcon—used in art either to symbolize, or contrast with, dignity in human persons. In modern portraiture, the custom has become vulgarized by the anxiety of everybody who sends their picture, or their children's, to the Royal Academy, to have it demonstrated to the public by the exhibition of a pony, and a dog with a whip in its mouth, that they live, at the proper season, in a coun-

try house. But by the greater masters the thing is done always with a deep sense of the mystery of the comparative existences of living creatures, and of the methods of vice and virtue exhibited by them. Albert Dürer scarcely ever draws a scene in the life of the Virgin, without putting into the foreground some idle cherubs at play with rabbits or kittens; and sometimes lets his love of the grotesque get entirely the better of him, as in the engraving of the Madonna with the monkey. Veronese disturbs the interview of the queen of Sheba with Solomon, by the petulance of the queen of Sheba's Blenheim spaniel, whom Solomon had not treated with sufficient respect; and when Veronese is introduced himself, with all his family, to the Madonna, I am sorry to say that his own pet dog turns its back to the Madonna, and walks out of the room.

152. But among all these symbolic playfulnesses of the higher masters, there is not one more perfect than this study by Reynolds of the infant English Princess with her wire-haired terrier. He has put out his whole strength to show the infinite differences, yet the blessed harmonies, between the human and the lower nature. First, having a blue-eyed,* soft baby to paint, he gives its full face, as round as may be, and rounds its eyes to complete openness, because somebody is coming whom it does not know. But it opens its eyes in quiet wonder, and is not disturbed, but behaves as a princess should. Beside this soft, serenely-minded baby, Reynolds has put the roughest and roughest-minded dog he could think of. Instead of the full round eyes, you have only the dark places in the hair where you know the terrier's eyes must be—sharp enough, if you could see them—and very certainly seeing you, but not at all wondering at you, like the baby's. For the terrier has instantly made up his mind about you; and above all, that you have no business there; and is growling and snarling in his fiercest manner, though without moving from his mistress's side, or from un-

* I have not seen the picture: in the engraving the tint of the eyes would properly represent gray or blue.

der her arm. You have thus the full contrast between the grace and true charm of the child, who "thinketh no evil" of you, and the uncharitable narrowness of nature in the grown-up dog of the world, who thinks nothing but evil of you. But the dog's virtue and faithfulness are not told less clearly; the baby evidently uses the creature just as much for a pillow as a playmate;—buries its arm in the rough hair of it with a loving confidence, half already converting itself to protection: and baby will take care of dog, and dog of baby, through all chances of time and fortune.

153. Now the exquisiteness with which the painter has applied all his skill in composition, all his dexterity in touch of pencil, and all his experience of the sources of expression, to complete the rendering of his comparison, cannot, in any of the finest subtleties of it, be explained; but the first steps of its science may be easily traced; and with little pains you may see how a simple and large mass of white is opposed to a rugged one of gray; how the child's face is put in front light, that no shadow may detract from the brightness which makes her, as in Arabian legends, "a princess like to the full moon"—how, in this halo, the lips and eyes are brought out in deep and rich color, while scarcely a gleam of reflection is allowed to disturb the quietness of the eyes;—(the terrier's, you feel, would glitter enough, if you could see them, and flash back in shallow fire; but the princess's eyes are thinking, and do not flash;)—how the quaint cap surrounds, with its not wholly painless formalism, the courtly and patient face, opposed to the rugged and undressed wild one; and how the easy grace of soft limb and rounded neck is cast, in repose, against the uneasily gathered up crouching of the short legs, and petulant shrug of the eager shoulders, in the ignobler creature.

154. Now, in his doing of all this, Sir Joshua was thinking of, and seeing, whatever was best in the creatures, within and without. Whatever was most perfectly doggish—perfectly childish—in soul and body. The absolute truth of outer aspect, and of inner mind, he seizes infallibly; but

there is one part of the creatures which he never, for an instant, thinks of, or cares for,—their bones. Do you suppose that, from first to last, in painting such a picture, it would ever enter Sir Joshua's mind to think what a dog's skull would look like, beside a baby's? The quite essential facts to him are those of which the skull gives no information—that the baby has a flattish pink nose, and the dog a bossy black one. You might dissect all the dead dogs in the water supply of London without finding out, what, as a painter, it is here your only business precisely to know,—what sort of shininess there is on the end of a terrier's nose; and for the position and action of the creatures, all the four doctors together, who set Bustle's leg for him the other day, when he jumped out of a two-pair-of-stairs window to bark at the volunteers, could not have told Sir Joshua how to make his crouching terrier look ready to snap, nor how to throw the child's arm over its neck in complete, yet not languid, rest.

155. Sir Joshua, then, does not think of, or care for, anatomy, in this picture; but if he had, would it have done him harm? You may easily see that the child's limbs are not drawn with the precision that Mantegna, Dürer, or Michael Angelo would have given them. Would some of their science not have bettered the picture?

I can show you exactly the sort of influence their science would have had.

In your Rudimentary Series, I have placed in sequence two of Dürer's most celebrated plates (R. 65, R. 66), the coat of arms with the skull, and the Madonna crowned by angels; and that you may see precisely what qualities are, and are not, in this last, I have enlarged the head by photography, and placed it in your Reference Series (117). You will find the skull is perfectly understood, and exquisitely engraved, but the face, imperfectly understood and coarsely engraved. No man who has studied the skull as carefully as Dürer did, ever could engrave a face beautifully, for the perception of the bones continually thrusts itself upon him in wrong places, and in trying to conquer or modify it, he dis-

torts the flesh. Where the features are marked, and full of character, he can quit himself of the impression; but in the rounded contour of women's faces he is always forced to think of the skull; and even in his ordinary work often draws more of bones and hair, than face.

156. I could easily give you more definite, but very disagreeable, proofs of the evil of knowing the anatomy of the human face too intimately: but will rather give you further evidence by examining the skull and face of the creature who has taught us so much already,—the eagle.

Here is a slight sketch of the skull of the golden eagle. It may be interesting to you sometimes to make such drawings roughly for the sake of the points of mechanical arrangement—as here in the circular bones of the eye-socket; but don't suppose that drawing these a million of times over will ever help you in the least to draw an eagle itself. On the contrary, it would almost to a certainty hinder you from noticing the essential point in an eagle's head—the projection of the brow. All the main work of the eagle's eye is, as we saw, in looking down. To keep the sunshine above from teasing it, the eye is put under a triangular penthouse, which is precisely the most characteristic thing in the bird's whole aspect. Its hooked beak does not materially distinguish it from a cockatoo, but its hooded eye does. But that projection is not accounted for in the skull; and so little does the anatomist care about it, that you may hunt through the best modern works on ornithology, and you will find eagles drawn with all manner of dissections of skulls, claws, clavicles, sternums, and gizzards; but you won't find so much as one poor falcon drawn with a falcon's eye.

157. But there is another quite essential point in an eagle's head, in comprehending which, again, the skull will not help us. The skull in the human creature fails in three essential points. It is eyeless, noseless, and lipless. It fails only in an eagle in the two points of eye and lip; for an eagle has no nose worth mentioning; his beak is only a prolongation of his jaws. But he has lips very much worth mentioning,

and of which his skull gives no account. One misses them much from a human skull:—"Here hung those lips that I have kissed, I know not how oft,"—but from an eagle's you miss them more, for he is distinct from other birds in having with his own eagle's eye, a dog's lips, or very nearly such; an entirely fleshy and ringent mouth, bluish pink, with a perpetual grin upon it.

So that if you look, not at his skull, but at him, attentively enough, you will precisely get Æschylus's notion of him, essential in the Greek mind—*πτηνός κύων δαφουνός αλετός*—and then, if you want to see the use of his beak or bill, as distinguished from a dog's teeth, take a drawing from the falconry of the Middle Ages, and you will see how a piece of flesh becomes a *rag* to him, a thing to tear up,—*διαρταμήσει σώματος μέγα βάζος*. There you have it precisely, in a falcon I got out of Mr. Coxe's favorite fourteenth century missal.

Now look through your natural history books from end to end; see if you can find one drawing, with all their anatomy, which shows you either the eagle's eye, his lips, or this essential use of his beak, so as to enable you thoroughly to understand those two lines of Æschylus: then, look at this Greek eagle on a coin of Elis, R. 50, and this Pisan one, in marble, Edu. 131, and you will not doubt any more that it is better to look at the living birds, than to cut them to pieces.

158. Anatomy, then,—I will assume that you grant, for the moment, as I will assuredly prove to you eventually,—will not help us to draw the true appearances of things. But may it not add to our intelligent conception of their nature?

So far from doing this, the anatomical study which has, to our much degradation and misfortune, usurped the place, and taken the name, at once of art and of natural history, has produced the most singularly mischievous effect on the faculty of delineation with respect to different races of animals. In all recent books on natural history, you will find the ridiculous and ugly creatures done well, the noble and beautiful creatures done, I do not say merely ill, but in no wise. You will find the law hold universally that apes, pigs,

rats, weasels, foxes, and the like,—but especially apes,—are drawn admirably; but not a stag, not a lamb, not a horse, not a lion;—the nobler the creature, the more stupidly it is always drawn, not from feebleness of art power, but a far deadlier fault than that—a total want of sympathy with the noble qualities of any creature, and a loathsome delight in their disgusting qualities. And this law is so thoroughly carried out that the great French historian of the mammalia, St. Hilaire, chooses, as his single example of the highest of the race, the most nearly bestial type he can find, human, in the world. Let no girl ever look at the book, nor any youth who is willing to take my word; let those who doubt me, look at the example he has given of womankind.

159. But admit that this is only French anatomy, or ill-studied anatomy, and that, rightly studied, as Dr. Acland, for instance, would teach it us, it might do us some kind of good.

I must reserve for my lectures on the school of Florence any analysis of the effect of anatomical study on European art and character; you will find some notice of it in my lecture on Michael Angelo; and in the course of that analysis, it will be necessary for me to withdraw the statement made in the “Stones of Venice,” that anatomical science was helpful to great men, though harmful to mean ones. I am now certain that the greater the intellect, the more fatal are the forms of degradation to which it becomes liable in the course of anatomical studies; and that to Michael Angelo, of all men, the mischief was greatest, in destroying his religious passion and imagination, and leading him to make every spiritual conception subordinate to the display of his knowledge of the body. To-day, however, I only wish to give you my reasons for withdrawing anatomy from your course of study in these schools.

160. I do so, first, simply with reference to our time, convenience, and systematic method. It has become a habit with drawing-masters to confuse this particular science of anatomy with their own art of drawing, though they confuse no other

science with that art. Admit that, in order to draw a tree, you should have a knowledge of botany: Do you expect me to teach you botany here? Whatever I want you to know of it I shall send you to your Professor of Botany and to the Botanic Gardens, to learn. I may, perhaps, give you a rough sketch of the lines of timber in a bough, but nothing more.

So again, admit that, to draw a stone, you need a knowledge of geology. I have told you that you do not, but admit it. Do you expect me to teach you, here, the relations between quartz and oxide of iron; or between the Silurian and Permian systems? If you care about them, go to Professor Phillips, and come back to me when you know them.

And, in like manner, admit that, to draw a man, you want the knowledge of his bones:—you do not; but admit that you do. Why should you expect me, here, to teach you the most difficult of all the sciences? If you want to know it, go to an hospital, and cut dead bodies to pieces till you are satisfied; then come to me, and I'll make a shift to teach you to draw, even then—though your eyes and memory will be full of horrible things which Heaven never meant you so much as a glance at. But don't expect me to help you in that ghastly work: any more than among the furnaces and retorts in Professor Maskelyne's laboratory.

161. Let us take one more step in the logical sequence. You do not, I have told you, need either chemistry, botany, geology, or anatomy, to enable you to understand art, or produce it. But there is one science which you *must* be acquainted with. You must very intensely and thoroughly know—how to behave. You cannot so much as feel the difference between two casts of drapery, between two tendencies of line,—how much less between dignity and baseness of gesture,—but by your own dignity of character. But, though this is an essential science, and although I cannot teach you to lay one line beside another rightly, unless you have this science, you don't expect me in these schools to teach you how to behave, if you happen not to know it before!

162. Well, here is one reason, and a sufficiently logical

one, as you will find it on consideration, for the exclusion of anatomical study from *all* drawing schools. But there is a more cogent reason than this for its exclusion, especially from elementary drawing-schools. It may be sometimes desirable that a student should see, as I said, how very unlike a face a skull is; and at a leisure moment he may, without much harm, observe the equivocation between knees and ankles by which it is contrived that his legs, if properly made at the joints, will only bend backwards, but a crane's forwards. But that a young boy, or girl, brought up fresh to the schools of art from the country, should be set to stare, against every particle of wholesome grain in their natures, at the Elgin marbles, and to draw them with dismal application, until they imagine they like them, makes the whole youthful temper rotten with affectation, and sickly with strained and ambitious fancy. It is still worse for young persons to be compelled to endure the horror of the dissecting-room, or to be made familiar with the conditions of actual bodily form, in a climate where the restraints of dress must for ever prevent the body from being perfect in contour, or regarded with entirely simple feeling.

163. I have now, perhaps too often for your patience, told you that you must always draw for the sake of your subject—never for the sake of your picture. What you wish to see in reality, that you should make an effort to show, in pictures and statues; what you do not wish to see in reality, you should not try to draw.

But there is, I suppose, a very general impression on the mind of persons interested in the arts, that because nations living in cold climates are necessarily unfamiliar with the sight of the naked body, therefore, art should take it upon herself to show it them; and that they will be elevated in thought, and made more simple and grave in temper, by seeing, at least in color and marble, what the people of the south saw in its verity.

164. I have neither time nor inclination to enter at present into discussion of the various effects, on the morality of

nations, of more or less frank showing of the nude form. There is no question that if shown at all, it should be shown fearlessly, and seen constantly; but I do not care at present to debate the question: neither will I delay you by any expression of my reasons for the rule I am about to give. Trust me, I have many; and I can assert to you as a positive and perpetual law, that so much of the nude body as in the daily life of the nation may be shown with modesty, and seen with reverence and delight,—so much, and no more, ought to be shown by the national arts, either of painting or sculpture. What, more than this, either art exhibits, will, assuredly, pervert taste, and, in all probability, morals.

165. It will, assuredly, pervert taste in this essential point, that the polite ranks of the nation will come to think the *living* creature and its dress exempt from the highest laws of taste; and that while a man or woman must, indeed, be seen dressed or undressed with dignity, in marble, they may be dressed or undressed, if not with *indignity*, at least, with less than dignity, in the ball-room, and the street. Now the law of all living art is that the man and woman must be more beautiful than their pictures, and their pictures as decorous as the living man or woman; and that real dress, and gesture, and behavior, should be more graceful than any marble or color can effect similitude of.

166. Thus the idea of a different dress in art and reality, of which that of art is to be the ideal one, perverts taste in dress; and the study of the nude which is rarely seen, as much perverts taste in art.

Of all pieces of art that I know, skilful in execution, and not criminal in intention;—without any exception, quite the most vulgar, and in the solemn sense of the word, most abominable, are the life studies which are said to be the best made in modern times,—those of Mulready, exhibited as models in the Kensington Museum.

167. How far the study of the seldom-seen nude leads to perversion of morals, I will not, to-day, inquire; but I beg you to observe that even among the people where it was most

frank and pure, it unquestionably led to evil far greater than any good which demonstrably can be traced to it. Scarcely any of the moral power of Greece depended on her admiration of beauty, or strength in the body. The power of Greece depended on practice in military exercise, involving severe and continual ascetic discipline of the senses; on a perfect code of military heroism and patriotic honor; on the desire to live by the laws of an admittedly divine justice; and on the vivid conception of the presence of spiritual beings. The mere admiration of physical beauty in the body, and the arts which sought its expression, not only conduced greatly to the fall of Greece, but were the cause of errors and crimes in her greatest time, which must for ever sadden our happiest thoughts of her, and have rendered her example almost useless to the future.

168. I have named four causes of her power; discipline of senses; romantic ideal of heroic honor; respect for justice; and belief in God. There was a fifth—the most precious of all—the belief in the purity and force of life in man; and that true reverence for domestic affection, which, in the strangest way, being the essential strength of every nation under the sun, had yet been lost sight of as the chief element of Greek virtue, though the Iliad itself is nothing but the story of the punishment of the rape of Helen; and though every Greek hero called himself chiefly by his paternal name,—Tydides, rather than Diomed;—Pelides, rather than Achilles.

Among the new knowledges which the modern sirens tempt you to pursue, the basest and darkest is the endeavor to trace the origin of life, otherwise than in Love. Pardon me, therefore, if I give you a piece of theology to-day: it is a science much closer to your art than anatomy.

169. All of you who have ever read your Gospels carefully must have wondered, sometimes, what could be the meaning of those words,—“If any speak against the Son of Man it shall be forgiven; but if against the Holy Spirit, it shall not be forgiven, neither in this world nor in the next.”

The passage may have many meanings which I do not know; but one meaning I know positively, and I tell you so just as frankly as I would that I knew the meaning of a verse in Homer.

Those of you who still go to chapel say every day your creed; and, I suppose, too often, less and less every day believing it. Now, you may cease to believe two articles of it, and,—admitting Christianity to be true,—still be forgiven. But I can tell you—you must *not* cease to believe the third!

You begin by saying that you believe in an Almighty Father. Well, you may entirely lose the sense of that Fatherhood, and yet be forgiven.

You go on to say that you believe in a Saviour Son. You may entirely lose the sense of that Sonship, and yet be forgiven.

But the third article—disbelieve if you dare!

“I believe in the Holy Ghost, *the Lord and Giver of life.*”

Disbelieve that; and your own being is degraded into the state of dust driven by the wind; and the elements of dissolution have entered your very heart and soul.

All Nature, with one voice—with one glory,—is set to teach you reverence for the life communicated to you from the Father of Spirits. The song of birds, and their plumage; the scent of flowers, their color, their very existence, are in direct connection with the mystery of that communicated life: and all the strength, and all the arts of men, are measured by, and founded upon, their reverence for the passion, and their guardianship of the purity, of Love.

170. Gentlemen,—the word by which I at this moment address you—by which it is the first of all your duties through life, to permit all men to address you with truth—that epithet of ‘gentle,’ as you well know, indicates the intense respect for race and fatherhood—for family dignity and chastity,—which was visibly the strength of Rome, as it had been, more disguisedly, the strength of Greece. But have you enough noticed that your Saxon word ‘kindness’

has exactly the same relation to 'kin,' and to the Chaucerian 'kind,' that 'gentle' has to 'gentilis'?

Think out that matter a little, and you will find that—much as it looks like it—neither chemistry, nor anatomy, nor republicanism, are going to have it all their own way—in the making of either beasts, or gentlemen. They look sometimes, indeed, as if they had got as far as two of the Mosaic plagues, and manufactured frogs in the ditches, and lice on the land; but their highest boasters 'will not claim, yet, so much even as that poor victory.

171. My friends, let me very strongly recommend you to give up that hope of finding the principle of life in dead bodies; but to take all pains to keep the life pure and holy in the living bodies you have got; and, farther, not to seek your national amusement in the destruction of animals, nor your national safety in the destruction of men; but to look for all your joy to kindness, and for all your strength to domestic faith, and law of ancestral honor. Perhaps you will not now any more think it strange that in beginning your natural history studies in this place, I mean to teach you heraldry, but not anatomy. For, as you learn to read the shields, and remember the stories, of the great houses of England, and find how all the arts that glorified them were founded on the passions that inspired, you will learn assuredly, that the utmost secret of national power is in living with honor, and the utmost secrets of human art are in gentleness and truth.

LECTURE IX.

THE STORY OF THE HALCYON.

March 7th, 1872.

172. I MUST to-day briefly recapitulate the purport of the preceding lectures, as we are about now to enter on a new branch of our subject.

I stated in the first two, that the wisdom of art and the wisdom of science consisted in their being each devoted unselfishly to the service of men; in the third, that art was only the shadow of our knowledge of facts; and that the reality was always to be acknowledged as more beautiful than the shadow. In the fourth lecture I endeavored to show that the wise modesty of art and science lay in attaching due value to the power and knowledge of other people, when greater than our own; and in the fifth, that the wise self-sufficiency of art and science lay in a proper enjoyment of our own knowledge and power, after it was thus modestly esteemed. The sixth lecture stated that sight was a distinctly spiritual power, and that its kindness or tenderness was proportioned to its clearness. Lastly, in the seventh and eighth lectures, I asserted that this spiritual sight, concerned with external aspects of things, was the source of all necessary knowledge in art; and that the artist has no concern with invisible structures, organic or inorganic.

173. No concern with invisible structures. But much with invisible things; with passion, and with historical association. And in these two closing lectures, I hope partly to justify myself for pressing on your attention some matters as little hitherto thought of in drawing-schools, as the exact sciences have been highly, and, I believe, unjustly, esteemed;—mythology, namely, and heraldry.

I can but in part justify myself now. Your experience of the interest which may be found in these two despised sciences will be my best justification. But to-day (as we are about to begin our exercises in bird-drawing) I think it may interest you to review some of the fables connected with the natural history of a single bird, and to consider what effect the knowledge of such tradition is likely to have on our mode of regarding the animated creation in general.

174. Let us take an instance of the feeling towards birds which is especially characteristic of the English temper at this day, in its entire freedom from superstition.

You will find in your Rudimentary Series (225), Mr. Gould's plate of the lesser Egret,—the most beautiful, I suppose, of all birds that visit, or, at least, once visited, our English shores. Perfectly delicate in form, snow-white in plumage, the feathers like frost-work of dead silver, exquisitely slender, separating in the wind like the streams of a fountain, the creature looks a living cloud rather than a bird.

It may be seen often enough in South France and Italy. The last (or last but one?) known of in England came thirty years ago, and this was its reception, as related by the present happy possessor of its feathers and bones:—

“The little Egret in my possession is a most beautiful specimen: it was killed by a laborer with a stick, in Ake Carr, near Beverley, about 1840, and was brought to me, tied up in a pocket-handkerchief, covered with black wet mud and blood, in which state it was sent to Mr. Reed, of Doncaster, and restored by him in a most marvelous manner.”

175. Now, you will feel at once that, while the peasant was beating this bird into a piece of bloody flesh with his stick, he could not, in any true sense, see the bird; that he had no pleasure either in the sight of that, or of anything near it.

You feel that he would become capable of seeing it in exact proportion to his desire not to kill it; but to watch it in its life,

Well, that is a quite general law: in the degree in which you delight in the life of any creature, you can see it; no otherwise.

And you would feel, would you not, that if you could enable the peasant rightly to see the bird, you had in great part educated him?

176. You would certainly have gone, at least, the third of the way towards educating him. Then the next thing to be contrived would be that he should be able to see a man rightly, as well as a bird; to understand and love what was good in a man, so that supposing his master was a good man, the sight of his master should be a joy to him. You would say that he was therein better educated than if he wanted to put a gun through a hedge and shoot his master.

Then the last part of education will be—whatever is meant by that beatitude of the pure in heart—seeing God rightly, of which I shall not speak to-day.

177. And in all these phases of education, the main point, you observe, is that it *should* be a beatitude: and that a man should learn “*χαίρειν ὀρθῶς* :” and this rejoicing is above all things to be in actual sight; you have the truth exactly in the saying of Dante when he is brought before Beatrice, in heaven, that his eyes “satisfied themselves for their ten years’ thirst.”

This, then, I repeat, is the sum of education. All literature, art, and science are vain, and worse, if they do not enable you to be glad; and glad justly.

And I feel it distinctly my duty, though with solemn and true deference to the masters of education in this university, to say that I believe our modern methods of teaching, and especially the institution of severe and frequent examination, to be absolutely opposed to this great end; and that the result of competitive labor in youth is infallibly to make men know all they learn wrongly, and hate the habit of learning; so that instead of coming to Oxford to rejoice in their work, men look forward to the years they are to pass under her teaching as a deadly agony, from which they are fain to

escape, and sometimes for their life, *must* escape, into any method of sanitary frivolity.

178. I go back to my peasant and his egret. You all think with some horror of this man, beating the bird to death, as a brutal person. He is so; but how far are we English gentlemen, as a body, raised above him? We are more delicately nurtured, and shrink from the notion of bruising the creature and spoiling its feathers. That is so far right, and well. But in all probability this countryman, rude and cruel though he might be, had some other object in the rest of his day than the killing of birds. And very earnestly I ask you, have English gentlemen, as a class, any other real object in their whole existence than killing birds? If they discern a duty, they will indeed do it to the death; but have the English aristocracy at this moment any clear notion of their duty? I believe solemnly, and without jest, their idea of their caste is that its life should be, distinctly from inferior human lives, spent in shooting.

And that is not an idea of caste with which England, at this epoch, can any longer be governed.

179. I have no time to-day to push my argument farther; but I have said enough, I think, to induce you to bear with me in the statement of my main theorem—that reading and writing are in no sense education, unless they contribute to this end of making us feel kindly towards all creatures; but that drawing, and especially physiologic drawing, is vital education of a most precious kind. Farther, that more good would be done by any English nobleman who would keep his estate lovely in its native wildness; and let every animal live upon it in peace that chose to come there, than will be done, as matters are going now, by the talk of all the Lords in Parliament as long as we live to listen to them; and I will even venture to tell you my hope, though I shall be dead long before its possible fulfilment, that one day the English people will, indeed, so far recognize what education means as to surround this university with the loveliest park in England, twenty miles square; that they will forbid, in that environ-

ment, every unclean, mechanical, and vulgar trade and manufacture, as any man would forbid them in his own garden;—that they will abolish every base and ugly building, and nest of vice and misery, as they would cast out a devil;—that the streams of the Isis and Cherwell will be kept pure and quiet among their fields and trees; and that, within this park, every English wild flower that can bloom in lowland will be suffered to grow in luxuriance, and every living creature that haunts wood and stream know that it has happy refuge.

And now to our immediate work.

180. The natural history of anything, or of any creature, divides itself properly into three branches.

We have first to collect and examine the traditions respecting the thing, so that we may know what the effect of its existence has hitherto been on the minds of men, and may have at our command what data exist to help us in our inquiries about it, or to guide us in our own thoughts of it.

We have secondly to examine and describe the thing, or creature, in its actual state, with utmost attainable veracity of observation.

Lastly, we have to examine under what laws of chemistry and physics the matter of which the thing is made has been collected and constructed.

Thus we have first to know the poetry of it—*i.e.*, what it has been to man, or what man has made of it.

Secondly, the actual facts of its existence.

Thirdly, the physical causes of these facts, if we can discover them.

181. Now, it is customary, and may be generally advisable, to confine the term 'natural history' to the last two branches of knowledge only. I do not care what we call the first branch; but, in the accounts of animals that I prepare for my schools at Oxford, the main point with me will be the mythology of them; the second, their actual state and aspect, (second, this, because almost always hitherto only half known); and the anatomy and chemistry of their bodies, I

shall very rarely, and partially, as I told you, examine at all: but I shall take the greatest pains to get at the creature's habits of life; and know all its ingenuities, humors, delights, and intellectual powers. That is to say, what art it has, and what affection; and how these are prepared for in its external form.

182. I say, deliberately and energetically, 'prepared for,' in opposition to the idea, too prevalent in modern philosophy, of the form's being fortuitously developed by repetition of impulse. It is of course true that the aspects and characters of stones, flowers, birds, beasts, and men, are inseparably connected with the conditions under which they are appointed to have existence; but the method of this connection is infinitely varied; so far from fortuitous, it appears grotesquely, often terrifically arbitrary; and neither stone, flower, beast, nor man can understand any single reason of the arbitrament, or comprehend why its Creator made it thus.

183. To take the simplest of instances,—which happens also to be one of the most important to you as artists,—it is appointed that vertebrated animals shall have no more than four legs, and that, if they require to fly, the two legs in front must become wings, it being against law that they should have more than these four members in ramification from the spine.

Can any law be conceived more arbitrary, or more apparently causeless? What strongly planted three-legged animals there might have been! what symmetrically radiant five-legged ones! what volatile six-winged ones! what circumspect seven-headed ones! Had Darwinism been true, we should long ago have split our heads in two with foolish thinking, or thrust out, from above our covetous hearts, a hundred desirous arms and clutching hands; and changed ourselves into Briarean Cephalopoda. But the law is around us, and within; unconquerable; granting, up to a certain limit, power over our bodies to circumstance and will; beyond that limit, inviolable, inscrutable, and, so far as we know, eternal.

184. For every lower animal, similar laws are established; under the grasp of these it is capable of change, in visibly permitted oscillation between certain points; beyond which, according to present experience, it cannot pass. The adaptation of the instruments it possesses in its members to the conditions of its life is always direct, and occasionally beautiful; but in the plurality of instances, partial, and involving painful supplementary effort. Some animals have to dig with their noses, some to build with their tails, some to spin with their stomachs: their dexterities are usually few—their awkwardnesses numberless;—a lion is continually puzzled how to hold a bone; and an eagle can scarcely pull the meat off one, without upsetting himself.

185. Respecting the origin of these variously awkward, imperfectly, or grotesquely developed phases of form and power, you need not at present inquire: in all probability the race of man is appointed to live in wonder, and in acknowledgment of ignorance; but if ever he is to know any of the secrets of his own or of brutal existence, it will assuredly be through discipline of virtue, not through inquisitiveness of science. I have just used the expression, “had Darwinism been true,” implying its fallacy more positively than is justifiable in the present state of our knowledge; but very positively I can say to you that I have never heard yet one logical argument in its favor, and I have heard, and read, many that were beneath contempt. For instance, by the time you have copied one or two of your exercises on the feather of the halcyon, you will be more interested in the construction and disposition of plume-filaments than heretofore; and you may, perhaps, refer, in hope of help, to Mr. Darwin’s account of the peacock’s feather. I went to it myself, hoping to learn some of the existing laws of life which regulate the local disposition of the color. But none of these appear to be known; and I am informed only that peacocks have grown to be peacocks out of brown pheasants, because the young feminine brown pheasants like fine feathers. Whereupon I say to myself, “Then either there was a distinct species of brown

pheasants originally born with a taste for fine feathers; and therefore with remarkable eyes in their heads,—which would be a much more wonderful distinction of species than being born with remarkable eyes in their tails,—or else all pheasants would have been peacocks by this time!” And I trouble myself no more about the Darwinian theory.

When you have drawn some of the actual patterns of plume and scale with attention, I believe you will see reason to think that spectra of organic species may be at least as distinct as those of metals or gases; but learn at all events what they are now, and never mind what they have been.

186. Nor need you care for methods of classification any more than for the origin of classes. Leave the physiologists to invent names, and dispute over them; your business is to know the creature, not the name of it momentarily fashionable in scientific circles. What practical service you can get from the order at present adopted, take, without contention; and as far as possible, use English words, or be sure you understand the Latin ones.

187. For instance, the order at present adopted in arranging the species of birds, is, as you know, founded only on their ways of using their feet.

Some catch or snatch their prey, and are called “Snatchers”—RAPTORES.

Some perch on branches, and are called “In-sitters,” or “Upon-sitters”—INSESSORES.

Some climb and cling on branches, and are called “Climbers”—SCANSORES.

Some scratch the ground, and are called “Scratchers”—RASORES.

Some stand or wade in shallow water, and, having long legs, are called “Stilt-walkers”—GRALLATORES.

Some float, and make oars of their feet, and are called “Swimmers”—NATATORES.

188. This classification is unscholarly, because there are many snatchers and scratchers who perch as well as the sitters; and many of the swimmers sit, when ashore, more

neatly than the sitters themselves; and are most grave insessors, in long rows, on rock or sand: also, 'insessor,' does not mean properly a sitter, but a besieger; and it is awkward to call a bird a 'Razor.' Still, the use of the feet is (on the whole) characteristic, and convenient for first rough arrangement; only, in general reference, it will be better to use plain English words than those stiff Latin ones, or their ugly translations. Linnæus, for all his classes except the stilt-walkers, used the name of the particular birds which were the best types of their class; he called the snatchers "hawks" (*Accipitres*), the swimmers, geese, (*Anseres*), the scratchers, fowls, (*Gallinae*), and the perchers, sparrows, (*Passeres*). He has no class of climbers; but he has one since omitted by Cuvier, "pies," which, for certain mythological reasons presently to be noted, I will ask you to keep. This will give you seven orders, altogether, to be remembered; and for each of these we will take the name of its most representative bird. The hawk has best right undoubtedly to stand for the snatchers; we will have his adversary, the heron, for the stilt-walkers; you will find this very advisable, no less than convenient; because some of the beaks of the stilt-walkers turn down, and some turn up; but the heron's is straight, and so he stands well as a pure middle type. Then, certainly, gulls will better represent the swimmers than geese; and pheasants are a prettier kind of scratchers than fowls. We will take parrots for the climbers, magpies for the pies, and sparrows for the perchers. Then take them in this order: Hawks, parrots, pies, sparrows, pheasants, gulls, herons; and you can then easily remember them. For you have hawks at one end, the herons at the other, and sparrows in the middle, with pies on one side and pheasants opposite, for which arrangement you will find there is good reason; then the parrots necessarily go beside the hawks, and the gulls beside the herons.

189. The bird whose mythic history I am about to read to you belongs essentially and characteristically to that order of pies, *picæ*, or painted birds, which the Greeks continually opposed in their thoughts and traditions to the singing birds,

representing the one by the magpie, and the other by the nightingale. The myth of Autolycus and Philammon, and Pindar's exquisite story of the infidelity of Coronis, are the centers of almost countless traditions, all full of meaning, dependent on the various *ποικιλία*, to eye and ear, of these opposed races of birds. The Greek idea of the Halcyon united both these sources of delight. I will read you what notices of it I find most interesting, not in order of date, but of brevity; the simplest first.

190. "And the King of Trachis, the child of the Morning Star, married Alcyone. And they perished, both of them, through their pride; for the king called his wife, Hera; and she her husband, Zeus: but Zeus made birds of them (*αὐτοὺς ἀπωρονώσασε*), and he made the one a Halcyon, and the other a Sea-mew."—*Appollodorus*, i. 7, 4.

"When the King of Trachis, the son of Hesperus, or of Lucifer, and Philonis, perished in shipwreck, his wife Alcyone, the daughter of Æolus and Ægiale, for love of him, threw herself into the sea;—who both, by the mercy of the gods, were turned into the birds called Halcyons. These birds, in the winter-time, build their nests, and lay their eggs, and hatch their young on the sea; and the sea is quiet in those days, which the sailors call the Halcyonia."—*Hyginus*, *Fab.* LXV.

191. "Now the King of Trachis, the son of Lucifer, had to wife Halcyone. And he, wishing to consult the oracle of Apollo concerning the state of his kingdom, was forbidden to go, by Halcyone, nevertheless he went; and perished by shipwreck. And when his body was brought to his wife Halcyone, she threw herself into the sea. Afterwards, by the mercy of Thetis and Lucifer, they were both turned into the sea-birds called Halcyons. And you ought to know that Halcyone is the woman's name, and is always a feminine noun; but the bird's name is Halcyon, masculine and feminine, and so also its plural, Halcyones. Also those birds make their nests in the sea, in the middle of winter; in which days the calm is so deep that hardly anything in the

sea can be moved. Thence, also, the days themselves are called Halcyonia.”—*Servius, in Virg. Georg. i. 399.*

192. “And the pairing of birds, as I said, is for the most part in spring time, and early summer; except the halcyon’s. For the halcyon has its young about the turn of days in winter, wherefore, when those days are fine, they are called ‘Halcyonine’ (*ἄλκυόνετοι*); seven, indeed, before the turn, and seven after it, as Simonides poetized, (*ἐποίησεν*).

‘As, when in the wintry month
Zeus gives the wisdom of calm to fourteen days,
Then the people of the land call it
The hour of wind-hiding, the sacred
Nurse of the spotted Halcyon.’

“And in the first seven days the halcyon is said to lay her eggs, and in the latter seven to bring forth and nourish her young. Here, indeed, in the seas of Greece, it does not always chance that the Halcyonid days are at the solstice; but in the Sicilian sea, almost always. But the æthuia and the laros bring forth their young, (two, or three) among the rocks by the sea-shore; but the laros in summer, the æthuia in first spring, just after the turn of days; and they sit on them as other birds do. And none of these birds lie torpid in holes during the winter; but the halcyon is, of all, seen the seldomest, for it is seen scarcely at all, except just at the setting and turn of Pleias, and then it will but show itself once, and away; flying, perhaps, once round a ship at anchor, and then it is gone instantly.”—*Aristotle, Hist. Av., v. 8, 9.*

193. “Now we are ready enough to extol the bee for a wise creature, and to consent to the laws by which it cares for the yellow honey, because we adore the pleasantness and tickling to our palates that is in the sweetness of that; but we take no notice of the wisdom and art of other creatures in bringing up their young, as for instance, the halcyon, who as soon as she has conceived, makes her nest by gathering the thorns of the sea-needle-fish; and, weaving these in and out, and joining them together at the ends, she finishes her nest; round in the plan of it, and long, in the proportion of a fisherman’s

net; and then she puts it where it will be beaten by the waves, until the rough surface is all fastened together and made close. And it becomes so hard that a blow with iron or stone will not easily divide it; but, what is more wonderful still, is that the opening of the nest is made so exactly to the size and measure of the halcyon that nothing larger can get into it, and nothing smaller!—so they say;—no, not even the sea itself, even the least drop of it.”—*Plutarch: De Amore Proles*.

I have kept to the last Lucian's dialogue, “the Halcyon,” to show you how the tone of Christian thought, and tradition of Christ's walking on the sea, began to steal into heathen literature.

SOCRATES—CHAEREPHON.

194. “*Chaerephon*. What cry is that, Socrates, which came to us from the beach? how sweet it was; what can it be? the things that live in the sea are all mute.

“*Socrates*. Yet it is a sea-creature, *Chaerephon*; the bird called Halcyon, concerning which the old fable runs that she was the daughter of Æolus, and, mourning in her youth for her lost husband, was winged by divine power, and now flies over the sea, seeking him whom she could not find, sought throughout the earth.

“*Chaerephon*. And is that indeed the Halcyon's cry? I never heard it yet; and in truth it is very pitiful. How large is the bird, Socrates?

“*Socrates*. Not great; but it has received great honor from the Gods, because of its lovingness; for while it is making its nest, all the world has the happy days which it calls halcyonidæ, excelling all others in their calmness, though in the midst of storm; of which you see this very day is one, if ever there was. Look, how clear the sky is, and the sea waveless and calm, like a mirror!

“*Chaerephon*. You say truly, and yesterday was just such another. But in the name of the Gods, Socrates, how is one to believe those old sayings, that birds were ever changed

into women, or women into birds, for nothing could seem more impossible?

195. "*Socrates.* Ah, dear Chaerephon, it is likely that we are poor and blunt judges of what is possible and not: for we judge by comparing to human power a power unknown to us, unimaginable, and unseen. Many things, therefore, that are easy, seem to us difficult; and many things unattainable that may be attained; being thus thought of, some through the inexperience, and some through the infantine folly, of our minds. For in very deed every man may be thought of as a child—even the oldest of us, since the full time of life is little, and as a baby's compared to universal time. And what should we have to say, my good friend, who know nothing of the power of gods or of the spirits of Nature, whether any of such things are possible or not? You saw, Chaerephon, what a storm there was, the day before yesterday; it makes one tremble even to think of it again;—that lightning, and thunder, and sudden tempest, so great that one would have thought all the earth falling to ruin; and yet, in a little while, came the wonderful establishing of calm, which has remained even till now. Whether, then, do you think it the greater work, to bring such a calm out of that tormenting whirlwind, and reduce the universe to peace, or to change the form of a woman into that of a bird? For indeed we see how very little children, who know how to knead clay, do something like this also; often out of one lump they will make form after form, of different natures: and surely to the spirit-powers of Nature, being in vast and inconjecturable excess beyond ours, all such things must be in their hands easy. Or how much do you think heaven greater than thyself—can you say, perchance?

"*Chaerephon.* Who of men, O Socrates, could imagine or name any of these things?

196. "*Socrates.* Nay; do we not see also, in comparing man with man, strange differences in their powers and imbecilities? for complete manhood, compared with utter infancy, as of a child five or ten days old, has difference in

power, which we may well call miraculous: and when we see man excel man so far, what shall we say that the strength of the whole heaven must appear, against ours, to those who can see them together, so as to compare them? Also, to you and me, and to many like us, sundry things are impossible that are easy to other people; as singing to those ignorant of music, and reading or writing to those ignorant of letters;—more impossible than to make women birds, or birds of women. For Nature, as with chance throw, and rough parable, making the form of a footless and wingless beast in changeable matter; then putting on feet and wings, and making it glitter all over with fair variegation and manifold color, at last brings out, for instance, the wise bee, maker of the divine honey; and out of the voiceless and spiritless egg she brings many kinds of flying and foot-going and swimming creatures, using besides (as runs the old Logos) the sacred art of the great Aether.* We then, being altogether mortal and mean, and neither able to see clearly great things nor small, and, for the most part being unable to help ourselves even in our own calamities,—what can we have to say about the powers of the immortals, either over halcyons or nightingales? But the fame of fable such as our fathers gave it to us, this, to my children, O thou bird singing of sorrow, I will deliver concerning thy hymns: and I myself will sing often of this religious and human love of thine, and of the honor thou hast for it from the Gods. Wilt not thou do likewise, O Chaerephon?

“*Chaerephon.* It is rightly due indeed, O Socrates, for there is two-fold comfort in this, both for men and women, in their relations with each other.

“*Socrates.* Shall we not then salute the halcyon, and so go back to the city by the sands, for it is time?

“*Chaerephon.* Indeed let us do so.”

197. The note of the scholiast on this dialogue is the only passage in which I can find any approximately clear description of the Greek halcyon. It is about as large, he says, as a

* Note this sentence respecting the power of the creative Athena.

small sparrow; (the question how large a Greek sparrow was we must for the present allow to remain open;) and it is mixed of green and blue, with gleaming of purple above, and it has a slender and long beak: the beak is said to be "chlo-ros," which I venture to translate "green," when it is used of the feathers, but it may mean anything, used of the beak. Then follows the same account as other people's, of the nest-building, except that the nest is compared in shape to a medicinal gourd. And then the writer goes on to say that there are two species of halcyons—one larger than the other, and silent, but the smaller, fond of singing (*ψόδιχη*); and that the females of these are so true to their mates that, when the latter grow old, the female bird flies underneath them, and carries them wherever they would like to go; and after they die will not eat nor drink anything, and so dies too. "And there is a certain kind of them, of which, if any one hear the voice, it is an altogether true sign to him that he will die in a short time."

198. You will, I think, forgive me, if after reading to you these lovely fables, I do not distract you, or detain, with the difficult investigation of the degree in which they are founded on the not yet sufficiently known facts of the Kingfisher's life.

I would much rather that you should remain impressed with the effect which the lovely color and fitful appearance of the bird have had on the imagination of men. I may satisfy you by the assurance that the halcyon of England is also the commonest halcyon of Greece and of Palestine; and I may at once prove to you the real gain of being acquainted with the traditions of it, by reading to you two stanzas, certainly among the most familiar to your ears in the whole range of English poetry; yet which, I am well assured, will sound, after what we have been reflecting upon to-day, almost as if they were new to you. Note especially how Milton's knowledge that Halcyone was the daughter of the Winds, and Ceyx the son of the Morning Star, affects the course of his thought in the successive stanzas—

“ But peaceful was the night,
 Wherein the Prince of light
 His reign of peace upon earth began :
 The winds with wonder whist,
 Smoothly the waters kist,
 Whispering new joys to the mild ocean,
 Who now hath quite forgot to rave,
 While birds of calm sit brooding on the charmèd wave.

“ The stars, with deep amaze,
 Stand fix'd in steadfast gaze,
 Bending one way their precious influence ;
 And will not take their flight,
 For all the morning light
 Of Lucifer, that often warn'd them thence ;
 But in their glimmering orbs did glow,
 Until their Lord Himself bespake, and bid them go.”

199. I should also only weary you if I attempted to give you any interpretation of the much-entangled web of Greek fables connected with the story of Halcyone. You observe that in all these passages I have said “ King of Trachis ” instead of Ceyx. That is partly because I don't know how to pronounce Ceyx either in Greek or English; but it is chiefly to make you observe that this story of the sea-mew and Halcyon, now known through all the world, like the sea-mew's cry, has its origin in the “ Rough country,” or crag-country, under Mount Ceta, made sacred to the Greek mind by the death of Heracles; and observe what strange connection that death has with the Halcyon's story. Heracles goes to this “ Rough country ” to seek for rest; all the waves and billows of his life having—as he thinks now—gone over him. But he finds death.

As far as I can form any idea of this “ rough, or torn, country ” from the descriptions of Colonel Leake or any other traveler, it must resemble closely the limestone cliffs just above Altorf, which break down to the valley from the ridge of the Windgelle, and give source, at their foot, to faultlessly clear streams,—green-blue among the grass.

You will find Pausanias noting the springs of Thermopylæ as of the bluest water he ever saw; and if you fancy the Lake

Lucerne to be the sea bay running inland from Artemisium, you will have a clear and useful, nor in any serious way, inaccurate, image of the scene where the Greeks thought their best hero should die. You may remember also, with advantage, that Morgarten—the Thermopylæ of Switzerland—lies by the little lake of Egeri, not ten miles from this bay of Altorf; and that the Heracles of Switzerland is born under those Trachinian crags.

If, farther, you remember that the Halcyon would actually be seen flitting above the blue water of the springs, like one of their waves caught up and lighted by the sun; and the sea-mews haunting the cliffs, you will see how physical circumstances modify the under-tone of the words of every mythic tradition.

I cannot express to you how strange—how more and more strange every day—it seems to me, that I cannot find a single drawing, nor definite account, of scènes so memorable as this, to point you to; but must guess and piece their image together for you as best I can from their Swiss similitudes. No English gentleman can pass through public school-life without knowing his Trachiniæ; yet I believe, literally, we could give better account of the forms of the mountains in the moon, than we could of Ceta. And what has art done to help us? How many Skiddaws or Benvenues, for one Ceta,—if one! And when the English gentleman becomes an art-patron, he employs his painter-servant only to paint himself and his house; and when Turner was striving, in his youth, to enforce the mythology, and picture these very scenes in Greece, and putting his whole strength into the endeavor to conceive them, the noble pictures remained in his gallery; and for bread, he had to paint —— Hall, the seat of ——, Esquire, with the carriage drive, the summer-house, and the squire going out hunting.

If, indeed, the squire would make his seat worth painting, and would stay there, and would make the seats, or, shall we call them, forms, of his peasantry, worth painting too, he would be interpreting the fable of the Halcyon to purpose.

But you must, at once, and without any interpreter, feel for yourselves how much is implied in those wonderful words of Simonides—written six hundred years before Christ;—“when in the wild winter months, Zeus gives the *wisdom of calm* ;” and how much teaching there is for us in the imagination of past days,—this dream-picture of what is true in days that are, and are to come,—that perfect domestic love not only makes its nest upon the waves, but that the waves will be calm that it may.

200. True, I repeat, for all ages, and all people, that, indeed, are desirous of peace, and loving in trouble! But what fable shall we invent, what creature on earth or sea shall we find, to symbolize this state of ours in modern England? To what sorrowful birds shall *we* be likened, who make the principal object of our lives dispeace, and unrest; and turn our wives and daughters out of their nests, to work for themselves?

Nay, strictly speaking, we have not even got so much as nests to turn them out of. I was infinitely struck, only the other day, by the saying of a large landed proprietor (a good man, who was doing all he could for his tenantry, and building new cottages for them), that the best he *could* do for them, under present conditions of wages, and the like, was, to give them good drainage and bare walls.

“I am obliged,” he said to me, “to give up all thought of anything artistic, and even then, I must lose a considerable sum on every cottage I build.”

201. Now, there is no end to the confused states of wrong and misery which that landlord’s experience signifies. In the first place, no landlord has any business with building cottages for his people. Every peasant should be able to build his own cottage,—to build it to his mind; and to have a mind to build it too. In the second place, note the unhappy notion which has grown up in the modern English mind, that wholesome and necessary delight in what is pleasant to the eye, is artistic affectation. You have the exponent of it all in the central and mighty affectation of the Houses

of Parliament. A number of English gentlemen get together to talk; they have no delight whatever in any kind of beauty; but they have a vague notion that the appointed place for their conversation should be dignified and ornamental; and they build over their combined heads the absurdest and emptiest piece of filigree,—and, as it were, eternal foolscap in freestone,—which ever human beings disgraced their posterity by. Well, all that is done, partly, and greatly, in mere jobbery; but essentially also in a servile imitation of the Hôtel-de-Ville builders of old time; but the English gentleman has not the remotest idea that when Hôtels-de-Ville were built, the ville enjoyed its hotel;—the town had a real pride in its town hall, and place of council, and the sculptures of it had precious meaning for all the populace.

202. And in like manner, if cottages are ever to be wisely built again, the peasant must enjoy his cottage, and be himself its artist, as a bird is. Shall cock-robins and yellow-hammers have wit enough to make themselves comfortable, and bullfinches peck a Gothic tracery out of dead clematis,—and your English yeoman be fitted by his landlord with four dead walls and a drain-pipe? That is the result of your spending 300,000*l.* a year at Kensington in science and art, then? You have made beautiful machines, too, wherewith you save the peasant the trouble of plowing and reaping, and threshing; and after being saved all that time and toil, and getting; one would think, leisure enough for his education, you have to lodge him also, as you drop a puppet into a deal box, and you lose money in doing it! and two hundred years ago, without steam, without electricity, almost without books, and altogether without help from “Cassell’s Educator” or the morning newspapers, the Swiss shepherd could build himself a *châlet*, daintily carved, and with flourished inscriptions, and with red and blue and white *ποικιλία*; and the burgess of Strasburg could build himself a house like this I showed you, and a spire such as all men know; and keep a precious book or two in his public library, and praise God for all: while we,—what are *we* good for, but to damage the

spire, knock down half the houses, and burn the library,—and declare there is no God but Chemistry?

203. What *are* we good for? Are even our machines of destruction useful to us? Do they give us real power? Once, indeed, not like halcyons, but like sea-eagles, we had our homes upon the sea; fearless alike of storm or enemy, winged like the wave petrel; and as Arabs of an indeed pathless desert, we dwelt in the presence of all our brethren. Our pride is fallen; no reed shaken with the wind, near the little singing halcyon's nest, is more tremulous than we are now; though we have built iron nests on the sea, with walls impregnable. We have lost our pride—but have we gained peace? Do we even care to seek it, how much less strive to make it?

204. Have you ever thought seriously of the meaning of that blessing given to the peacemakers? People are always expecting to get peace in heaven; but you know whatever peace they get there will be ready made. Whatever making of peace *they* can be blest for, must be on the earth here: not the taking of arms against, but the building of nests amidst, its "sea of troubles." Difficult enough, you think? Perhaps so, but I do not see that any of us try. We complain of the want of many things—we want votes, we want liberty, we want amusement, we want money. Which of us feels, or knows, that he wants peace?

205. There are two ways of getting it, if you do want it. The first is wholly in your own power; to make yourselves nests of pleasant thoughts. Those are nests on the sea indeed, but safe beyond all others; only they need much art in the building. None of us yet know, for none of us have yet been taught in early youth, what fairy palaces we may build of beautiful thought—proof against all adversity. Bright fancies, satisfied memories, noble histories, faithful sayings, treasure-houses of precious and restful thoughts, which care cannot disturb, nor pain make gloomy, nor poverty take away from us—houses built without hands, for our souls to live in.

206. And in actual life, let me assure you, in conclusion, the first 'wisdom of calm,' is to plan, and resolve to labor for, the comfort and beauty of a home such as, if we could obtain it, we would quit no more. Not a compartment of a model lodging-house, not the number so-and-so of Paradise Row; but a cottage all of our own, with its little garden, its pleasant view, its surrounding fields, its neighboring stream, its healthy air, and clean kitchen, parlors, and bed-rooms. Less than this, no man should be content with for his nest; more than this few should seek: but if it seem to you impossible, or wildly imaginary, that such houses should ever be obtained for the greater part of the English people, again believe me, the obstacles which are in the way of our obtaining them are the things which it must be the main object now of all true science, true art, and true literature to overcome. Science does its duty, not in telling us the causes of spots in the sun; but in explaining to us the laws of our own life, and the consequences of their violation. Art does its duty, not in filling monster galleries with frivolous, or dreadful, or indecent pictures; but in completing the comforts and refining the pleasures of daily occurrence, and familiar service: and literature does its duty, not in wasting our hours in political discussion, or in idle fiction; but in raising our fancy to the height of what may be noble, honest, and felicitous in actual life;—in giving us, though we may ourselves be poor and unknown, the companionship of the wisest fellow-spirits of every age and country,—and in aiding the communication of clear thoughts and faithful purposes, among distant nations, which will at last breathe calm upon the sea of lawless passion, and change into such halcyon days the winter of the world, that the birds of the air may have their nests in peace, and the Son of Man, where to lay His head.

LECTURE X.

THE HERALDIC ORDINARIES.

March 9th, 1872.

207. IN my last lecture, I endeavored to illustrate to you the use of art to the science of physiology. I am to-day to introduce to you its elementary forms as an exponent of the science of history. Which, speaking with perfect accuracy, we ought to call, also, "physiology," or *natural* history of man; for it ought to be in truth the history of his Nature; and not merely of the accidents which have befallen him. Do we not too much confuse the important part of the science with the unimportant?

In giving the natural history of the lion, you do not care materially where such and such a lion was trapped, or how many sheep it had eaten. You want to know what sort of a minded and shaped creature it is, or ought to be. But in all our books of human history we only care to tell what has happened to men, and how many of each other they have, in a manner, eaten, when they are, what Homer calls *δημοβόροι*, people-eaters; and we scarcely understand, even to this day, how they are truly minded. Nay, I am not sure that even this art of heraldry, which has for its main object the telling and proclamation of our chief minds and characters to each other, and keeping record of descent by race, as far as it is possible, (or, under the present aspect of Darwinism, pleasant,) to trace it;—I am not sure that even heraldry has always understood clearly what it had to tell. But I am very sure it has not been understood in the telling.

208. Some of you have, I hope, looked at this book* of

* Conversations on War and General Culture,

Arthur Helps, on 'War and Culture,' about which I cannot now say what I would, because he has done me the grace of dedicating it to me; but you will find in it, directly bearing on our present subject, this story about heraldry:

"A friend of mine, a physician, became entangled in the crowd at Kennington on that memorable evening when a great Chartist row was expected, and when Louis Napoleon armed himself with a constable's staff to support the cause of order. My friend observed a young man of pleasant appearance, who was very busy in the crowd, and appeared to be a leader amongst them. Gradually, by the pressure of the crowd, the two were brought near together, and the good doctor had some talk with this fiery partisan. They exchanged confidences; and to his astonishment, the doctor found that this furious young Chartist gained his livelihood, and a very good livelihood too, by heraldic painting—by painting the coats-of-arms upon carriages. Now, if you can imagine this young man's darling enterprise to have been successful, if Chartism had prevailed, what would have become of the painting of arms upon carriage-panels? I believe that my good doctor insinuated this suggestion to the young man, and that it was received with disdain. I must own, therefore, that the *utile*, even when brought home to a man's self, has much less to do with people's political opinions and desires, than might at first be supposed. Indeed, I would venture to maintain, that *no great change has ever been produced in the world by motives of self-interest*. Sentiment, that thing which many wise people affect to despise, is the commanding thing as regards popular impulses and popular action."

209. This last sentence would have been wholly true, had Mr. Helps written 'no great *living* change.' The changes of Dissolution are continually produced by self-interest,—for instance, a great number of the changes in your methods of life in England just now, and many of those in your moral temper, are produced by the percentage on the sale of iron. And I should have otherwise interpreted the heroism of the

young Chartist, and said that he was moved on the 10th of April, by a deep under-current of self-interest; that by overthrowing Lordship, he expected to get much more for himself than his salary as an heraldic painter; and that he had not, in painting his carriage-panels, sentiment enough, or even sentiment at all.

“Paint me my arms,—” said Giotto, as the youth threw him his white shield with that order—“he speaks as if he were one of the Bardi!” Our English panel-painter had lost the consciousness that there yet remained above him, so much as one, of the Bardi.

May not that be somewhat the Bardi's fault? in that they have not taught their Giottos, lately, the function of heraldry, or of any other higher historical painting.

We have, especially, to-day, to consider what that function is.

210. I said that the function of historical painting, in representing animals, is to discern and record what is best and most beautiful in their ways of life, and their forms; so also, in representing man, it is to record of man what has been best in his acts and way of life, and fairest in his form.

But this way of the life of man has been a long one. It is difficult to know it—more difficult to judge; to do either with complete equity is impossible; but it is always possible to do it with the charity which does not rejoice in iniquity.

211. Among the many mistakes we have lately fallen into, touching that same charity, one of the worst is our careless habit of always thinking of her as pitiful, and to be concerned only with miserable and wretched persons; whereas her chief joy is in being reverent, and concerned mainly with noble and venerable persons. Her poorest function is the giving of pity; her highest is the giving of *praise*. For there are many men, who, however fallen, do not like to be pitied; but all men, however far risen, like to be praised.

212. I had occasion in my last lecture to express my regret that the method of education in this country has become so distinctly competitive. It is necessary, however, to dis-

tinguish carefully between the competition which is for the means of existence, and that which is for the praise of learning. For my own part, so far as they affect our studies here, I equally regret both: but competition for money I regret absolutely; competition for praise, only when it sets the reward for too short and narrow a race. I want you to compete, not for the praise of what you know, but for the praise of what you become; and to compete only in that great school, where death is the examiner, and God the judge. For you will find, if you look into your own hearts, that the two great delights, in loving and praising, and the two great thirsts, to be loved and praised, are the roots of all that is strong in the deeds of men, and happy in their repose. We yet, thank Heaven, are not ashamed to acknowledge the power of love; but we confusedly and doubtfully allege that of honor; and though we cannot but instinctively triumph still, over a won boat-race, I suppose the best of us would shrink somewhat from declaring that the love of praise was to be one of the chief motives of their future lives.

213. But I believe you will find it, if you think, not only one of the chief, but absolutely the chief, motive of human action; nay, that love itself is, in its highest state, the rendering of an exquisite praise to body and soul; and our English tongue is very sacred in this; for its Saxon word, love, is connected, through the old French verb, loer, (whence louange), with the Latin, 'laus,' not 'amor.'

And you may sum the duty of your life in the giving of praise worthily, and being yourselves worthy of it.

214. Therefore in the reading of all history, your first purpose must be to seek what is to be praised; and disdain the rest: and in doing so, remember always that the most important part of the history of man is that of his imagination. What he actually does, is always in great part accidental; it is at best a partial fulfilment of his purpose; and what we call history is often, as I said, merely a record of the external accidents which befall men getting together in large crowds. The real history of mankind is that of the slow advance

of resolved deed following laboriously just thought: and all the greatest men live in their purpose and effort more than it is possible for them to live in reality. If you would praise them more worthily, it is for what they conceived and felt; not merely for what they have done.

215. It is therefore a true historian's work diligently to separate the deed from the imagination; and when these become inconsistent, to remember that the imagination, if precious at all, is indeed the most precious. It is no matter how much, or how little of the two first books of Livy may be literally true. The history of the Romans is the history of the nation which could *conceive* the battle of the Lake Regillus. I have rowed in rough weather on the Lake of the four cantons often enough to know that the legend of Tell is, in literal detail, absurd: but the history of Switzerland is that of the people who expressed their imagination of resistance to injustice by that legend, so as to animate their character vitally to this day.

216. But in no part of history does the ideal separate itself so far from the reality; and in no part of it is the ideal so necessary and noble, as in your own inherited history—that of Christian Chivalry.

For all English gentlemen this is the part of the tale of the race of man which it is most essential for them to know. They may be proud that it is also the greatest part. All that hitherto has been achieved of best,—all that has been in noble preparation instituted,—is begun in the period, and rooted in the conception, of Chivalry.

You must always carefully distinguish that conception from the base strength of the resultless passions which distort and confuse it. Infinitely weaker, the ideal is eternal and creative; the clamorous rages pass away,—ruinous it may be, prosperous it may be, for their time;—but insignificant for ever. You find kings and priests alike, always inventing expedients to get money; you find kings and priests alike, always inventing pretexts to gain power. If you want to write a practical history of the Middle Ages, and to trace

the real reasons of the things that actually happened, investigate first the history of the money; and then of the quarrels for office and territory. But the things that actually happened were of small consequence—the thoughts that were developed are of infinite consequence.

217. As I was walking back from Hincksey last evening, somewhat discomfited by the look of bad weather, and more in myself, as I thought over this closing lecture, wondering how far you thought I had been talking idly to you, instead of teaching you to draw, through this term, I stopped before Messrs. Wyatt's window; caught—as it was intended every one should be—by this display of wonderful things. And I was very unhappy as I looked, for it seemed to me you could not but think the little I could show you how to do quite valueless; while here were produced, by mysteries of craft which you might expect me at once to explain, brilliant water colors in purple and gold, and photographs of sea-waves, and chromolithotints of beautiful young ladies, and exquisitely finished engravings of all sorts of interesting scenes, and sublime personages: patriots, saints, martyrs, penitents, and who not! and what not! all depicted with a dexterity which it has cost the workmen their life's best energy to learn, and requires great cleverness thus to apply. While, in your room for study, there are only ugly photographs of Dürers and Holbeins, and my rude outlines from leaves, and you scarcely ever hear me say anything in praise of that delightful and elaborate modern art at all.

218. So I bought this Madonna,* which was the prettiest thing I saw: and it will enable me to tell you why this modern art is, indeed, so little to be studied, even at its best. I think you will all like the plate, and you ought to like it; but observe in what its beauty consists. First, in very exquisite line engraving: against that I have nothing to say, feeling the greatest respect for the industry and skill it requires. Next, in a grace and severity of action which we all are ready to praise; but this is not the painter's own bestowing; the

* Now, Ref. 104.

trick of it is learned from Memling and Van Eyck, and other men of the northern religious school. The covering of the robe with jewels is pleasing to you; but that is learned from Angelico and John Bellini; and if you will compare the jewel-painting in the John Bellini (Standard No. 5), you will find this false and formal in comparison. Then the face is much dignified by having a crown set on it—which is copied from the ordinary thirteenth century form, and ill done. The face itself is studied from a young German mother's, and is only by the painter's want of skill made conventional in expression, and formal in feature. It would have been wiser and more difficult to have painted her as Raphael or Reynolds would, with true personal resemblance, perfected in expression.

219. Nevertheless, in its derivative way, this is very lovely. But I wish you to observe that it is derivative in all things. The dress is derivative; the action, derivative: above all, the conception is derivative altogether, from that great age of Christian chivalry, which, in art and thought alike, surpassed the Greek chivalry, because it added to their enthusiasm of patriotism the enthusiasm of imaginative love, sanctified by this ruling vision of the Madonna, as at once perfect maid and perfect mother.

And your study of the art of the middle ages must begin in your understanding how the men of them looked on Love as the source of all honor, as of life; and how, from the least thing to the greatest, the honoring of father and mother, the noble esteem of children, and the sincere respect for race, and for the courtesies and prides that graced and crowned its purity, were the sources of all their virtue, and all their joy.

220. From the least things, I say, to the greatest. I am to speak to-day of one of, apparently, the least things; which is, indeed, one of the greatest. How much of the dignity of this Madonna, do you suppose, depends on the manner she bears her dress, her crown, her jewels, and her scepter?

In peasant and prince alike, you will find that, ultimately,

character is truly heralded in dress; and that splendor in dress is as necessary to man as color to birds and flowers, but splendor with more meaning. Splendor observe, however, in the true Latin sense of the word; *brightness* of color; not gaudiness: what I have been telling you of color in pictures will apply equally to color in dress: vulgarity consists in the insolence and discord of it, not in brightness.

221. For peasant and prince alike, in healthy national order, brightness of dress and beautiful arrangement of it are needful. No indication of moral decline is more sure than the squalor of dress among the lower orders, and the fear or shame of the higher classes to bear their proper insignia.

Such fear and shame are singularly expressed, here in Oxford, at this hour. The nobleman ceases to wear the golden tassel in his cap, so accepting, and publicly heralding his acceptance of, the popular opinion of him that he has ceased to *be* a nobleman, or noteworthy person.* And the members of the University, generally, shrink from wearing their academical dress, so accepting, and publicly heralding their acceptance of, the popular opinion that everybody else may be as good scholars as they. On the other hand, I see continually in the streets young men in bright costumes of blue and white; in such evidently proud heraldry proclaiming their conviction that the chief object of residence in Oxford is learning to row; the rowing itself being, I imagine, not for real boat service, but for purposes of display.

222. All dress is thus heraldic; a soldier's dress only more definitely so, in proclaiming the thing he means to die as well as to live for; but all is heraldic, from the beggar's rag

* "Another stride that has been taken appears in the perishing of heraldry. Whilst the privileges of nobility are passing to the middle class, the badge is discredited, and the titles of lordship are getting musty and cumbersome. I wonder that sensible men have not been already impatient of them. They belong, with wigs, powder, and scarlet coats, to an earlier age, and may be advantageously consigned, with paint and tattoo, to the dignitaries of Australia and Polynesia."—R. W. EMERSON (English Traits).

to the king's diadem; it may be involuntarily, it may be, insolently; but when the characters of men are determined, and wise, their dress becomes heraldic reverently, and in order. "Togam e tugurio proferre uxorem Raciliam jubet;" and Edie Ochiltree's blue gown is as honorably heraldic as a knight's ermine.

223. The beginning of heraldry, and of all beautiful dress, is, however, simply in the wearing of the skins of slain animals. You may discredit, as much as you choose, the literal meaning of that earliest statement, "Unto Adam also, and to his wife, did the Lord God make coats of skin, and clothed them:" but the figurative meaning of it only becomes the stronger. For if you think of the skins of animals as giving the four great materials of dress—leather, fur, wool, and down, you will see in this verse the summary of what has ever since taken place in the method of the providence of the Maker of Man and beast, for the clothing of the naked creature who was to rule over the rest.

224. The first practical and savage use of such dress was that the skin of the head of the beast became a covering for the head of its slayer; the skin of its body his coat; the skin of the fore legs was knotted in front, and the skin of the hind legs and tail became tassels, the jags of the cut edges forming a kind of fringe here and there.

You have thus the first conception of a helmet with the mane of the animal for its crest or plume, and the first conception of a cuirass variously fringed, striped, or spotted; in complete accouterment for war, you have to add spear, (or arrow), and shield. The spear is properly a beam of wood, iron pointed; the shield a disk of leather, iron fronted.

And armed strength for conflict is symbolized for all future time by the Greeks, under the two types of Heracles and Athena; the one with the low lion's crest and the arrow, the other with the high horse's crest and the spear; one with the lion-skin, the other with the goat-skin;—both with the round shield.

225. The nebris of Dionusos and leopard-skin of the

priests of Egypt relate to astronomy, not war; and the interest in their spots and bars, as variously symbolic, together with real pleasure in their grotesqueness, greatly modified the entire system of Egyptian color-decoration. On the earliest Greek vases, also, the spots and bars of the animals are carried out in spots or checkers upon the ground, (sometimes representing flowers), and the delight in "divers colors of needlework," and in fantasy of embroidery, gradually refine and illumine the design of Eastern dress. But only the patterns derived from the colors of animals become classical in heraldry under the general name of "furres," one of them "vaire" or verrey ("the variegated fur,") rudely figuring the material composed of the skins of small animals sewn together, alternately head to tail; the other, ermine, peculiarly honorable, from the costliness, to southern nations, of the fur it represents.

226. The name of the principal heraldic color has a similar origin: the "rams' skins dyed red" which were used for the curtains of the Jewish tabernacle, were always one of the principal articles of commerce between the east and west: in mediæval Latin they were called "gulae," and in the French plural "gules," so that to be dressed in "gules" came gradually to mean being dressed in the particular red of those skins, which was a full soft scarlet, not dazzling, but warm and glowing. It is used, in opposition to darker purple, in large masses in the fresco painting of later Rome; —is the dominant color of ornamental writing in the middle ages (giving us the ecclesiastical term "rubric"), and asserts itself finally, and most nobly, in the fresco paintings of Ghirlandajo and Luini. I have tried to represent very closely the tint of it Luini has given to St. Catherine's mantle, in my study in your schools. Titian keeps it also as the keynote of his frescoes; so also Tintoret; but Raphael, Correggio, and Michael Angelo, all substituted orange for it in opposition to purple; and the entire scheme of color in the Vatican frescoes is of orange and purple, broken by green and white, on a ground of gray. This orange and purple op-

position in meaner hands became gaudy and feeble, and the system of mediæval color was at last totally destroyed by it; the orange remaining to this day the favorite, and most distinctive, hue in bad glass painting.

227. The forms of dress, however, derived from the skins of animals are of much more importance than the colors. Of these the principal is the crest, which is properly the mane of lion or horse. The skin of the horse was neither tough, nor of convenient size for wearing; but the classical Greek helmet is only an adaptation of the outline of its head, with the mane floating behind: many Etruscan helmets have ears also, while in mediæval armor, light plates, cut into the shape of wings of birds, are often placed on each side of the crest, which then becomes not the mane of the animal merely, but the image of the entire creature which the warrior desires to be renowned for having slain.

228. The Heraldic meaning of the crest is accordingly, first, that the Knight asserts himself to have prevailed over the animal it represents; and to be stronger than such a creature would be, therefore, against his human enemies. Hence, gradually, he considers himself invested with the power and character of the slain creature itself; and, as it were, to have taken from it, for his spoil, not its skin only but its strength. The crest, therefore, is the heraldic indication of personality, and is properly to be distinguished from the bearing on the shield, because that indicated race; but the crest, personal character and valor.

229. I have traced the practical truth which is the foundation of this idea of the transmitted strength of the slain creature becoming the inheritance of its victor, in the account given of the coins of Camarina, in "The Queen of the Air." But it is strange and sad to reflect how much misery has resulted, in the history of man, from the imaginative excuse for cruelty afforded by the adopted character of savage animals; and how many wolves, bears, lions, and eagles, have been national symbols, instead of gentler creatures. Even the heraldic symbol of Christ is in Italy oftener the lion

than the lamb: and among the innumerable painters of his Desert Prophet, only Filippo Lippi understood the full meaning of the raiment of camel's hair, and made him wear the camel's skin, as Heracles the Lion's.

230. Although the crest is thus essentially an expression of personal character, it practically becomes hereditary; and the sign on shield and helmet is commonly the same. But the shield has a system of bearings peculiar to itself, to which I wish especially to direct your attention to-day.

Our word 'shield' and the German 'schild' mean 'the covering thing,' that behind which you are sheltered, but you must be careful to distinguish it from the word shell, which means properly a scale or plate, developed like a fish's scale, for the protection of the body.

There are properly only two kinds of shields, one round and the other square, passing into oval and oblong; the round one being for use in free action, the square one for adjustment to ground or walls; but, on horseback, the lower part of the shield must be tapered off, in order to fall conveniently on the left side of the horse. And, therefore, practically you have two great forms of shield; the Greek round one, for fighting on foot, or in the chariot, and the Gothic pointed one, for fighting on horseback. The oblong one for motionless defence is, however, almost always given to the mythic figure of Fortitude, and the bearings of the Greek and Gothic shields are always designed with reference to the supposed figures of the circle and square.

The Greek word for the round shield is 'aspis.' I have no doubt, merely a modification, of 'apsis,' the potter's wheel; the proper word for the Gothic shield is 'ecu,' from the Latin 'scutum,' meaning a shield covered with leather. From 'ecu' you have 'ecuyer;'—from scutum "scutiger," both passing into our English 'squire.'

231. The aspis of the Greeks might be much heavier than the Gothic shield, because a Greek never rode fully armed; his object was to allow both to his horse and to himself the most perfect command of limb compatible with protection;

if, therefore, he was in full armor, and wanted his horse to carry him, he put a board upon wheels, and stood on that, harnessing sometimes to it four horses of the highest breed abreast. Of all hitherto practiced exertions of manual dexterity, the driving thus at full speed over rough ground, standing in the chariot, is, as far as I know, the greatest ever attained by general military discipline.

It is true that to do anything perfectly well is about equally difficult; and I suppose that in a chariot race, a tournament, or a modern game at cricket, the manual art of the most highly-trained men would be almost equally fine; still, practically, in Gothic chivalry, the knight trusted more to his weight and less to his skill than a Greek did; nor could a horse's pace under armor ever render precision of aim so difficult as at unarmed speed.

232. Another great difference of a parallel kind exists in the knight's body armor. A Greek never hopes to turn a lance by his cuirass, nor to be invulnerable except by enchantment, in his body-armor, because he will not have it cumbrous enough to impede his movements; but he makes his shield, if possible, strong enough to stop a lance, and carries it as he would a piece of wall: a Gothic knight, on the contrary, endeavored to make his coat armor invulnerable, and carried the shield merely to ward thrusts on the left side, never large enough to encumber the arm that held the reins. All fine design in Gothic heraldry is founded, therefore, on the form of a short, but pointed shield, convex enough to throw the point of a spear aside easily; a form roughly extending from the beginning of the twelfth to the middle of the fifteenth century, but of which the most beautiful types are towards the end of the thirteenth.

233. The difference in method of device between the Gothic and classic shields resulted partly from this essential difference in form. The pointed shield, having definitely two sides, like a pointed arch, and a determined position, naturally suggested an arrangement of bearings definitely on one side or the other, or above, or below the center, while

the Greek shield had its boss, or its main bearing, in the center always, with subordinate decoration round. Farther, the Gothic fineness of color-instinct seized at once on this division of parts as an opportunity for inlaying or counter-changing colors; and finally, the respect for race, carried out by registry of the remotest branches of noble families, compelled the Gothic heralds of later times to use these methods of dividing or quartering in continually redoubled complexity.

234. Essentially, therefore, as distinguished from the classic shield, the Gothic one is parti-colored beneath its definite bearings, or rather, bi-colored; for the tinctures are never more than two in the main design of them; and the specific methods of arrangement of these two masses of color have deeper and more ancient heraldic significance than, with few exceptions, their superimposed bearings. I have arranged the twelve principal ones * in the 7th of your rudimentary exercises, and they will be entirely fixed in your minds by once drawing it.

235. Observe respecting them.

1. The Chief; a bar of color across the upper part of the shield, signifies authority or chief-dom, as the source of all order, power, and peace.

2. The Cross, as an ordinary, distinguished from the cross as a bearing, consists simply of two bars dividing the shield into four quarters; and, I believe, that it does not in this form stand properly as a symbol of Christian faith, but only as one of Christian patience and fortitude. The cross as a symbol of faith is terminated within the field.

3. The Fesse, a horizontal bar across the middle of the shield, represents the knight's girdle, or anything that binds

* Charges which "doe peculiarly belong to this art, and are of ordinary use therein, in regard whereof they are called 'ordinaries.'"—See GUILLIM, sect. ii. chap. iii. (Ed. 1638.)

"They have also the title of honourable ordinaries in that the court armour is much honoured thereby." The French call them "pièces honorables."

and secures, or continues. The word is a corruption of fascia. Sir Francis Drake received for arms from Queen Elizabeth a Fesse waved between two pole-stars, where it stands for the waved surface of the sea, and partly, also, to signify that Sir Francis put a girdle round the earth; and the family of Drummond carries three diminutive Fesses, or bars, waved, because their ancestor brought Queen Margaret safe through many storms.

4. The Bend, an oblique bar descending from right to left of the holder of the shield, represents the sword belt. The Latin *balteus* and *balteum* are, I believe, the origin of the word. They become *bendellus* and *bendellum*; then *bandeau* and *bande*. *Benda* is the word used for the ribbon round the neck of St. Etheldreda, in the account of her death quoted by Du Cange. I believe, also, the fesse stands often for the cross-bar of the castle gate, and the bend for its very useful diagonal bar: this is only a conjecture, but I believe as likely to be true as the idea, certainly admitted in heraldry, that the bend sometimes stands for a scaling ladder: so also the next four most important ordinaries have all an architectural significance.

5. The Pale, an upright bar dividing the shield in half, is simply an upright piece of timber in a palisade. It signifies either defence or enclosure.

6. The Pile, a wedge-shaped space of color with the point downwards, represents what we still call a pile; a piece of timber driven into moist ground to secure the foundation of any building.

7. The Canton, a square space of color in either of the upper corners of the shield, signifies the corner-stone of a building. The origin and various use of this word are very interesting. The Greek *καυθός*, used by Aristotle for the corner of the eyes, becomes *canto*, and then *cantonus*. The French coin (corner), is usually derived from the Latin *cuneus*; but I have no doubt it is one corruption of *canton*: the mediæval-Latin *cantonus* is either an angle or recess, or a four-square corner-stone. The heraldic *canton* is the

corner-stone of a building, and the French cantonnier is a road-mender, because the essential thing in repairing a road is to get its corner or edge firm.

8. The Chevron, a band bent at an angle (properly a right angle), with its point upwards, represents the gable or roof of a house. Thus the four last-named ordinaries represent the four essentials of a fixed habitation: the pale, its enclosure within a given space of ground; the pile, its foundation; the canton, its wall, and the chevron, its roof.

9. The Orle, a narrow band following the outline of the shield midway between its edge and center, is a more definite expression of enclosure or fortification by moat or rampart. The relations of this word, no less than that of the canton, are singular, and worth remembering. Du Cange quotes under it an order of the municipality of Piacenza, that always, in the custom-house where the salt-tax was taken, "a great orled disk" should be kept; "*dischus magnus orlatus*," *i. e.*, a large plate, with a rim, in which every day fresh salt should be placed. Then note that the word disk is used in the Middle Ages, either for a plate, or a table, (the "holy disk" is the patina of the sacrament), but most generally for a table, whence you get the old German *disch*; our *dish*, the French *disner*, *diner*; and our *dinner*. The disk cut out into a ring becomes a quoit, which is the simplest form of orle. The word 'orle' itself comes, I believe, from *ora*, in old Latin, which took a diminutive, *orula*; or perhaps the 'l' was put in merely to distinguish, to the ear, a margined thing, 'orlatus,' from a gilded thing, 'auratus.' It stands for the hem of a robe, or the fillet of a crown, as well as for any margin; and it is given as an ordinary to such as have afforded protection and defence, because it defends what is within it. Reduced to a narrow band, it becomes a 'Tressure.' If you have a sovereign of 1860 to 1870 in your pocket, and look at the right hand upper corner of the Queen's arms, you will see the Scottish Lion within the tressure decorated with fleur-de-lys, which Scotland bears in memory of her treaty with Charlemagne.

10. The Gyron, a triangular space of color with its point in the center of the shield, derives its name from the old Latin gyro, a fold, "*pars vestis quâ laxior fit, et in superiori parte contracta, in largiorem formam in imo se explicat.*" The heraldic 'gyron,' however, also has a collateral reference to, and root in, the word 'gremium,' bosom or lap; and it signifies properly the chief fold or fall of the dress either over the bosom, or between the knees; and has whatever symbolic expression may be attributed to that fold, as a sign of kindness or protection. The influence of the lines taken by softly falling drapery in giving gentleness to the action of figures was always felt by the Gothic artists as one of the chief elements of design; and the two constantly repeated figures of Christ holding souls in the 'gremium' of His robe, and of the Madonna casting hers over suppliants, gave an inevitably recognized association to them.

11. The Flasque, a space of color terminated by a curved line on each flank of the shield, derives its name from the Latin *flecto*, and is the bearing of honor given for successful embassy. It must be counted among the ordinaries, but is of rare occurrence in what groups of authentic bearings I have examined.

12. The Saltire, from *salir*, represents the securest form of machine for mounting walls; it has partly the same significance as the ladder of the Scaligers, but, being properly an ordinary, and not a bearing, has the wider general meaning of successful ascent, not that of mere local attack. As a bearing, it is the St. Andrew's Cross.

236. These twelve forms of ordinary then, or first color divisions of the shield, represent symbolically the establishment, defence, and exaltation of the Knight's house by his Christian courage; and are in this symbolism, different from all other military bearings. They are throughout essentially founded on the "quartering" or division of the field into four spaces by the sign of the cross: and the history of the chivalry of Europe is absolutely that of the connection of domestic

honor with Christian faith, and of the exaltation of these two sentiments into the highest enthusiasm by cultivated imagination.

The means of this culture by the finer arts; the errors, or falls, of the enthusiasm so excited; its extinction by avarice, pride, and lust, in the period of the (so called) Renaissance, and the possibility of a true Renaissance, or Restoration, of courage and pure hope to Christian men in their homes and industries, must form the general subject of the study into which I have henceforth to lead you. In a future course of lectures it will be my endeavor to show you, in the elementary forms of Christian architecture, the evidence of such mental development and decline in Europe from the tenth to the seventeenth century; but remember that my power or any one else's, to show you truths of this kind, must depend entirely on the degree of sympathy you have in yourselves with what is decorous and generous. I use both these words advisedly, and distinctively, for every high quality of art consists either in some expression of what is decent,—becoming,—or disciplined in character, or of what is bright and generous in the forces of human life.

I need not say that I fear no want of such sympathy in you; yet the circumstances in which you are placed are in many respects adverse to it.

237. I find, on returning to the University after a period of thirty years, the scope of its teaching greatly extended, the zeal of its masters certainly undiminished; and, as far as I can judge, the feeling of the younger members of the University better, and their readiness to comply with all sound advice, greater, than in my time. What scandals there have been among us, I think have been in great part accidental, and consequent chiefly on the intense need for excitement of some trivial kind, which is provoked by our restless and competitive work. In temper, in general amenability to right guidance, and in their sense of the advantages open to them, more may now be hoped than ever yet from the students of Oxford—one thing only I find wanting to them altogether—distinctness of aim.

238. In their new schools of science they learn the power of machinery and of physical elements, but not that of the soul; I am afraid, in our new schools of liberal religion they learn rather to doubt their own faiths than to look with patience or respect on those of others; and in our new schools of policy, to efface the canons of the past, without having formed any distinct conception of those which must regulate the institutions of the future.

239. It is therefore a matter of very deep rejoicing to me that, in bringing before your examination the best forms of English art, I am necessarily leading you to take interest in the history of your country at the time when, so to speak, it became England. You see how, in every college which is now extending or renewing its buildings, the adopted style is approximately that of the thirteenth century;—it being felt, and rightly felt, by a continually-extending instinct, that only then the national mind had unimpaired power of ideal conception. Whatever else we may have advanced in, there is no dispute that, in the great arts, we have steadily, since that thirteenth century, declined: and I have, therefore, since accepting this professorship, partly again taken up my abandoned idea of writing the story of that century, at least in England; of writing it, or, at all events, collecting it, with the help of my pupils, if they care to help me. By myself, I can do nothing; yet I should not ask them to help me if I were not certain that at this crisis of our national existence the fixing the minds of young and old upon the customs and conception of chivalry is the best of all moral education. One thing I solemnly desire to see all children taught—obedience; and one to all persons entering into life—the power of unselfish admiration.

240. The incident which I have related in my fourth lecture on sculpture, seen by me last year on the bridge of Wallingford, is a sufficient example of the courtesies in which we are now bringing up our peasant children. Do you think that any science or art we can teach them will make them happy under such conditions? Nay, in what courtesy or in

what affection are we even now carefully training ourselves;—above all, in what form of duty or reverence to those to whom we owe all our power of understanding even what duty or reverence means? I warned you in my former lecture against the base curiosity of seeking for the origin of life in the dust; in earth instead of heaven: how much more must I warn you against forgetting the true origin of the life that is in your own souls, of that good which you have heard with your ears, and your fathers have told you. You buy the picture of the Virgin as furniture for your rooms; but you despise the religion, and you reject the memory, of those who have taught you to love the aspect of whatsoever things and creatures are good and pure: and too many of you, entering into life, are ready to think, to feel, to act, as the men bid you who are incapable of worship, as they are of creation;—whose power is only in destruction: whose gladness only in disdain; whose glorying is in their shame. You know well, I should think, by this time, that I am not one to seek to conceal from you any truth of nature, or superstitiously decorate for you any form of faith; but I trust deeply—(and I will strive, for my poor part, wholly, so to help you in steadfastness of heart)—that you, the children of the Christian chivalry which was led in England by the Lion-Heart, and in France by Roland, and in Spain by the Cid, may not stoop to become as these, whose thoughts are but to invent new foulness with which to blaspheme the story of Christ, and to destroy the noble works and laws that have been founded in His name.

Will you not rather go round about this England and tell the towers thereof, and mark well her bulwarks, and consider her palaces, that you may tell it to the generation following? Will you not rather honor with all your strength, with all your obedience, with all your holy love and never-ending worship, the princely sires, and pure maids, and nursing mothers, who have bequeathed and blest your life?—that so, for you also, and for your children, the days of strength, and the light of memory, may be long in this lovely land which the Lord your God has given you.

ARIADNE FLORENTINA.

SIX LECTURES

ON

WOOD AND METAL ENGRAVING.

WITH APPENDIX.

GIVEN BEFORE THE UNIVERSITY OF OXFORD,

IN MICHAELMAS TERM, 1872.

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ARIADNE FLORENTINA.

LECTURE I.

DEFINITION OF THE ART OF ENGRAVING.

1. THE entrance on my duty for to-day begins the fourth year of my official work in Oxford; and I doubt not that some of my audience are asking themselves, very doubtfully—at all events, I ask myself, very anxiously—what has been done.

For practical result, I have not much to show. I announced, a fortnight since, that I would meet, the day before yesterday, any gentleman who wished to attend this course for purposes of study. My class, so minded, numbers four, of whom three wish to be artists, and ought not therefore, by rights, to be at Oxford at all; and the fourth is the last remaining unit of the class I had last year.

2. Yet I neither in this reproach myself, nor, if I could, would I reproach the students who are not here. I do not reproach myself; for it was impossible for me to attend properly to the schools and to write the grammar for them at the same time; and I do not blame the absent students for not attending a school from which I have generally been absent myself. In all this, there is much to be mended, but, in true light, nothing to be regretted.

I say, I had to write my school grammar. These three volumes of lectures under my hand,* contain, carefully set down, the things I want you first to know. None of my writings are done fluently; the second volume of "Modern

* "Inaugural Series," "Aratra Pentelici," and "Eagle's Nest."

Painters" was all of it written twice—most of it, four times,—over; and these lectures have been written, I don't know how many times. You may think that this was done merely in an author's vanity, not in a tutor's care. To the vanity I plead guilty,—no man is more intensely vain than I am; but my vanity is set on having it *known* of me that I am a good master, not in having it *said* of me that I am a smooth author. My vanity is never more wounded than in being called a fine writer, meaning—that nobody need mind what I say.

3. Well, then, besides this vanity, I have some solicitude for your progress. You may give me credit for it or not, as you choose, but it is sincere. And that your advance may be safe, I have taken the best pains I could in laying down laws for it. In these three years I have got my grammar written, and, with the help of many friends, all working instruments in good order; and now we will try what we can do. Not that, even now, you are to depend on my presence with you in personal teaching. I shall henceforward think of the lectures less, of the schools more; but my best work for the schools will often be by drawing in Florence or in Lancashire—not here.

4. I have already told you several times that the course through which I mean every student in these schools should pass, is one which shall enable them to understand the elementary principles of the finest art. It will necessarily be severe, and seem to lead to no immediate result. Some of you will, on the contrary, wish to be taught what is immediately easy, and gives prospect of a manifest success.

But suppose they should come to the Professor of Logic and Rhetoric, and tell him they want to be taught to preach like Mr. Spurgeon, or the Bishop of —.

He would say to them,—I cannot, and if I could I would not, tell you how to preach like Mr. Spurgeon, or the Bishop of —. Your own character will form your style; your own zeal will direct it; your own obstinacy or ignorance may limit or exaggerate it; but my business is to prevent, as far

as I can, your having *any* particular style; and to teach you the laws of all language, and the essential power of your own.

In like manner, this course, which I propose to you in art, will be calculated only to give you judgment and method in future study, to establish to your conviction the laws of general art, and to enable you to draw, if not with genius, at least with sense and propriety.

The course, so far as it consists in practice, will be defined in my Instructions for the schools. And the theory connected with that practice is set down in the three lectures at the end of the first course I delivered—those on Line, Light, and Color.

You will have, therefore, to get this book,* and it is the only one which you will need to have of your own,—the others are placed, for reference, where they will be accessible to you.

5. In the 139th paragraph it states the order of your practical study in these terms:—

“I wish you to begin by getting command of line;—that is to say, by learning to draw a steady line, limiting with absolute correctness the form or space you intend it to limit; to proceed by getting command over flat tints, so that you may be able to fill the spaces you have inclosed evenly, either with shade or color, according to the school you adopt; and, finally, to obtain the power of adding such fineness of drawing, within the masses, as shall express their undulation, and their characters of form and texture.”

And now, since in your course of practice you are first required to attain the power of drawing lines accurately and delicately, so in the course of theory, or grammar, I wish you first to learn the principles of linear design, exemplified by the schools which (§ 137) you will find characterized as the Schools of Line.

6. If I had command of as much time as I should like to spend with you on this subject, I would begin with the early

* My inaugural series of seven lectures (now published uniform in size with this edition. 1890).

forms of art which used the simplest linear elements of design. But, for general service and interest, it will be better that I should sketch what has been accomplished by the greatest masters in that manner; the rather that their work is more or less accessible to all, and has developed into the vast industries of modern engraving, one of the most powerful existing influences of education and sources of pleasure among civilized people.

And this investigation, so far from interrupting, will facilitate our examination of the history of the nobler arts. You will see in the preface to my lectures on Greek sculpture that I intend them to be followed by a course on architecture, and that by one on Florentine sculpture. But the art of engraving is so manifestly, at Florence, though not less essentially elsewhere, a basis of style both in architecture and sculpture, that it is absolutely necessary I should explain to you in what the skill of the engraver consists, before I can define with accuracy that of more admired artists. For engraving, though not altogether in the method of which you see examples in the print-shops of the High Street, is, indeed, a prior art to that either of building or sculpture, and is an inseparable part of both, when they are rightly practiced.

7. And while we thus examine the scope of this first of the arts, it will be necessary that we learn also the scope of mind of the early practicers of it, and accordingly acquaint ourselves with the main events in the biography of the schools of Florence. To understand the temper and meaning of one great master is to lay the best, if not the only, foundation for the understanding of all; and I shall therefore make it the leading aim of this course of lectures to remind you of what is known, and direct you to what is knowable, of the life and character of the greatest Florentine master of engraving, Sandro Botticelli; and, incidentally, to give you some idea of the power of the greatest master of the German, or any northern, school, Hans Holbein.

8. You must feel, however, that I am using the word "engraving" in a somewhat different, and, you may imagine,

a wider, sense, than that which you are accustomed to attach to it. So far from being a wider sense, it is in reality a more accurate and restricted one, while yet it embraces every conceivable right application of the art. And I wish, in this first lecture, to make entirely clear to you the proper meaning of the word, and proper range of the art of, engraving; in my next following lecture, to show you its place in Italian schools, and then, in due order, the place it ought to take in our own, and in all schools.

9. First then, to-day, of the *Differentia*, or essential quality of Engraving, as distinguished from other arts.

What answer would you make to me, if I asked casually what engraving was? Perhaps the readiest which would occur to you would be, "The translation of pictures into black and white by means admitting reduplication of impressions." But if that be done by lithography, we do not call it engraving,—whereas we speak contentedly and continually of seal engraving, in which there is no question of black and white. And, as scholars, you know that this customary mode of speaking is quite accurate; and that engraving means, primarily, making a permanent cut or furrow in something. The central syllable of the word has become a sorrowful one, meaning the most permanent of furrows.

10. But are you prepared absolutely to accept this limitation with respect to engraving as a pictorial art? Will you call nothing an engraving, except a group of furrows or cavities cut in a hard substance? What shall we say of mezzotint engraving, for instance, in which, though indeed furrows and cavities are produced mechanically as a ground, the artist's work is in effacing them? And when we consider the power of engraving in representing pictures and multiplying them, are we to recognize and admire no effects of light and shade except those which are visibly produced by dots or furrows? I mean, will the virtue of an engraving be in exhibiting these imperfect means of its effect, or in concealing them?

11. Here, for instance, is the head of a soldier by Dürer,—a mere gridiron of black lines. Would this be better or worse

engraving if it were more like a photograph or lithograph, and no lines seen?—suppose, more like the head of Mr. Santley, now in all the music-shops, and really quite deceptive in light and shade, when seen from over the way? Do you think Dürer's work would be better if it were more like that? And would you have me, therefore, leaving the question of technical method of production altogether to the craftsman, consider pictorial engraving simply as the production of a light-and-shade drawing, by some method permitting its multiplication for the public?

12. This, you observe, is a very practical question indeed. For instance, the illustrations of my own lectures on sculpture are equivalent to permanent photographs. There can be little doubt that means will be discovered of thus producing perfect facsimiles of artists' drawings; so that, if no more than facsimile be required, the old art of cutting furrows in metal may be considered as, at this day, virtually ended. And, indeed, it is said that line engravers cannot any more get apprentices, and that a pure steel or copper plate is not likely to be again produced, when once the old living masters of the bright field shall have been all laid in their earth-furrows.

13. Suppose, then, that this come to pass; and more than this, suppose that wood engraving also be superseded, and that instead of imperfect transcripts of drawings, on wood-blocks or metal-plates, photography enabled us to give, quite cheaply, and without limit to number, facsimiles of the finished light-and-shade drawings of artists themselves. Another group of questions instantly offers itself, on these new conditions; namely, What are the best means for a light-and-shade drawing—the pen, or the pencil, the charcoal, or the flat wash? That is to say, the pen, producing shade by black lines, as old engraving did; the pencil, producing shade by gray lines, variable in force; the charcoal, producing a smoky shadow with no lines in it, or the washed tint, producing a transparent shadow with no lines in it. Which of these

methods is the best?—or have they, each and all, virtues to be separately studied, and distinctively applied?

14. See how curiously the questions multiply on us. 1st, Is engraving to be only considered as cut work? 2d, For present designs multipliable without cutting, by the sunshine, what methods or instruments of drawing will be best? And now, 3dly, before we can discuss these questions at all, is there not another lying at the root of both,—namely, what a light-and-shade drawing itself properly *is*, and how it differs, or should differ, from a painting, whether by mere deficiency, or by some entirely distinct merit?

15. For instance, you know how confidently it is said, in common talk about Turner, that his works are intelligible and beautiful when engraved, though incomprehensible as paintings. Admitting this to be so, do you suppose it is because the translation into light and shade is deficient in some qualities which the painting had, or that it possesses some quality which the painting had not? Does it please more because it is deficient in the color which confused a feeble spectator, and offended a dogmatic one,—or because it possesses a decision in its steady linear labor which interprets, or corrects, the swift penciling of the artist?

16. Do you notice the two words I have just used, *Decision*, and *Linear*?—*Decision*, again introducing the idea of cuts or divisions, as opposed to gradations; *Linear*, as opposed to massive or broad?

Yet we use all these words at different times in praise, while they evidently mark inconsistent qualities. Softness and decision, breadth and delineation, cannot co-exist in equal degrees. There must surely therefore be a virtue in the engraving inconsistent with that of the painting, and vice versâ.

Now, be clear about these three questions which we have to-day to answer.

- A. Is all engraving to be cut work?
- B. If it need not be cut work, but only the reproduction of a drawing, what methods of executing a light-and-shade drawing will be best?

C. Is the shaded drawing itself to be considered only as a deficient or imperfect painting, or as a different thing from a painting, having a virtue of its own, belonging to black and white, as opposed to color?

17. I will give you the answers at once, briefly, and amplify them afterwards.

A. All engraving must be cut work;—*that* is its differentia. Unless your effect be produced by cutting into some solid substance, it is not engraving at all.

B. The proper methods for light-and-shade drawing vary according to subject, and the degree of completeness desired,—some of them having much in common with engraving, and others with painting.

C. The qualities of a light-and-shade drawing ought to be entirely different from those of a painting. It is not a deficient or partial representation of a colored scene or picture, but an entirely different reading of either. So that much of what is intelligible in a painting ought to be unintelligible in a light-and-shade study, and *vice versâ*.

You have thus three arts,—engraving, light-and-shade drawing, and painting.

Now I am not going to lecture, in this course, on painting, nor on light-and-shade drawing, but on engraving only. But I must tell you something about light-and-shade drawing first; or, at least, remind you of what I have before told.

18. You see that the three elementary lectures in my first volume are on Line, Light, and Color,—that is to say, on the modes of art which produce linear designs,—which produce effects of light,—and which produce effects of color.

I must, for the sake of new students, briefly repeat the explanation of these.

Here is an Arabian vase, in which the pleasure given to the eye is only by lines;—no effect of light, or of color, is attempted. Here is a moonlight by Turner, in which there are no lines at all, and no colors at all. The pleasure given to the eye is only by modes of light and shade, or effects of

light. Finally, here is an early Florentine painting, in which there are no lines of importance, and no effect of light whatever; but all the pleasure given to the eye is in gayety and variety of color.

19. I say, the pleasure given to the *eye*. The lines on this vase write something; but the ornamentation produced by the beautiful writing is independent of its meaning. So the moonlight is pleasant, first, as light; and the figures, first, as color. It is not the shape of the waves, but the light on them; not the expression of the figures, but their color, by which the *ocular* pleasure is to be given.

These three examples are violently marked ones; but, in preparing to draw *any* object, you will find that, practically, you have to ask yourself, Shall I aim at the color of it, the light of it, or the lines of it? You can't have all three; you can't even have any two out of the three in equal strength. The best art, indeed, comes so near nature as in a measure to unite all. But the best is not, and cannot be, as good as nature; and the mode of its deficiency is that it must lose some of the color, some of the light, or some of the delineation. And in consequence, there is one great school which says, We will have the color, and as much light and delineation as are consistent with it. Another which says, We will have shade, and as much color and delineation as are consistent with it. The third, We will have delineation, and as much color and shade as are consistent with it.

20. And though much of the two subordinate qualities may in each school be consistent with the leading one, yet the schools are evermore separate: as, for instance, in other matters, one man says, I will have my fee, and as much honesty as is consistent with it; another, I will have my honesty, and as much fee as is consistent with it. Though the man who will have his fee be subordinately honest,—though the man who will have his honor, subordinately rich, are they not evermore of diverse schools?

So you have, in art, the utterly separate provinces, though in contact at their borders, of

The Delineators;
 The Chiaroscurists; and
 The Colorists.

21. The Delineators are the men on whom I am going to give you this course of lectures. They are essentially engravers, an engraved line being the best means of delineation. The Chiaroscurists are essentially draughtsmen with chalk, charcoal, or single tints. Many of them paint, but always with some effort and pain. Leonardo is the type of them; but the entire Dutch school consists of them, laboriously painting, without essential genius for color.

The Colorists are the true painters; and all the faultless (as far, that is to say, as men's work can be so,) and consummate masters of art belong to them.

22. The distinction between the colorist and chiaroscurist school is trenchant and absolute: and may soon be shown you so that you will never forget it. Here is a Florentine picture by one of the pupils of Giotto, of very good representative quality, and which the University galleries are rich in possessing. At the distance at which I hold it, you see nothing but a checker-work of brilliant, and, as it happens, even glaring colors. If you come near, you will find this patchwork resolve itself into a Visitation, and Birth of St. John; but that St. Elizabeth's red dress, and the Virgin's blue and white one, and the brown posts of the door, and the blue spaces of the sky, are painted in their own entirely pure colors, each shaded with more powerful tints of itself,—pale blue with deep blue, scarlet with crimson, yellow with orange, and green with richer green.

The whole is therefore as much a mosaic work of brilliant color as if it were made of bits of glass. There is no effect of light attempted, or so much as thought of: you don't know even where the sun is: nor have you the least notion what time of day it is. The painter thinks you cannot be so superfluous as to want to know what time of day it is.

23. Here, on the other hand, is a Dutch picture of good average quality, also out of the University galleries. It

represents a group of cattle, and a herdsman watching them. And you see in an instant that the time is evening. The sun is setting, and there is warm light on the landscape, the cattle, and the standing figure.

Nor does the picture in any conspicuous way seem devoid of color. On the contrary, the herdsman has a scarlet jacket, which comes out rather brilliantly from the mass of shade round it; and a person devoid of color faculty, or ill taught, might imagine the picture to be really a fine work of color.

But if you will come up close to it, you will find that the herdsman has brown sleeves, though he has a scarlet jacket; and that the shadows of both are painted with precisely the same brown, and in several places with continuous touches of the pencil. It is only in the light that the scarlet is laid on.

This at once marks the picture as belonging to the lower or chiaroscuro school, even if you had not before recognized it as such by its pretty rendering of sunset effect.

24. You might at first think it a painting which showed greater skill than that of the school of Giotto. But the skill is not the primary question. The power of imagination is the first thing to be asked about. This Italian work imagines, and requires you to imagine also, a St. Elizabeth and St. Mary, to the best of your power. But this Dutch one only wishes you to imagine an effect of sunlight on cow-skin, which is a far lower strain of the imaginative faculty.

Also, as you may see the effect of sunlight on cow-skin, in reality, any summer afternoon, but cannot so frequently see a St. Elizabeth, it is a far less useful strain of the imaginative faculty.

And, generally speaking, the Dutch chiaroscurists are indeed persons without imagination at all,—who, not being able to get any pleasure out of their thoughts, try to get it out of their sensations; note, however, also their technical connection with the Greek school of shade, (see my sixth inaugural lecture, § 158,) in which color was refused, not for the sake of deception, but of solemnity.

25. With these final motives you are not now concerned; your present business is the quite easy one of knowing, and noticing, the universal distinction between the methods of treatment in which the aim is light, and in which it is color; and so to keep yourselves guarded from the danger of being misled by the, often very ingenious, talk of persons who have vivid color sensations without having learned to distinguish them from what else pleases them in pictures. There is an interesting volume by Professor Taine on the Dutch school, containing a valuable historical analysis of the influences which formed it; but full of the gravest errors, resulting from the confusion in his mind between color and tone, in consequence of which he imagines the Dutch painters to be colorists.

26. It is so important for you to be grounded securely in these first elements of pictorial treatment, that I will be so far tedious as to show you one more instance of the relative intellectual value of the pure color and pure chiaroscuro school, not in Dutch and Florentine, but in English art. Here is a copy of one of the lost frescoes of our Painted Chamber of Westminster;—fourteenth-century work, entirely conceived in color, and calculated for decorative effect. There is no more light and shade in it than in a Queen of Hearts in a pack of cards;—all that the painter at first wants you to see is that the young lady has a white forehead, and a golden crown, and a fair neck, and a violet robe, and a crimson shield with golden leopards on it; and that behind her is clear blue sky. Then, farther, he wants you to read her name, “Debonnairete,” which, when you have read, he farther expects you to consider what it is to be debonnaire, and to remember your Chaucer’s description of the virtue:—

She was not brown, nor dun of hue,
But white as snowe, fallen new,
With eyen glad, and browes bent,
Her hair down to her heeles went,
And she was simple, as dove on tree,
Full debonnair of heart was she.

27. You see Chaucer dwells on the color just as much as the painter does, but the painter has also given her the English shield to bear, meaning that good-humor, or debonnairete, cannot be maintained by self-indulgence;—only by fortitude. Farther note, with Chaucer, the “eyen glad,” and brows “bent” (high-arched and calm), the strong life, (hair down to the heels,) and that her gladness is to be without subtlety,—that is to say, without the slightest pleasure in any form of advantage-taking, or any shrewd or mocking wit: “she was simple as dove on tree;” and you will find that the color-painting, both in the fresco and in the poem, is in the very highest degree didactic and intellectual; and distinguished, as being so, from all inferior forms of art. Farther, that it requires you yourself first to understand the nature of simplicity, and to like simplicity in young ladies better than subtlety; and to understand why the second of Love’s five kind arrows (Beauté being the first)—

Simplece ot nom, la seconde
 Qui maint homme parmi le monde
 Et mainte dame fait amer.

Nor must you leave the picture without observing that there is another reason for Debonnairete’s bearing the Royal shield,—of all shields that, rather than another. “De-bonne-aire” meant originally “out of a good eagle’s nest,” the “aire” signifying the eagle’s nest or eyrie especially, because it is flat, the Latin “area” being the root of all.

And this coming out of a good nest is recognized as, of all things, needfulest to give the strength which enables people to be good-humored; and thus you have “debonnaire” forming the third word of the group, with “gentle” and “kind,” all first signifying “of good race.”

You will gradually see, as we go on, more and more why I called my third volume of lectures Eagle’s Nest; for I am not fantastic in these titles, as is often said; but try shortly to mark my chief purpose in the book by them.

28. Now for comparison with this old art, here is a

modern engraving, in which color is entirely ignored; and light and shade alone are used to produce what is supposed to be a piece of impressive religious instruction. But it is not a piece of religious instruction at all;—only a piece of religious sensation, prepared for the sentimental pleasure of young ladies; whom (since I am honored to-day by the presence of many) I will take the opportunity of warning against such forms of false theological satisfaction. This engraving represents a young lady in a very long and, though plain, very becoming white dress, tossed upon the waves of a terrifically stormy sea, by which neither her hair nor her becoming dress is in the least wetted; and saved from despair in that situation by closely embracing a very thick and solid stone Cross. By which far-sought and original metaphor young ladies are expected, after some effort, to understand the recourse they may have, for support, to the Cross of Christ, in the midst of the troubles of this world.

29. As those troubles are for the present, in all probability, limited to the occasional loss of their thimbles when they have not taken care to put them into their work-boxes,—the concern they feel at the unsympathizing gayety of their companions,—or perhaps the disappointment at not hearing a favorite clergyman preach,—(for I will not suppose the young ladies interested in this picture to be affected by any chagrin at the loss of an invitation to a ball, or the like worldliness,)—it seems to me the stress of such calamities might be represented, in a picture, by less appalling imagery. And I can assure my fair little lady friends,—if I still have any,—that whatever a young girl's ordinary troubles or annoyances may be, her true virtue is in shaking them off, as a rose-leaf shakes off rain, and remaining debonnaire and bright in spirits, or even, as the rose would be, the brighter for the troubles; and not at all in allowing herself to be either drifted or depressed to the point of requiring religious consolation. But if any real and deep sorrow, such as no metaphor can represent, fall upon her, does she suppose that the theological advice of this piece of modern art can be trusted? If she

will take the pains to think truly, she will remember that Christ Himself never says anything about holding by His Cross. He speaks a good deal of bearing it; but never for an instant of holding by it. It is His Hand, not His Cross, which is to save either you, or St. Peter, when the waves are rough. And the utterly reckless way in which modern religious teachers, whether in art or literature, abuse the metaphor somewhat briefly and violently leant on by St. Paul, simply prevents your understanding the meaning of any word which Christ Himself speaks on this matter! So you see this popular art of light and shade, catching you by your mere thirst of sensation, is not only undidactic, but the reverse of didactic—deceptive and illusory.

30. This *popular* art, you hear me say, scornfully; and I have told you, in some of my teaching in "Aratra Pentelici," that all great art must be popular. Yes, but great art is popular, as bread and water are to children fed by a father. And vile art is popular, as poisonous jelly is, to children cheated by a confectioner. And it is quite possible to make any kind of art popular on those last terms. The color school may become just as poisonous as the colorless, in the hands of fools, or of rogues. Here is a book I bought only the other day,—one of the things got up cheap to catch the eyes of mothers at bookstalls,—Puss in Boots, illustrated; a most definite work of the color school—red jackets and white paws and yellow coaches as distinct as Giotto or Raphael would have kept them. But the thing is done by fools for money, and becomes entirely monstrous and abominable. Here, again, is color art produced by fools for religion: here is Indian sacred painting,—a black god with a hundred arms, with a green god on one side of him and a red god on the other; still a most definite work of the color school. Giotto or Raphael could not have made the black more resolutely black, (though the whole color of the school of Athens is kept in distinct separation from one black square in it), nor the green more unquestionably green. Yet the whole is pestilent and loathsome.

31. Now but one point more, and I have done with this subject for to-day.

You must not think that this manifest brilliancy and Harlequin's-jacket character is essential in the color school. The essential matter is only that everything should be of *its own* definite color: it may be altogether sober and dark, yet the distinctness of hue preserved with entire fidelity. Here, for instance, is a picture of Hogarth's,—one of quite the most precious things we have in our galleries. It represents a meeting of some learned society—gentlemen of the last century, very gravely dressed, but who, nevertheless, as gentlemen pleasantly did in that day,—you remember Goldsmith's weakness on the point—wear coats of tints of dark red, blue, or violet. There are some thirty gentlemen in the room, and perhaps seven or eight different tints of subdued claret-color in their coats; and yet every coat is kept so distinctly of its own proper claret-color, that each gentleman's servant would know his master's.

Yet the whole canvas is so gray and quiet, that as I now hold it by this Dutch landscape, with the vermilion jacket, you would fancy Hogarth's had no color in it at all, and that the Dutchman was half-way to becoming a Titian; whereas Hogarth's is a consummate piece of the most perfect colorist school, which Titian could not beat, in its way; and the Dutchman could no more paint half an inch of it than he could summon a rainbow into the clouds.

32. Here then, you see, are, altogether, five works, all of the absolutely pure color school:—

1. One, Indian,—Religious Art;
2. One, Florentine,—Religious Art;
3. One, English,—from Painted Chamber, Westminster,
—Ethic Art;
4. One, English,—Hogarth,—Naturalistic Art;
5. One, English,—to-day sold in the High Street,—Cari-
caturist Art.

And of these, the Florentine and old English are divine

work, God-inspired; full, indeed, of faults and innocencies, but divine, as good children are.

Then this by Hogarth is entirely wise and right; but worldly-wise, not divine.

While the old Indian, and this, with which we feed our children at this hour, are entirely damnable art;—every bit of it done by the direct inspiration of the devil,—feeble, ridiculous,—yet mortally poisonous to every noble quality in body and soul.

33. I have now, I hope, guarded you sufficiently from the danger either of confusing the inferior school of chiaroscuro with that of color, or of imagining that a work must necessarily be good, on the sole ground of its belonging to the higher group. I can now proceed securely to separate the third school, that of Delineation, from both; and to examine its special qualities.

It begins (see “Inaugural Lectures,” § 137) in the primitive work of races insensible alike to shade and to color, and nearly devoid of thought and of sentiment, but gradually developing into both.

Now as the design is primitive, so are the means likely to be primitive. A line is the simplest work of art you can produce. What are the simplest means you can produce it with?

A Cumberland lead-pencil is a work of art in itself, quite a nineteenth-century machine. Pen and ink are complex and scholarly; and even chalk or charcoal not always handy.

But the primitive line, the first and last, generally the best of lines, is that which you have elementary faculty of at your fingers' ends, and which kittens can draw as well as you—the scratch.

The first, I say, and the last of lines. Permanent exceedingly,—even in flesh, or on mahogany tables, often more permanent than we desire. But when studiously and honorably made, divinely permanent, or delightfully—as on the venerable desks of our public schools, most of them, now, specimens of wood engraving dear to the heart of England.

34. Engraving, then, is, in brief terms, the Art of Scratch. It is essentially the cutting into a solid substance for the sake of making your ideas as permanent as possible, graven with an iron pen in the Rock forever. *Permanence*, you observe, is the object, not multiplicability;—that is quite an accidental, sometimes not even a desirable, attribute of engraving. Duration of your work—fame, and undeceived vision of all men, on the pane of glass of the window on a wet day, or on the pillars of the castle of Chillon, or on the walls of the pyramids;—a primitive art,—yet first and last with us.

Since then engraving, we say, is essentially cutting into the surface of any solid; as the primitive design is in lines or dots, the primitive cutting of such design is a scratch or a hole; and scratchable solids being essentially three—stone, wood, metal,—we shall have three great schools of engraving to investigate in each material.

35. On tablet of stone, on tablet of wood, on tablet of steel,—the first giving the law to everything; the second true Athenian, like Athena's first statue in olive-wood, making the law legible and homely; and the third true Vulcanian, having the splendor and power of accomplished labor.

Now of stone engraving, which is joined inseparably with sculpture and architecture, I am not going to speak at length in this course of lectures. I shall speak only of wood and metal engraving. But there is one circumstance in stone engraving which it is necessary to observe in connection with the other two branches of the art.

The great difficulty for a primitive engraver is to make his scratch deep enough to be visible. Visibility is quite as essential to your fame as permanence; and if you have only your furrow to depend on, the engraved tablet, at certain times of day, will be illegible, and passed without notice.

But suppose you fill in your furrow with something black, then it will be legible enough at once; and if the black fall out or wash out, still your furrow is there, and may be filled again by anybody.

Therefore, the noble stone engravers, using marble to receive their furrow, fill that furrow with marble ink.

And you have an engraved plate to purpose;—with the whole sky for its margin! Look here—the front of the church of San Michele of Lucca,—white marble with green serpentine for ink; or here,—the steps of the Giant's Stair, with lead for ink; or here,—the floor of the Pisan Duomo, with porphyry for ink. Such cutting, filled in with color or with black, branches into all sorts of developments,—Florentine mosaic on the one hand, niello on the other, and infinite minor arts.

36. Yet we must not make this filling with color part of our definition of engraving. To engrave is, in final strictness, “to decorate a surface with furrows.” (Cameos, in accuratest terms, are minute sculptures, not engravings.) A plowed field is the purest type of such art; and is, on hilly land, an exquisite piece of decoration.

Therefore it will follow that engraving distinguishes itself from ordinary drawing by greater need of muscular effort.

The quality of a pen drawing is to be produced easily,—deliberately, always,* but with a point that *glides* over the paper. Engraving, on the contrary, requires always force, and its virtue is that of a line produced by pressure, or by blows of a chisel.

It involves, therefore, always, ideas of power and dexterity, but also of restraint; and the delight you take in it should involve the understanding of the difficulty the workman dealt with. You perhaps doubt the extent to which this feeling justly extends, (in the first volume of “Modern Painters,” expressed under the head “Ideas of Power.”) But why is a large stone in any building grander than a small one? Simply because it was more difficult to raise it. So, also, an engraved line is, and ought to be, recognized as more grand than a pen or pencil line, because it was more difficult to execute it.

In this mosaic of Lucca front you forgive much, and admire

* Compare Inaugural Lectures, § 144,

much, because you see it is all cut in stone. So, in wood and steel, you ought to see that every line has been costly; but observe, costly of deliberative, no less than athletic or executive power. The main use of the restraint which makes the line difficult to draw, is to give time and motive for deliberation in drawing it, and to insure its being the best in your power.

37. For, as with deliberation, so without repentance, your engraved line must be. It may, indeed, be burnished or beaten out again in metal, or patched and botched in stone; but always to disadvantage, and at pains which must not be incurred often. And there is a singular evidence in one of Dürer's finest plates that, in his time, or at least in his manner of work, it was not possible at all. Among the disputes as to the meaning of Dürer's Knight and Death, you will find it sometimes suggested, or insisted, that the horse's raised foot is going to fall into a snare. What has been fancied a noose is only the former outline of the horse's foot and limb, uneffaced.

The engraved line is therefore to be conclusive; not experimental. "I have determined this," says the engraver. Much excellent pen drawing is excellent in being tentative,—in being experimental. Indeterminate, not through want of meaning, but through fullness of it—halting *wisely* between two opinions—feeling cautiously after clearer opinions. But your engraver has made up his opinion. This is so, and must forever be so, he tells you. A very proper thing for a thoughtful man to say; a very improper and impertinent thing for a foolish one to say. Foolish engraving is consummately foolish work. Look,—all the world,—look for evermore, says the foolish engraver; see what a fool I have been! How many lines I have laid for nothing! How many lines upon lines, with no precept, much less superprecept!

38. Here, then, are two definite ethical characters in all engraved work. It is Athletic; and it is Resolute. Add one more; that it is Obedient;—in their infancy the nurse, but in their youth the slave, of the higher arts; servile, both in

the mechanism and labor of it, and in its function of interpreting the schools of painting as superior to itself.

And this relation to the higher arts we will study at the source of chief power in all the normal skill of Christendom, Florence; and chiefly, as I said, in the work of one Florentine master, Sandro Botticelli.

LECTURE II.

THE RELATION OF ENGRAVING TO OTHER ARTS IN FLORENCE.

39. FROM what was laid before you in my last lecture, you must now be aware that I do not mean, by the word 'engraving,' merely the separate art of producing plates from which black pictures may be printed.

I mean, by engraving, the art of producing decoration on a surface by the touches of a chisel or a burin; and I mean by its relation to other arts, the subordinate service of this linear work, in sculpture, in metal work, and in painting; or in the representation and repetition of painting.

And first, therefore, I have to map out the broad relations of the arts of sculpture, metal work, and painting, in Florence, among themselves, during the period in which the art of engraving was distinctly connected with them.*

40. You will find, or may remember, that in my lecture on Michael Angelo and Tintoret I indicated the singular importance, in the history of art, of a space of forty years, between 1480, and the year in which Raphael died, 1520. Within that space of time the change was completed, from the principles of ancient, to those of existing, art;—a manifold change, not definable in brief terms, but most clearly characterized, and easily remembered, as the change of conscientious and didactic art, into that which proposes to itself no duty beyond technical skill, and no object but the pleasure of the beholder. Of that momentous change itself I do not purpose to speak in the present course of lectures; but my endeavor will be to lay before you a rough chart of the

* Compare "Aratra Pentelici," § 154.

course of the arts in Florence up to the time when it took place; a chart indicating for you, definitely, the growth of conscience, in work which is distinctively conscientious, and the perfecting of expression and means of popular address, in that which is distinctively didactic.

41. Means of popular address, observe, which have become singularly important to us at this day. Nevertheless, remember that the power of printing, or reprinting, black *pictures*,—practically contemporary with that of reprinting black *letters*,—modified the art of the draughtsman only as it modified that of the scribe. Beautiful and unique writing, as beautiful and unique painting or engraving, remain exactly what they were; but other useful and reproductive methods of both have been superadded. Of these, it is acutely said by Dr. Alfred Woltmann,*—

“A far more important part is played in the art-life of Germany by the technical arts for the *multiplying* of works; for Germany, while it was the land of book-printing, is also the land of picture-printing. Indeed, wood-engraving, which preceded the invention of book-printing, *prepared the way for it, and only left one step more necessary for it.* Book-printing and picture-printing have both the same inner cause for their origin, namely, the impulse to make each mental gain a common blessing. Not merely princes and rich nobles were to have the privilege of adorning their private chapels and apartments with beautiful religious pictures; the poorest man was also to have his delight in that which the artist had devised and produced. It was not sufficient for him when it stood in the church as an altar-shrine, visible to him and to the congregation from afar; he desired to have it as his own, to carry it about with him, to bring it into his own home. The grand importance of wood-engraving and copperplate is not sufficiently estimated in historical investigations. They were not alone of use in the advance of art; they form an epoch in the entire life of mind and culture. The idea embodied and multiplied in pictures became like that embodied in the printed word, the herald of every intellectual movement, and conquered the world.”

42. “Conquered the world”? The rest of the sentence is true, but this, hyperbolic, and greatly false. It should

* “Holbein and His Time,” 4to, Bentley, 1872, (a very valuable book,) p. 17. Italics mine.

have been said that both painting and engraving have conquered much of the good in the world, and, hitherto, little or none of the evil.

Nor do I hold it usually an advantage to art, in teaching, that it *should* be common, or constantly seen. In becoming intelligibly and kindly beautiful, while it remains solitary and unrivaled, it has a greater power. Westminster Abbey is more didactic to the English nation, than a million of popular illustrated treatises on architecture.

Nay, even that it cannot be understood but with some difficulty, and must be sought before it can be seen, is no harm. The noblest didactic art is, as it were, set on a hill, and its disciples come to it. The vilest destructive and corrosive art stands at the street corners, crying, "Turn in hither; come, eat of my bread, and drink of my wine, which I have mingled."

And Dr. Woltmann has allowed himself too easily to fall into the common notion of Liberalism, that bad art, disseminated, is instructive, and good art isolated, not so. The question is, first, I assure you, whether what art you have got is good or bad. If essentially bad, the more you see of it, the worse for you. Entirely popular art is all that is noble, in the cathedral, the council chamber, and the market-place; not the paltry colored print pinned on the wall of a private room.

43. I despise the poor!—do I, think you? Not so. They only despise the poor who think them better off with police news, and colored tracts of the story of Joseph and Potiphar's wife, than they were with Luini painting on their church walls, and Donatello carving the pillars of their market-places.

Nevertheless, the effort to be universally, instead of locally, didactic, modified advantageously, as you know, and in a thousand ways varied, the earlier art of engraving; and the development of its popular power, whether for good or evil, came exactly—so fate appointed—at a time when the minds of the masses were agitated by the struggle which closed in the Reformation in some countries, and in the desperate

refusal of Reformation in others.* The two greatest masters of engraving whose lives we are to study, were, both of them, passionate reformers: Holbein no less than Luther; Botticelli no less than Savonarola.

44. Reformers, I mean, in the full and, accurately, the only, sense. Not preachers of new doctrines; but witnesses against the betrayal of the old ones, which were on the lips of all men, and in the lives of none. Nay, the painters are indeed more pure reformers than the priests. They rebuked the manifest vices of men, while they realized whatever was loveliest in their faith. Priestly reform soon enraged itself into mere contest for personal opinions; while, without rage, but in stern rebuke of all that was vile in conduct or thought,—in declaration of the always-received faiths of the Christian Church, and in warning of the power of faith, and death,† over the petty designs of men,—Botticelli and Holbein together fought foremost in the ranks of the Reformation.

45. To-day I will endeavor to explain how they attained such rank. Then, in the next two lectures; the technics of both,—their way of speaking; and in the last two, what they had got to say.

First, then, we ask how they attained this rank;—who taught *them* what they were finally best to teach? How far must every people—how far did this Florentine people—teach its masters, before *they* could teach *it*?

Even in these days, when every man is, by hypothesis, as good as another, does not the question sound strange to you? You recognize in the past, as you think, clearly, that national advance takes place always under the guidance of masters, or groups of masters, possessed of what appears to be some new personal sensibility or gift of invention; and we are apt to

* See Carlyle, "Frederick," Book III., chap. viii.

† I believe I am taking too much trouble in writing these lectures. This sentence, § 44, has cost me, I suppose, first and last, about as many hours as there are lines in it;—and my choice of these two words, faith and death, as representatives of power, will perhaps, after all, only puzzle the reader.

be reverent to these alone, as if the nation itself had been unprogressive, and suddenly awakened, or converted, by the genius of one man.

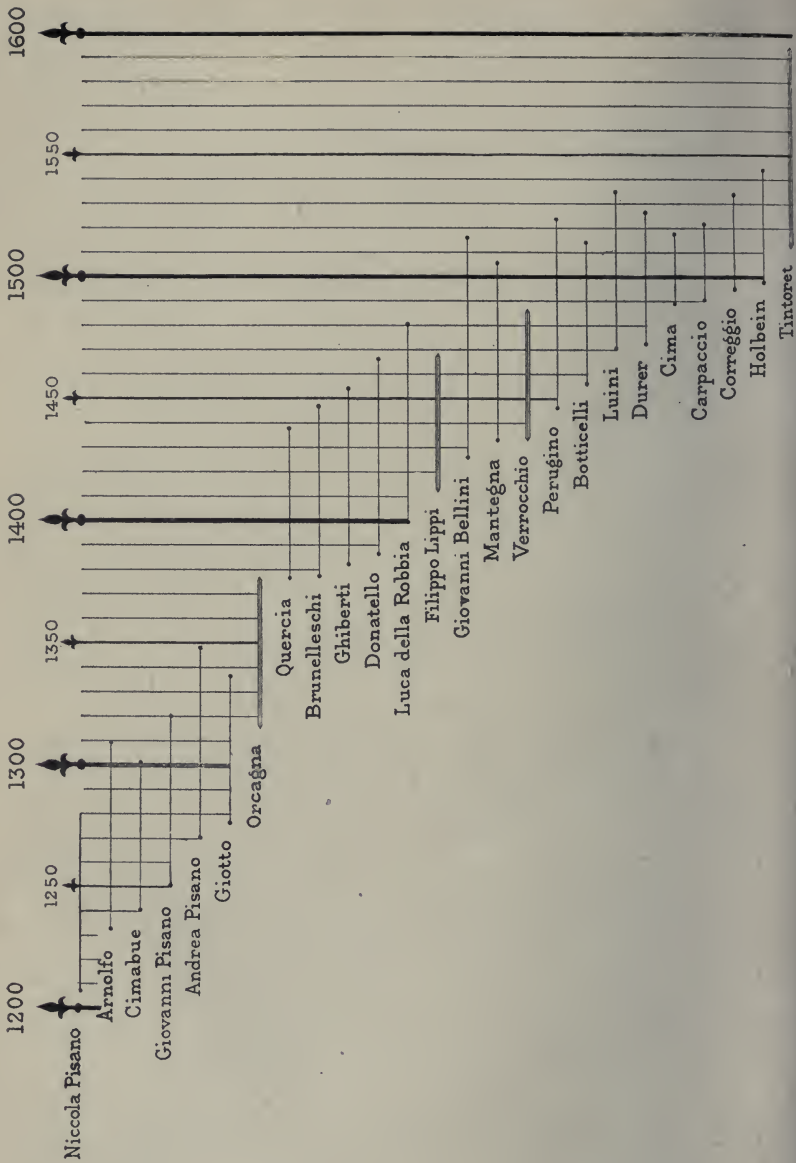
No idea can be more superficial. Every nation must teach its tutors, and prepare itself to receive them; but the fact on which our impression is founded—the rising, apparently by chance, of men whose singular gifts suddenly melt the multitude, already at the point of fusion; or suddenly form, and *inform*, the multitude which has gained coherence enough to be capable of formation,—enables us to measure and map the gain of national intellectual territory, by tracing first the lifting of the mountain chains of its genius.

46. I have told you that we have nothing to do at present with the great transition from ancient to modern habits of thought which took place at the beginning of the sixteenth century. I only want to go as far as that point;—where we shall find the old superstitious art represented *finally* by Perugino, and the modern scientific and anatomical art represented *primarily* by Michael Angelo. And the epithet bestowed on Perugino by Michael Angelo, ‘*goffo nell’ arte,*’ dunce, or blockhead, in art,—being, as far as my knowledge of history extends, the most cruel, the most false, and the most foolish insult ever offered by one great man to another,—does you at least good service, in showing how trenchant the separation is between the two orders of artists,*—how exclusively we may follow out the history of all the ‘*goffi nell’ arte,*’ and write our Florentine Dunciad, and Laus Stultitiæ, in peace; and never trench upon the thoughts or ways of these proud ones, who showed their fathers’ nakedness, and snatched their masters’ fame.

47. The Florentine dunces in art are a multitude; but I only want you to know something about twenty of them.

Twenty!—you think that a grievous number? It may,

* He is said by Vasari to have called Francia the like. Francia is a child compared to Perugino; but a finished working-goldsmith and ornamental painter nevertheless; and one of the very last men to be called ‘*goffo,*’ except by unparalleled insolence.



perhaps, appease you a little to be told that when you really have learned a very little, accurately, about these twenty dunces, there are only five more men among the artists of Christendom whose works I shall ask you to examine while you are under my care. That makes twenty-five altogether,—an exorbitant demand on your attention, you still think? And yet, but a little while ago, you were all agog to get me to go and look at Mrs. A's sketches, and tell you what was to be thought about *them*; and I've had the greatest difficulty to keep Mrs. B's photographs from being shown side by side with the Raphael drawings in the University galleries. And you will waste any quantity of time in looking at Mrs. A's sketches or Mrs. B's photographs; and yet you look grave, because, out of nineteen centuries of European art-labor and thought, I ask you to learn something seriously about the works of five-and-twenty men!

48. It is hard upon you, doubtless, considering the quantity of time you must nowadays spend in trying which can hit balls farthest. So I will put the task into the simplest form I can.

Here are the names of the twenty-five men,* and opposite each, a line indicating the length of his life, and the position of it in his century. The diagram still, however, needs a few words of explanation. Very chiefly, for those who know anything of my writings, there is needed explanation of its not including the names of Titian, Reynolds, Velasquez, Turner, and other such men, always reverently put before you at other times.

They are absent, because I have no fear of your not looking at these. All your lives through, if you care about art, you will be looking at them. But while you are here at Oxford, I want to make you learn what you should know of these earlier, many of them weaker, men, who yet, for the very reason of their greater simplicity of power, are better guides for you, and of whom some will remain guides to all genera-

* The diagram used at the lecture is engraved on page 30; the reader had better draw it larger for himself, as it had to be made inconveniently small for this size of leaf.

tions. And, as regards the subject of our present course, I have a still more weighty reason;—Vandyke, Gainsborough, Titian, Reynolds, Velasquez, and the rest, are essentially portrait painters. They give you the likeness of a man: they have nothing to say either about his future life, or his gods. ‘That is the look of him,’ they say: ‘here, on earth, we know no more.’

49. But these, whose names I have engraved, have something to say—generally much,—either about the future life of man, or about his gods. They are therefore, literally, seers or prophets. False prophets, it may be, or foolish ones; of that you must judge; but you must read before you can judge; and read (or hear) them consistently; for you don’t know them till you have heard them out. But with Sir Joshua, or Titian, one portrait is as another: it is here a pretty lady, there a great lord; but speechless, all;—whereas, with these twenty-five men, each picture or statue is not merely another person of a pleasant society, but another chapter of a Sibylline book.

50. For this reason, then, I do not want Sir Joshua or Velasquez in my defined group; and for my present purpose, I can spare from it even four others:—namely, three who have *too* special gifts, and must each be separately studied—Correggio, Carpaccio, Tintoret;—and one who has no special gift, but a balanced group of many—Cima. This leaves twenty-one for classification, of whom I will ask you to lay hold thus. You must continually have felt the difficulty caused by the names of centuries not tallying with their years;—the year 1201 being the first of the thirteenth century, and so on. I am always plagued by it myself, much as I have to think and write with reference to chronology; and I mean for the future, in our art chronology, to use as far as possible a different form of notation.

51. In my diagram the vertical lines are the divisions of tens of years; the thick black lines divide the centuries. The horizontal lines, then, at a glance, tell you the length and date of each artist’s life. In one or two instances I cannot

find the date of birth; in one or two more, of death; and the line indicates then only the ascertained * period during which the artist worked.

And, thus represented, you see nearly all their lives run through the year of a new century; so that if the lines representing them were needles, and the black bars of the years 1300, 1400, 1500 were magnets, I could take up nearly all the needles by lifting the bars.

52. I will actually do this, then, in three other simple diagrams. I place a rod for the year 1300 over the lines of life, and I take up all it touches. I have to drop Niccola Pisano, but I catch five. Now, with my rod of 1400, I have dropped Orcagna indeed, but I again catch five. Now, with my rod of 1500, I indeed drop Filippo Lippi and Verrocchio, but I catch seven. And here I have three pennons, with the staves of the years 1300, 1400, and 1500 running through them,—holding the names of nearly all the men I want you to study in easily remembered groups of five, five, and seven. And these three groups I shall hereafter call the 1300 group, 1400 group, and 1500 group.

53. But why should four unfortunate masters be dropped out?

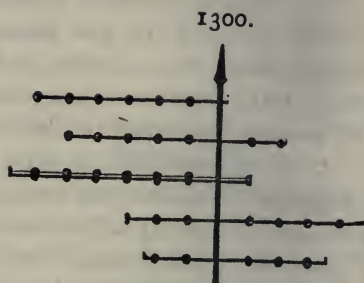
Well, I want to drop them out, at any rate; but not in disrespect. In hope, on the contrary, to make you remember them very separately indeed;—for this following reason.

We are in the careless habit of speaking of men who form a great number of pupils, and have a host of inferior satellites round them, as masters of great schools.

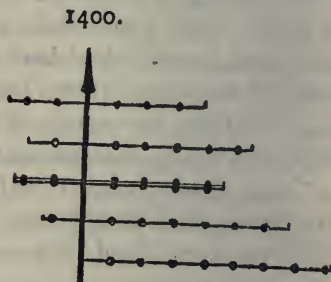
But before you call a man a master, you should ask, Are his pupils greater or less than himself? If they are greater than himself, he is a master indeed;—he has been a true teacher. But if all his pupils are less than himself, he may have been a great *man*, but in all probability has been a bad *master*, or no master.

* 'Ascertained,' scarcely any date ever is, quite satisfactorily. The diagram only represents what is practically and broadly true. I may have to modify it greatly in detail.

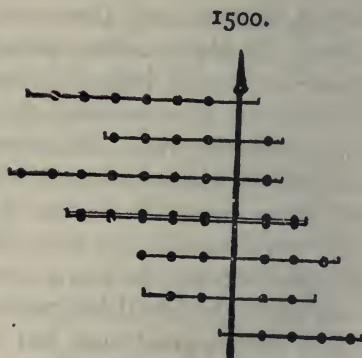
1240—1302 Cimabue
 1250—1321 Giovanni Pisano
 1232—1310 ARNOLFO
 1270—1345 Andrea Pisano
 1276—1336 Giotto



1374—1438 Quercia
 1381—1455 Ghiberti
 1377—1446 BRUNELLESCHI
 1386—1468 Donatello
 1400—1481 Luca



1431—1506 Mantegna
 1457—1515 Botticelli
 1426—1516 Bellini
 1446—1524 PERUGINO
 1470—1535 Luini
 1471—1527 Dürer
 1498—1543 Holbein



Now these men, whom I have signally left out of my groups, are true *Masters*.

Niccola Pisano taught all Italy; but chiefly his own son, who succeeded, and in some things very much surpassed him.

Orcagna taught all Italy, after him, down to Michael Angelo. And these two—Lippi, the religious schools, Verrocchio, the artist schools, of their century.

Lippi taught Sandro Botticelli; and Verrocchio taught Leonardo da Vinci, Lorenzo di Credi, and Perugino. Have I not good reason to separate the masters of such pupils from the schools they created?

54. But how is it that I can drop just the cards I want out of my pack?

Well, certainly I force and fit matters a little: I leave some men out of my list whom I should like to have in it;—Benozzo Gozzoli, for instance, and Mino da Fiesole; but I can do without them, and so can you also, for the present. I catch Luca by a hair's-breadth only, with my 1400 rod; but on the whole, with very little coaxing, I get the groups in this memorable and quite literally 'handy' form. For see, I write my lists of five, five, and seven, on bits of pasteboard; I hinge my rods to these; and you can brandish the school of 1400 in your left hand, and of 1500 in your right, like—railway signals;—and I wish all railway signals were as clear. Once learn, thoroughly, the groups in this artificially contracted form, and you can refine and complete afterwards at your leisure.

55. And thus actually flourishing my two pennons, and getting my grip of the men, in either hand, I find a notable thing concerning my two flags. The men whose names I hold in my left hand are all sculptors; the men whose names I hold in my right are all painters.

You will infallibly suspect me of having chosen them thus on purpose. No, honor bright!—I chose simply the greatest men,—those I wanted to talk to you about. I arranged them by their dates; I put them into three conclusive pennons; and behold what follows!

56. Farther, note this: in the 1300 group, four out of the five men are architects as well as sculptors and painters. In the 1400 group, there is one architect; in the 1500, none. And the meaning of that is, that in 1300 the arts were all united, and duly led by architecture; in 1400, sculpture began to assume too separate a power to herself; in 1500, painting arrogated all, and, at last, betrayed all. From which, with much other collateral evidence, you may justly conclude that the three arts ought to be practiced together, and that they naturally are so. I long since asserted that no man could be an architect who was not a sculptor. As I learned more and more of my business, I perceived also that no man could be a sculptor who was not an architect;—that is to say, who had not knowledge enough, and pleasure enough in structural law, to be able to build, on occasion, better than a mere builder. And so, finally, I now positively aver to you that nobody, in the graphic arts, can be quite rightly a master of anything, who is not master of everything!

57. The junction of the three arts in men's minds, at the best times, is shortly signified in these words of Chaucer. Love's Garden,

Everidele
Enclosed was, and walled well
With high walls, embatailled,
Portrayed without, and well entayled
With many rich portraitures.

The French original is better still, and gives four arts in unison:—

Quant suis avant un pou alé
Et vy un vergier grant et le,
Bien cloz de bon mur batillié
Pourtrait dehors, et entaillié
Ou (for au) maintes riches escriptures.

Read also carefully the description of the temples of Mars and Venus in the Knight's Tale. Contemporary French uses 'entaille' even of solid sculpture and of the living form; and Pygmalion, as a perfect master, professes wood

carving, ivory carving, waxwork, and iron-work, no less than stone sculpture:—

Pimalion, uns entaillieres
 Pourtraians en fuz* et en pierres,
 En mettaux, en os, et en cire,
 Et en toute autre matire.

58. I made a little sketch, when last in Florence, of a subject which will fix the idea of this unity of the arts in your minds. At the base of the tower of Giotto are two rows of hexagonal panels, filled with bas-reliefs. Some of these are by unknown hands,—some by Andrea Pisano, some by Luca della Robbia, two by Giotto himself; of these I sketched the panel representing the art of Painting.

You have in that bas-relief one of the foundation-stones of the most perfectly built tower in Europe; you have that stone carved by its architect's own hand; you find, further, that this architect and sculptor was the greatest painter of his time, and the friend of the greatest poet; and you have represented by him a painter in his shop,—bottega,—as symbolic of the entire art of painting.

59. In which representation, please note how carefully Giotto shows you the tabernacles or niches, in which the paintings are to be placed. Not independent of their frames, these panels of his, you see!

Have you ever considered, in the early history of painting, how important also is the history of the frame maker? It is a matter, I assure you, needing your very best consideration. For the frame was made before the picture. The painted window is much, but the aperture it fills was thought of before it. The fresco by Giotto is much, but the vault it adorns was planned first. Who thought of these;—who built?

Questions taking us far back before the birth of the shep-

* For fust, log of wood, erroneously 'fer' in the later printed editions. Compare the account of the works of Art and Nature, towards the end of the Romance of the Rose.

herd boy of Fésolé—questions not to be answered by history of painting only, still less of painting in *Italy* only.

60. And in pointing out to you this fact, I may once for all prove to you the essential unity of the arts, and show you how impossible it is to understand one without reference to another. Which I wish you to observe all the more closely, that you may use, without danger of being misled, the data, of unequalled value, which have been collected by Crowe and Cavalcaselle, in the book which they have called a History of Painting in Italy, but which is in fact only a dictionary of details relating to that history. Such a title is an absurdity on the face of it. For, first, you can no more write the history of painting in Italy than you can write the history of the south wind in Italy. The sirocco does indeed produce certain effects at Genoa, and others at Rome; but what would be the value of a treatise upon the winds, which, for the honor of any country, assumed that every city of it had a native sirocco?

But, further,—imagine what success would attend the meteorologist who should set himself to give an account of the south wind, but take no notice of the north!

And, finally, suppose an attempt to give you an account of either wind, but none of the seas, or mountain passes, by which they were nourished, or directed.

61. For instance, I am in this course of lectures to give you an account of a single and minor branch of graphic art,—engraving. But observe how many references to local circumstances it involves. There are three materials for it, we said;—stone, wood, and metal. Stone engraving is the art of countries possessing marble and gems; wood engraving, of countries overgrown with forest; metal engraving, of countries possessing treasures of silver and gold. And the style of a stone engraver is formed on pillars and pyramids; the style of a wood engraver under the eaves of larch cottages; the style of a metal engraver in the treasuries of kings. Do you suppose I could rightly explain to you the value of a single touch on brass by Finiguerra, or on box by Bewick,

unless I had grasp of the great laws of climate and country; and could trace the inherited sirocco or tramontana of thought to which the souls and bodies of the men owed their existence?

62. You see that in this flag of 1300 there is a dark strong line in the center, against which you read the name of Arnolfo.

In writing our Florentine Dunciad, or History of Fools, can we possibly begin with a better day than All Fools' Day? On All Fools' Day—the first, if you like better so to call it, of the month of *opening*,—in the year 1300, is signed the document making Arnolfo a citizen of Florence, and in 1310 he dies, chief master of the works of the cathedral there. To this man, Crowe and Cavalcaselle give half a page, out of three volumes of five hundred pages each.

But lower down in my flag, (not put there because of any inferiority, but by order of chronology,) you will see a name sufficiently familiar to you—that of Giotto; and to him, our historians of painting in Italy give some hundred pages, under the impression, stated by them at page 243 of their volume, that “in his hands, art in the Peninsula became entitled for the first time to the name of Italian.”

63. Art became Italian! Yes, but *what* art? Your authors give a perspective—or what they call such,—of the upper church of Assisi, as if that were merely an accidental occurrence of blind walls for Giotto to paint on!

But how came the upper church of Assisi there? How came it to be vaulted—to be aisled? How came Giotto to be asked to paint upon it?

The art that built it, good or bad, must have been an Italian one, before Giotto. He could not have painted on the air. Let us see how his panels were made for him.

64. This Captain—the center of our first group—Arnolfo, has always hitherto been called ‘Arnolfo di Lapo;’—Arnolfo the son of Lapo.

Modern investigators come down on us delightedly, to tell us—Arnolfo was *not* the son of Lapo.

In these days you will have half a dozen doctors, writing

each a long book, and the sense of all will be,—Arnolfo wasn't the son of Lapo. Much good may you get of that!

Well, you will find the fact to be, there was a great Northman builder, a true son of Thor, who came down into Italy in 1200, served the order of St. Francis there, built Assisi, taught Arnolfo how to build, with Thor's hammer, and disappeared, leaving his name uncertain—Jacopo—Lapo—nobody knows what. Arnolfo always recognizes this man as his true father, who put the soul-life into him; he is known to his Florentines always as Lapo's Arnolfo.

That, or some likeness of that, is the vital fact. You never can get at the literal limitation of living facts. They disguise themselves by the very strength of their life: get told again and again in different ways by all manner of people;—the literalness of them is turned topsy-turvy, inside-out, over and over again;—then the fools come and read them wrong side upwards, or else, say there never was a fact at all. Nothing delights a true blockhead so much as to prove a negative;—to show that everybody has been wrong. Fancy the delicious sensation, to an empty-headed creature, of fancying for a moment that he has emptied everybody else's head as well as his own! nay, that, for once, his own hollow bottle of a head has had the best of other bottles, and has been *first* empty;—first to know—nothing.

65. Hold, then, steadily the first tradition about this Arnolfo. That his real father was called "Cambio" matters to you not a straw. That he never called himself Cambio's Arnolfo—that nobody else ever called him so, down to Vasari's time, is an infinitely significant fact to you. In my twenty-second letter in Fors Clavigera you will find some account of the noble habit of the Italian artists to call themselves by their masters' names, considering their master as their true father. If not the name of the master, they take that of their native place, as having owed the character of their life to that. They rarely take their own family name: sometimes it is not even known,—when best known, it is unfamiliar to us. The great Pisan artists, for instance,

never bear any other name than 'the Pisan;' among the other five-and-twenty names in my list, not above six, I think, the two German, with four Italian, are family names. Perugino, (Peter of Perugia,) Luini, (Bernard of Luino,) Quercia, (James of Quercia,) Correggio, (Anthony of Correggio,) are named from their native places. Nobody would have understood me if I had called Giotto, 'Ambrose Bondone;' or Tintoret, Robusti; or even Raphael, Sanzio. Botticelli is named from his master; Ghiberti from his father-in-law; and Ghirlandajo from his work. Orcagna, who *did*, for a wonder, name himself from his father, Andrea Cione, of Florence, has been always called 'Angel' by everybody else; while Arnolfo, who never named himself from his father, is now like to be fathered against his will.

But, I again beg of you, keep to the old story. For it represents, however inaccurately in detail, clearly in sum, the fact, that some great master of German Gothic at this time came down into Italy, and changed the entire form of Italian architecture by his touch. So that while Niccola and Giovanni Pisano are still virtually Greek artists, experimentally introducing Gothic forms, Arnolfo and Giotto adopt the entire Gothic ideal of form, and thenceforward use the pointed arch and steep gable as the limits of sculpture.

66. Hitherto I have been speaking of the relations of my twenty-five men to each other. But now, please note their relations altogether to the art before them. These twenty-five include, I say, all the great masters of *Christian* art.

Before them, the art was too savage to be Christian; afterwards, too carnal to be Christian.

Too savage to be Christian? I will justify that assertion hereafter; but you will find that the European art of 1200 includes all the most developed and characteristic conditions of the style in the north which you have probably been accustomed to think of as NORMAN, and which you may always most conveniently call so; and the most developed conditions of the style in the south, which, formed out of

effete Greek, Persian, and Roman tradition, you may, in like manner, most conveniently express by the familiar word **BYZANTINE**. Whatever you call them, they are in origin adverse in temper, and remain so up to the year 1200. Then an influence appears, seemingly that of one man, Nicholas the Pisan, (our first **MASTER**, observe,) and a new spirit adopts what is best in each, and gives to what it adopts a new energy of its own; namely, this conscientious and didactic power which is the speciality of its progressive existence. And just as the new-born and natural art of Athens collects and reanimates Pelasgian and Egyptian tradition, purifying their worship, and perfecting their work, into the living heathen faith of the world, so this new-born and natural art of Florence collects and animates the Norman and Byzantine tradition, and forms out of the perfected worship and work of both, the honest Christian faith, and vital craftsmanship, of the world.

67. Get this first summary, therefore, well into your minds. The word 'Norman' I use roughly for North-savage;—roughly, but advisedly. I mean Lombard, Scandinavian, Frankish; everything north-savage that you can think of, except Saxon. (I have a reason for that exception; never mind it just now.)*

All north-savage I call **NORMAN**, all south-savage I call **BYZANTINE**; this latter including dead native Greek primarily—then dead foreign Greek, in Rome;—then Arabian—Persian—Phœnician—Indian—all you can think of, in art of hot countries, up to this year 1200, I rank under the one term Byzantine. Now all this cold art—Norman, and all this hot art—Byzantine, is virtually dead, till 1200. It has no

* Of course it would have been impossible to express in any accurate terms, short enough for the compass of a lecture, the conditions of opposition between the Heptarchy and the Northmen;—between the Byzantine and Roman;—and between the Byzantine and Arab, which form minor, but not less trenchant, divisions of Art-province, for subsequent delineation. If you can refer to my "Stones of Venice," see § 20 of its first chapter,

conscience, no didactic power;* it is devoid of both, in the sense that dreams are.

Then in the thirteenth century, men wake as if they heard an alarum through the whole vault of heaven, and true human life begins again, and the cradle of this life is the Val d'Arno. There the northern and southern nations meet; there they lay down their enmities; there they are first baptized unto John's baptism for the remission of sins; there is born, and thence exiled,—thought faithless for breaking the font of baptism to save a child from drowning, in his 'bel San Giovanni,'—the greatest of Christian poets; he who had pity even for the lost.

68. Now, therefore, my whole history of *Christian* architecture and painting begins with this Baptistery of Florence, and with its associated Cathedral. Arnolfo brought the one into the form in which you now see it; he laid the foundation of the other, and that to purpose, and he is therefore the CAPTAIN of our first school.

For this Florentine Baptistery † is the great one of the world. Here is the center of Christian knowledge and power.

And it is one piece of large *engraving*. White substance, cut into, and filled with black, and dark-green.

No more perfect work was afterwards done; and I wish you to grasp the idea of this building clearly and irrevocably,—first, in order (as I told you in a previous lecture) to quit yourselves thoroughly of the idea that ornament should be

* Again much too broad a statement: not to be qualified but by a length of explanation here impossible. My lectures on Architecture, now in preparation ("Val d'Arno"), will contain further detail.

† At the side of my page, here, I find the following memorandum, which was expanded in the viva-voce lecture. The reader must make what he can of it, for I can't expand it here.

Sense of Italian Church plan.

Baptistery, to make Christians in; house, or dome, for them to pray and be preached to in; bell-tower, to ring all over the town, when they were either to pray together, rejoice together, or to be warned of danger.

Harvey's picture of the Covenanters, with a shepherd on the outlook, as a campanile,

decorated construction; and, secondly, as the noblest type of the intaglio ornamentation, which developed itself into all minor application of black and white to engraving.

69. That it should do so first at Florence, was the natural sequence, and the just reward, of the ancient skill of Etruria in chased metal-work. The effects produced in gold, either by embossing or engraving, were the direct means of giving interest to his surfaces at the command of the 'auri faber,' or orfevre: and every conceivable artifice of studding, chiseling, and interlacing was exhausted by the artists in gold, who were at the head of the metal-workers, and from whom the ranks of the sculptors were reinforced.

The old French word 'orfroiz,' (aurifrigia,) expresses essentially what we call 'frosted' work in gold; that which resembles small dew or crystals of hoar-frost; the 'frigia' coming from the Latin frigus. To chase, or enchase, is not properly said of the gold; but of the jewel which it secures with hoops or ridges, (French, *enchasser* *). Then the armorer, or cup and casket maker, added to this kind of decoration that of flat inlaid enamel; and the silver-worker, finding that the raised filigree (still a staple at Genoa) only attracted tarnish, or got crushed, early sought to decorate a surface which would bear external friction, with labyrinths of safe incision.

70. Of the *security* of incision as a means of permanent decoration, as opposed to ordinary carving, here is a beautiful instance in the base of one of the external shafts of the Cathedral of Lucca; thirteenth-century work, which by this time, had it been carved in relief, would have been a shapeless remnant of indecipherable bosses. But it is still as safe as if it had been cut yesterday, because the smooth round mass of the pillar is entirely undisturbed; into that, furrows are cut with a chisel as much under command and as powerful as a burin. The effect of the design is trusted entirely to the depth of these incisions—here dying out and expiring in the light of the marble, there deepened, by drill holes, into as

* And 'chassis,' a window frame, or tracery.

definitely a black line as if it were drawn with ink; and describing the outline of the leafage with a delicacy of touch and of perception which no man will ever surpass, and which very few have rivaled, in the proudest days of design.

71. This security, in silver plates, was completed by filling the furrows with the black paste which at once exhibited and preserved them. The transition from that niello-work to modern engraving is one of no real moment: my object is to make you understand the qualities which constitute the *merit* of the engraving, whether charged with niello or ink. And this I hope ultimately to accomplish by studying with you some of the works of the four men, Botticelli and Mantegna in the south, Dürer and Holbein in the north, whose names I have put in our last flag, above and beneath those of the three mighty painters, Perugino the captain, Bellini on one side—Luini on the other.

The four following lectures* will contain data necessary for such study: you must wait longer before I can place before you those by which I can justify what must greatly surprise some of my audience—my having given Perugino the captain's place among the three painters.

72. But I do so, at least primarily, because what is commonly thought affected in his design is indeed the true remains of the great architectural symmetry which was soon to be lost, and which makes him the true follower of Arnolfo and Brunelleschi; and because he is a sound craftsman and workman to the very heart's core. A noble, gracious, and quiet laborer from youth to death,—never weary, never impatient, never untender, never untrue. Not Tintoret in power, not Raphael in flexibility, not Holbein in veracity, not Luini in love,—their gathered gifts he has, in balanced and fruitful measure, fit to be the guide, and impulse, and father of all.

* This present lecture does not, as at present published, justify its title; because I have not thought it necessary to write the viva-voce portions of it which amplified the 69th paragraph. I will give the substance of them in better form elsewhere; meantime the part of the lecture here given may be in its own way useful.

LECTURE III.

THE TECHNICS OF WOOD ENGRAVING.

73. I AM to-day to begin to tell you what it is necessary you should observe respecting methods of manual execution in the two great arts of engraving. Only to *begin* to tell you. There need be no end of telling you such things, if you care to hear them. The theory of art is soon mastered; but 'dal detto al fatto, v'e gran tratto;' and as I have several times told you in former lectures, every day shows me more and more the importance of the Hand.

74. Of the hand as a Servant, observe,—not of the hand as a Master. For there are two great kinds of manual work: one in which the hand is continually receiving and obeying orders; the other in which it is acting independently, or even giving orders of its own. And the dependent and submissive hand is a noble hand; but the independent or imperative hand is a vile one.

That is to say, as long as the pen, or chisel, or other graphic instrument, is moved under the direct influence of mental attention, and obeys orders of the brain, it is working nobly;—the moment it moves independently of them, and performs some habitual dexterity of its own, it is base.

75. *Dexterity*—I say;—some 'right-handedness' of its own. We might wisely keep that word for what the hand does at the mind's bidding; and use an opposite word—*sinisterity*,—for what it does at its own. For indeed we want such a word in speaking of modern art; it is all full of *sinisterity*. Hands independent of brains;—the left hand, by division of labor, not knowing what the right does,—still less what it ought to do.

76. Turning, then, to our special subject. All engraving,

I said, is intaglio in the solid. But the solid, in wood engraving, is a coarse substance, easily cut; and in metal, a fine substance, not easily. Therefore, in general, you may be prepared to accept ruder and more elementary work in one than the other; and it will be the means of appeal to blunter minds.

You probably already know the difference between the actual methods of producing a printed impression from wood and metal; but I may perhaps make the matter a little more clear. In metal engraving, you cut ditches, fill them with ink, and press your paper into them. In wood engraving, you leave ridges, rub the tops of them with ink, and stamp them on your paper.

The instrument with which the substance, whether of the wood or steel, is cut away, is the same. It is a solid plowshare, which, instead of throwing the earth aside, throws it up and out, producing at first a simple ravine, or furrow, in the wood or metal, which you can widen by another cut, or extend by successive cuts. This (Fig. 1) is the general shape of the solid plowshare:

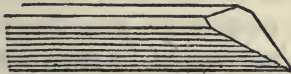


FIG. 1.

but it is of course made sharper or blunter at pleasure. The furrow produced is at first the wedge-shaped or cuneiform ravine, already so much dwelt upon in my lectures on Greek sculpture.

77. Since, then, in wood printing, you print from the surface left solid; and, in metal printing, from the hollows cut into it, it follows that if you put few touches on wood, you draw, as on a slate, with white lines, leaving a quantity of black; but if you put few touches on metal, you draw with black lines, leaving a quantity of white.

Now the eye is not in the least offended by quantity of white, but is, or ought to be, greatly saddened and offended by quantity of black. Hence it follows that you must never put little work on wood. You must not sketch upon it. You may sketch on metal as much as you please.

78. "Paradox," you will say, as usual. "Are not all our journals,—and the best of them, *Punch*, par excellence,—full of the most brilliantly swift and slight sketches, engraved on wood; while line-engravings take ten years to produce, and cost ten guineas each when they are done?"

Yes, that is so; but observe, in the first place, what appears to you a sketch on wood is not so at all, but a most laborious and careful imitation of a sketch on paper; whereas when you see what appears to be a sketch on metal, it is one. And in the second place, so far as the popular fashion is contrary to this natural method,—so far as we do in reality try to produce effects of sketching in wood, and of finish in metal,—our work is wrong.

Those apparently careless and free sketches on the wood ought to have been stern and deliberate; those exquisitely toned and finished engravings on metal ought to have looked, instead, like free ink sketches on white paper. That is the theorem which I propose to you for consideration, and which, in the two branches of its assertion, I hope to prove to you; the first part of it, (that wood-cutting should be careful,) in this present lecture; the second, (that metal-cutting should be, at least in a far greater degree than it is now, slight, and free,) in the following one.

79. Next, observe the distinction in respect of *thickness*, no less than number, of lines which may properly be used in the two methods.

In metal engraving, it is easier to lay a fine line than a thick one; and however fine the line may be, it lasts;—but in wood engraving it requires extreme precision and skill to leave a thin dark line, and when left, it will be quickly beaten down by a careless printer. Therefore, the virtue of wood engraving is to exhibit the qualities and power of *thick* lines;

and of metal engraving, to exhibit the qualities and power of *thin* ones.

All thin dark lines, therefore, in wood, broadly speaking, are to be used only in case of necessity; and thick lines, on metal, only in case of necessity.

80. Though, however, thin *dark* lines cannot easily be produced in wood, thin *light* ones may be struck in an instant. Nevertheless, even thin light ones must not be used, except with extreme caution. For observe, they are equally useless as outline, and for expression of mass. You know how far from exemplary or delightful your boy's first quite voluntary exercises in white line drawing on your slate were? You could, indeed, draw a goblin satisfactorily in such method;—a round O, with arms and legs to it, and a scratch under two dots in the middle, would answer the purpose; but if you wanted to draw a pretty face, you took pencil or pen, and paper—not your slate. Now, that instinctive feeling that a white outline is wrong, is deeply founded. For Nature herself draws with diffused light, and concentrated dark;—never, except in storm or twilight, with diffused dark, and concentrated light; and the thing we all like best to see drawn—the human face—cannot be drawn with white touches, but by extreme labor. For the pupil and iris of the eye, the eyebrow, the nostril, and the lip are all set in dark on pale ground. You can't draw a white eyebrow, a white pupil of the eye, a white nostril, and a white mouth, on a dark ground. Try it, and see what a specter you get. But the same number of dark touches, skillfully applied, will give the idea of a beautiful face. And what is true of the subtlest subject you have to represent, is equally true of inferior ones. Nothing lovely can be quickly represented by white touches. You must hew out, if your means are so restricted, the form by sheer labor; and that both cunning and dextrous. The Florentine masters, and Dürer, often practice the achievement, and there are many drawings by the Lippis, Mantegna, and other leading Italian draughtsmen, completed to great perfection with the white line; but only for the sake of

severest study, nor is their work imitable by inferior men. And such studies, however accomplished, always mark a disposition to regard *chiaroscuro* too much, and local color too little.

We conclude, then, that we must never trust, in wood, to our power of outline with white; and our general laws, thus far determined, will be—thick lines in wood; thin ones in metal; complete drawing on wood; sketches, if we choose, on metal.

81. But why, in wood, lines at all? Why not cut out white *spaces*, and use the chisel as if its incisions were so much white paint? Many fine pieces of wood-cutting are indeed executed on this principle. Bewick does nearly all his foliage so; and continually paints the light plumes of his birds with single touches of his chisel, as if he were laying on white.

But this is not the finest method of wood-cutting. It implies the idea of a system of light and shade in which the shadow is totally black. Now, no light and shade can be good, much less pleasant, in which all the shade is stark black. Therefore the finest wood-cutting ignores light and shade, and expresses only form, and *dark local color*. And it is convenient, for simplicity's sake, to anticipate what I should otherwise defer telling you until next lecture, that fine metal engraving, like fine wood-cutting, ignores light and shade; and that, in a word, all good engraving whatsoever does so.

82. I hope that my saying so will make you eager to interrupt me. 'What! Rembrandt's etchings, and Lupton's mezzotints, and Le Keux's line work,—do you mean to tell us that these ignore light and shade?'

I never said that *mezzotint* ignored light and shade, or ought to do so. Mezzotint is properly to be considered as *chiaroscuro* drawing on metal. But I do mean to tell you that both Rembrandt's etchings, and Le Keux's finished line-work, are misapplied labor, in so far as they regard *chiar-*



THE LAST FURROW.

(Fig. 2) Facsimile from Holbein's woodcut.

oscuro; and that consummate engraving never uses it as a primal element of pleasure.

83. We have now got our principles so far defined that I can proceed to illustration of them by example.

Here are facsimiles, very marvelous ones,* of two of the best wood engravings ever produced by art,—two subjects in Holbein's Dance of Death. You will probably like best that I should at once proceed to verify my last and most startling statement, that fine engraving disdained chiaroscuro.

This vignette (Fig. 2) represents a sunset in the open mountainous fields of southern Germany. And Holbein is so entirely careless about the light and shade, which a Dutchman would first have thought of, as resulting from the sunset, that, as he works, he forgets altogether where his light comes from. Here, actually, the shadow of the figure is cast from the side, right across the picture, while the sun is in front. And there is not the slightest attempt to indicate gradation of light in the sky, darkness in the forest, or any other positive element of chiaroscuro.

This is not because Holbein cannot give chiaroscuro if he chooses. He is twenty times a stronger master of it than Rembrandt; but he, therefore, knows exactly when and how to use it; and that wood engraving is not the proper means for it. The quantity of it which is needful for his story, and will not, by any sensational violence, either divert, or vulgarly enforce, the attention, he will give; and that with an unrivaled subtlety. Therefore I must ask you for a moment or two to quit the subject of technics, and look what these two wood-cuts mean.

84. The one I have first shown you is of a plowman plowing at evening. It is Holbein's object, here, to express the diffused and intense light of a golden summer sunset, so far as is consistent with grander purposes. A modern French or English chiaroscurist would have covered his sky with

* By Mr. Burgess. The toil and skill necessary to produce a facsimile of this degree of precision will only be recognized by the reader who has had considerable experience of actual work.

fleecy clouds, and relieved the plowman's hat and his horses against it in strong black, and put sparkling touches on the furrows and grass. Holbein scornfully casts all such tricks aside; and draws the whole scene in pure white, with simple outlines.

85. And yet, when I put it beside this second vignette, (Fig. 3,) which is of a preacher preaching in a feebly lighted church, you will feel that the diffused warmth of the one subject, and diffused twilight in the other, are complete; and they will finally be to you more impressive than if they had been wrought out with every superficial means of effect, on each block.

For it is as a symbol, not as a scenic effect, that in each case the chiaroscuro is given. Holbein, I said, is at the head of the painter-reformers, and his Dance of Death is the most energetic and telling of all the forms given, in this epoch, to the *Rationalist* spirit of reform, preaching the new Gospel of Death,—“It is no matter whether you are priest or layman, what you believe, or what you do: here is the end.” You shall see, in the course of our inquiry, that Botticelli, in like manner, represents the *Faithful* and *Catholic* temper of reform.

86. The teaching of Holbein is therefore always melancholy,—for the most part purely rational; and entirely furious in its indignation against all who, either by actual injustice in this life, or by what he holds to be false promise of another, destroy the good, or the energy, of the few days which man has to live. Against the rich, the luxurious, the Pharisee, the false lawyer, the priest, and the unjust judge, Holbein uses his fiercest mockery; but he is never himself unjust; never caricatures or equivocates; gives the facts as he knows them, with explanatory symbols, few and clear.

87. Among the powers which he hates, the pathetic and ingenious preaching of untruth is one of the chief; and it is curious to find his biographer, knowing this, and reasoning, as German critics nearly always do, from acquired knowledge, not perception, imagine instantly that he sees hypocrisy



THE TWO PREACHERS.

(Fig. 3) Facsimile from Holbein's woodcut.

in the face of Holbein's preacher. "How skillfully," says Dr. Woltmann, "is the preacher propounding his doctrines; how thoroughly is his hypocrisy expressed in the features of his countenance, and in the gestures of his hands." But look at the cut yourself, candidly. I challenge you to find the slightest trace of hypocrisy in either feature or gesture. Holbein knew better. It is not the hypocrite who has power in the pulpit. It is the *sincere* preacher of untruth who does mischief there. The hypocrite's place of power is in trade, or in general society; none but the sincere ever get fatal influence in the pulpit. This man is a refined gentleman—ascetic, earnest, thoughtful, and kind. He scarcely uses the vantage even of his pulpit,—comes aside out of it, as an eager man would, pleading; he is intent on being understood—is understood; his congregation are delighted—you might hear a pin drop among them: one is asleep indeed, who cannot see him, (being under the pulpit,) and asleep just because the teacher is as gentle as he is earnest, and speaks quietly.

88. How are we to know, then, that he speaks in vain? First, because among all his hearers you will not find one shrewd face. They are all either simple or stupid people: there is one nice woman in front of all, (else Holbein's representation had been caricature,) but she is not a shrewd one.

Secondly, by the light and shade. The church is not in extreme darkness—far from that; a gray twilight is over everything, but the sun is totally shut out of it;—not a ray comes in even at the window—*that* is darker than the walls, or vault.

Lastly, and chiefly, by the mocking expression of Death. Mocking, but not angry. The man has been preaching what he thought true. Death laughs at him, but is not indignant with him.

Death comes quietly: *I* am going to be preacher now; here is your own hour-glass, ready for me. You have spoken many words in your day. But "of the things which you

have spoken, *this* is the sum,"—your death-warrant, signed and sealed. There's your text for to-day.

89. Of this other picture, the meaning is more plain, and far more beautiful. The husbandman is old and gaunt, and has passed his days, not in speaking, but pressing the iron into the ground. And the payment for his life's work is, that he is clothed in rags, and his feet are bare on the clods; and he has no hat—but the brim of a hat only, and his long, unkempt gray hair comes through. But all the air is full of warmth and of peace; and, beyond his village church, there is, at last, light indeed. His horses lag in the furrow, and his own limbs totter and fail: but one comes to help him. 'It is a long field,' says Death; 'but we'll get to the end of it to-day,—you and I.'

90. And now that we know the meaning, we are able to discuss the technical qualities farther.

Both of these engravings, you will find, are executed with blunt lines; but more than that, they are executed with *quiet* lines, entirely steady.

Now, here I have in my hand a lively wood-cut of the present day—a good average type of the modern style of wood-cutting, which you will all recognize.*

The shade in this is drawn on the wood, (not *cut*, but drawn, observe,) at the rate of at least ten lines in a second: Holbein's, at the rate of about one line in three seconds.†

91. Now there are two different matters to be considered with respect to these two opposed methods of execution. The first, that the rapid work, though easy to the artist, is very difficult to the wood-cutter; so that it implies instantly a separation between the two crafts, and that your wood-cutter has ceased to be a draughtsman. I shall return to this point. I wish to insist on the other first; namely, the effect of the more deliberate method on the drawing itself.

* The ordinary title-page of Punch.

† In the lecture-room, the relative rates of execution were shown; I arrive at this estimate by timing the completion of two small pieces of shade in the two methods,

92. When the hand moves at the rate of ten lines in a second, it is indeed under the government of the muscles of the wrist and shoulder; but it cannot possibly be under the complete government of the brains. I am able to do this zigzag line evenly, because I have got the use of the hand from practice; and the faster it is done, the evener it will be. But I have no mental authority over every line I thus lay: chance regulates them. Whereas, when I draw at the rate of two or three seconds to each line, my hand disobeys the muscles a little—the mechanical accuracy is not so great; nay, there ceases to be any *appearance* of dexterity at all. But there is, in reality, more manual skill required in the slow work than in the swift,—and all the while the hand is thoroughly under the orders of the brains. Holbein deliberately resolves, for every line, as it goes along, that it shall be *so* thick, *so* far from the next,—that it shall begin here, and stop there. And he is deliberately assigning the utmost quantity of meaning to it, that a line will carry.

93. It is not fair, however, to compare common work of one age with the best of another. Here is a wood-cut of Tenniel's, which I think contains as high qualities as it is possible to find in modern art.* I hold it as beyond others fine, because there is not the slightest caricature in it. No face, no attitude, is pushed beyond the degree of natural humor they would have possessed in life; and in precision of momentary expression, the drawing is equal to the art of any time, and shows power which would, if regulated, be quite adequate to producing an immortal work.

94. Why, then, is it *not* immortal? You yourselves, in compliance with whose demand it was done, forgot it the next week. It will become historically interesting; but no man of true knowledge and feeling will ever keep this in his cabinet of treasure, as he does these wood-cuts of Holbein's.

The reason is that this is base coin,—alloyed gold. There

* John Bull, as Sir Oliver Surface, with Sir Peter Teazle and Joseph Surface. It appeared in *Punch*, early in 1863,

is gold in it, but also a quantity of brass and lead—willfully added—to make it fit for the public. Holbein's is beaten gold, seven times tried in the fire. Of which commonplace but useful metaphor the meaning here is, first, that to catch the vulgar eye a quantity of,—so-called,—light and shade is added by Tenniel. It is effective to an ignorant eye, and is ingeniously disposed; but it is entirely conventional and false, unendurable by any person who knows what *chiar-oscuro* is.

Secondly, for one line that Holbein lays, Tenniel has a dozen. There are, for instance, a hundred and fifty-seven lines in Sir Peter Teazle's wig, without counting dots and slight cross-hatching;—but the entire face and flowing hair of Holbein's preacher are done with forty-five lines, all told.

95. Now observe what a different state of mind the two artists must be in on such conditions;—one, never in a hurry, never doing anything that he knows is wrong; never doing a line badly that he can do better; and appealing only to the feelings of sensitive persons, and the judgment of attentive ones. That is Holbein's habit of soul. What is the habit of soul of every modern engraver? Always in a hurry; everywhere doing things which he knows to be wrong—(Tenniel knows his light and shade to be wrong as well as I do)—continually doing things badly which he was able to do better; and appealing exclusively to the feelings of the dull, and the judgment of the inattentive.

Do you suppose that is not enough to make the difference between mortal and immortal art,—the original genius being supposed alike in both? *

96. Thus far of the state of the artist himself. I pass next to the relation between him and his subordinate, the wood-cutter.

* In preparing these passages for the press, I feel perpetual need of qualifications and limitations, for it is impossible to surpass the humor, or precision of expressional touch, in the really golden parts of Tenniel's works; and they *may* be immortal, as representing what is best in their day.

The modern artist requires him to cut a hundred and fifty-seven lines in the wig only,—the old artist requires him to cut forty-five for the face, and long hair, altogether. The actual proportion is roughly, and on the average, about one to twenty of cost in manual labor, ancient to modern,—the twentieth part of the mechanical labor, to produce an immortal instead of a perishable work,—the twentieth part of the labor; and—which is the greatest difference of all—that twentieth part, at once less mechanically difficult, and more mentally pleasant. Mr. Otley, in his general History of Engraving, says, “The greatest difficulty in wood engraving occurs in clearing out the minute quadrangular lights;” and in any modern wood-cut you will see that where the lines of the drawing cross each other to produce shade, the white interstices are cut out so neatly that there is no appearance of any jag or break in the lines; they look exactly as if they had been drawn with a pen. It is chiefly difficult to cut the pieces clearly out when the lines cross at right angles; easier when they form oblique or diamond-shaped interstices; but in any case some half-dozen cuts, and in square crossings as many as twenty, are required to clear one interstice. Therefore if I carelessly draw six strokes with my pen across other six, I produce twenty-five interstices, each of which will need at least six, perhaps twenty, careful touches of the burin to clear out.—Say ten for an average; and I demand two hundred and fifty exquisitely precise touches from my engraver, to render ten careless ones of mine.

97. Now I take up Punch, at his best. The whole of the left side of John Bull’s waistcoat—the shadow on his knee-breeches and great-coat—the whole of the Lord Chancellor’s gown, and of John Bull’s and Sir Peter Teazle’s complexions, are worked with finished precision of cross-hatching. These have indeed some purpose in their texture; but in the most wanton and gratuitous way, the wall below the window is cross-hatched too, and that not with a double, but a treble line (Fig. 4).

There are about thirty of these columns, with thirty-five interstices each: approximately, 1,050—certainly not fewer—interstices to be deliberately cut clear, to get that two inches square of shadow.



FIG. 4.

Now calculate—or think enough to feel the impossibility of calculating—the number of wood-cuts used daily for our popular prints, and how many men are night and day cutting 1,050 square holes to the square inch, as the occupation of their manly life. And Mrs. Beecher Stowe and the North Americans fancy they have abolished slavery!

98. The workman cannot have even the consolation of pride; for his task, even in its finest accomplishment, is not really difficult,—only tedious. When you have once got into the practice, it is as easy as lying. To cut regular holes *without* a purpose is easy enough; but to cut *irregular* holes *with* a purpose, that is difficult, forever;—no tricks of tool or trade will give you power to do that.

The supposed difficulty—the thing which, at all events, it takes time to learn, is to cut the interstices neat, and each like the other. But is there any reason, do you suppose, for their being neat, and each like the other? So far from it, they would be twenty times prettier if they were irregular, and each different from the other. And an old wood-cutter, instead of taking pride in cutting these interstices smooth and alike, resolutely cuts them rough and irregular; taking care, at the same time, never to have any more than are wanted, this being only one part of the general system of intelligent manipulation, which made so good an artist of the engraver that it is impossible to say of any standard old wood-cut, whether the draughtsman engraved it himself or not. I should imagine, from the character and subtlety of the touch, that every line of the Dance of Death had been engraved by Holbein; we know it was not, and that there can be no certainty given by even the finest pieces of wood execution of anything more than perfect harmony between the

designer and workman. And consider how much this harmony demands in the latter. Not that the modern engraver is unintelligent in applying his mechanical skill: very often he greatly improves the drawing; but we never could mistake his hand for Holbein's.

99. The true merit, then, of wood execution, as regards this matter of cross-hatching, is first that there be no more crossing than necessary; secondly, that all the interstices be various, and rough. You may look through the entire series of the Dance of Death without finding any cross-hatching whatever, except in a few unimportant bits of background, so rude as to need scarcely more than one touch to each interstice. Albert Dürer crosses more definitely; but yet, in any fold of his drapery, every white spot differs in size from every other, and the arrangement of the whole is delightful, by the kind of variety which the spots on a leopard have.

On the other hand, where either expression or form can be rendered by the shape of the lights and darks, the old engraver becomes as careful as in an ordinary ground he is careless.

The endeavor, with your own hand, and common pen and ink, to copy a small piece of either of the two Holbein woodcuts (Figures 2 and 3) will prove this to you better than any words.

100. I said that, had Tenniel been rightly trained, there might have been the making of a Holbein, or nearly a Holbein, in him. I do not know; but I can turn from his work to that of a man who was not trained at all, and who was, without training, Holbein's equal.

Equal, in the sense that this brown stone, in my left hand, is the equal, though not the likeness, of that in my right. They are both of the same true and pure crystal; but the one is brown with iron, and never touched by forming hand; the other has never been in rough companionship, and has been exquisitely polished. So with these two men. The one was the companion of Erasmus and Sir Thomas More. His father was so good an artist that you cannot always tell their

drawings asunder. But the other was a farmer's son; and learned his trade in the back shops of Newcastle.

Yet the first book I asked you to get was his biography; and in this frame are set together a drawing by Hans Holbein, and one by Thomas Bewick. I know which is most scholarly; but I do *not* know which is best.

101. It is much to say for the self-taught Englishman;—yet do not congratulate yourselves on his simplicity. I told you, a little while since, that the English nobles had left the history of birds to be written, and their spots to be drawn, by a printer's lad;—but I did not tell you their farther loss in the fact that this printer's lad could have written their own histories, and drawn their own spots, if they had let him. But they had no history to be written; and were too closely maculate to be portrayed;—white ground in most places altogether obscured. Had there been Mores and Henrys to draw, Bewick could have drawn them; and would have found his function. As it was, the nobles of his day left him to draw the frogs, and pigs, and sparrows—of his day, which seemed to him, in his solitude, the best types of its Nobility. No sight or thought of beautiful things was ever granted him;—no heroic creature, goddess-born—how much less any native Deity—ever shone upon him. To his utterly English mind, the straw of the sty, and its tenantry, were abiding truth;—the cloud of Olympus, and its tenantry, a child's dream. He could draw a pig, but not an Aphrodite.

102. The three pieces of wood-cut from his Fables (the two lower ones enlarged) in the opposite plate, show his utmost strength and utmost rudeness. I must endeavor to make you thoroughly understand both:—the magnificent artistic power, the flawless virtue, veracity, tenderness,—the infinite humor of the man; and yet the difference between England and Florence, in the use they make of such gifts in their children.

For the moment, however, I confine myself to the examination of technical points; and we must follow our former conclusions a little further.



I.

Things Celestial and Terrestrial, as apparent
to the English Mind.

103. Because our lines in wood must be thick, it becomes an extreme virtue in wood engraving to economize lines,—not merely, as in all other art, to save time and power, but because, our lines being necessarily blunt, we must make up our minds to do with fewer, by many, than are in the object. But is this necessarily a disadvantage?

Absolutely, an immense disadvantage,—a wood-cut never can be so beautiful or good a thing as a painting, or line engraving. But in its own separate and useful way, an excellent thing, because, practiced rightly, it exercises in the artist, and summons in you, the habit of abstraction; that is to say, of deciding what are the essential points in the things you see, and seizing these; a habit entirely necessary to strong humanity; and so natural to all humanity, that it leads, in its indolent and undisciplined states, to all the vulgar amateur's liking of sketches better than pictures. The sketch seems to put the thing for him into a concentrated and exciting form.

104. Observe, therefore, to guard you from this error, that a bad sketch is good for nothing; and that nobody can make a good sketch unless they generally are trying to finish with extreme care. But the abstraction of the essential particulars in his subject by a line-master, has a peculiar didactic value. For painting, when it is complete, leaves it much to your own judgment what to look at; and, if you are a fool, you look at the wrong thing;—but in a fine wood-cut, the master says to you, “You *shall* look at this, or at nothing.”

105. For example, here is a little tailpiece of Bewick's, to the fable of the Frogs and the Stork.* He is, as I told you, as stout a reformer as Holbein,† or Botticelli, or Luther, or Savonarola; and, as an impartial reformer, hits right and left, at lower or upper classes, if he sees them wrong. Most frequently, he strikes at vice, without reference to class; but in this vignette he strikes definitely at the degradation of the viler popular mind which is incapable of being governed, because it cannot understand the nobleness of kingship. He

* From Bewick's *Æsop's Fables*.

† See *ante*, § 43.

has written—better than written, engraved, sure to suffer no slip of type—his legend under the drawing; so that we know his meaning:

“Set them up with a king, indeed!”

106. There is an audience of seven frogs, listening to a speaker, or croaker, in the middle; and Bewick has set himself to show in all, but especially in the speaker, essential frogginess of mind—the marsh temper. He could not have done it half so well in painting as he has done by the abstraction of wood-outline. The characteristic of a manly mind, or body, is to be gentle in temper, and firm in constitution; the contrary essence of a froggy mind and body is to be angular in temper, and flabby in constitution. I have enlarged Bewick's orator-frog for you, Plate I. c., and I think you will feel that he is entirely expressed in those essential particulars.

This being perfectly good wood-cutting, notice especially its deliberation. No scrawling or scratching, or cross-hatching, or ‘*free*’ work of any sort. Most deliberate laying down of solid lines and dots, of which you cannot change one. The real difficulty of wood engraving is to cut every one of these black lines or spaces of the exactly right shape, and not at all to cross-hatch them cleanly.

107. Next, examine the technical treatment of the pig, above. I have purposely chosen this as an example of a white object on dark ground, and the frog as a dark object on light ground, to explain to you what I mean by saying that fine engraving regards local color, but not light and shade. You see both frog and pig are absolutely without light and shade. The frog, indeed, casts a shadow; but his hind leg is as white as his throat. In the pig you don't even know which way the light falls. But you know at once that the pig is white, and the frog brown or green.

108. There are, however, two pieces of chiaroscuro *implied* in the treatment of the pig. It is assumed that his curly tail would be light against the background—dark against his own rump. This little piece of heraldic quartering is absolutely

necessary to solidify him. He would have been a white ghost of a pig, flat on the background, but for that alternative tail, and the bits of dark behind the ears. Secondly: Where the shade is necessary to suggest the position of his ribs, it is given with graphic and chosen points of dark, as few as possible; not for the sake of the shade at all, but of the skin and bone.

109. That, then, being the law of refused chiaroscuro, observe further the method of outline. We said that we were to have thick lines in wood, if possible. Look what thickness of black outline Bewick has left under our pig's chin, and above his nose.

But that is not a line at all, you think?

No;—a modern engraver would have made it one, and prided himself on getting it fine. Bewick leaves it actually thicker than the snout, but puts all his ingenuity of touch to vary the forms, and break the extremities of his white cuts, so that the eye may be refreshed and relieved by new forms at every turn. The group of white touches filling the space between snout and ears might be a wreath of fine-weather clouds, so studiously are they grouped and broken.

And nowhere, you see, does a single black line cross another.

Look back to Figure 4, page 54, and you will know, henceforward, the difference between good and bad wood-cutting.

110. We have also, in the lower wood-cut, a notable instance of Bewick's power of abstraction. You will observe that one of the chief characters of this frog, which makes him humorous,—next to his vain endeavor to get some firmness into his fore feet,—is his obstinately angular hump-back. And you must feel, when you see it so marked, how important a general character of a frog it is to have a hump-back,—not at the shoulders, but the loins.

111. Here, then, is a case in which you will see the exact function that anatomy should take in art.

All the most scientific anatomy in the world would never have taught Bewick, much less you, how to draw a frog.

But when once you *have* drawn him, or looked at him, so

as to know his points, it then becomes entirely interesting to find out *why* he has a hump-back. So I went myself yesterday to Professor Rolleston for a little anatomy, just as I should have gone to Professor Phillips for a little geology; and the Professor brought me a fine little active frog; and we put him on the table, and made him jump all over it, and then the Professor brought in a charming Squellette of a frog, and showed me that he needed a projecting bone from his rump, as a bird needs it from its breast,—the one to attach the strong muscles of the hind legs, as the other to attach those of the fore legs or wings. So that the entire leaping power of the frog is in his hump-back, as the flying power of the bird is in its breast-bone. And thus this Frog Parliament is most literally a Rump Parliament—everything depending on the hind legs, and nothing on the brains; which makes it wonderfully like some other Parliaments we know of nowadays, with Mr. Ayrton and Mr. Lowe for their æsthetic and acquisitive eyes, and a rump of Railway Directors.

112. Now, to conclude, for want of time only—I have but touched on the beginning of my subject,—understand clearly and finally this simple principle of all art, that the best is that which realizes absolutely, if possible. Here is a viper by Carpaccio: you are afraid to go near it. Here is an arm-chair by Carpaccio: you who came in late, and are standing, to my regret, would like to sit down in it. This is consummate art; but you can only have that with consummate means, and exquisitely trained and hereditary mental power.

With inferior means, and average mental power, you must be content to give a rude abstraction; but if rude abstraction is to be made, think what a difference there must be between a wise man's and a fool's; and consider what heavy responsibility lies upon you in your youth, to determine, among realities, by what you will be delighted, and, among imaginations, by whose you will be led.

LECTURE IV.

THE TECHNICS OF METAL ENGRAVING.

113. WE are to-day to examine the proper methods for the technical management of the most perfect of the arms of precision possessed by the artist. For you will at once understand that a line cut by a finely-pointed instrument upon the smooth surface of metal is susceptible of the utmost fineness that can be given to the *definite* work of the human hand. In drawing with pen upon paper, the surface of the paper is slightly rough; necessarily, two points touch it instead of one, and the liquid flows from them more or less irregularly, whatever the draughtsman's skill. But you cut a metallic surface with one edge only; the furrow drawn by a skater on the surface of ice is like it on a large scale. Your surface is polished, and your line may be wholly faultless, if your hand is.

114. And because, in such material, effects may be produced which no penmanship could rival, most people, I fancy, think that a steel plate half engraves itself; that the workman has no trouble with it, compared to that of a pen draughtsman.

To test your feeling in this matter accurately, here is a manuscript book written with pen and ink, and illustrated with flourishes and vignettes.

You will all, I think, be disposed, on examining it, to exclaim, How wonderful! and even to doubt the possibility of every page in the book being completed in the same manner. Again, here are three of my own drawings, executed with the pen, and Indian ink, when I was fifteen. They are copies from large lithographs by Prout; and I imagine that most of my pupils would think me very tyrannical if I requested

them to do anything of the kind themselves. And yet, when you see in the shop windows a line engraving like this,* or this,* either of which contains, alone, as much work as fifty pages of the manuscript book, or fifty such drawings as mine, you look upon its effect as quite a matter of course,—you never say ‘how wonderful’ *that is*, nor consider how you would like to have to live, by producing anything of the same kind yourselves.

115. Yet you cannot suppose it is in reality easier to draw a line with a cutting point, not seeing the effect at all, or, if any effect, seeing a gleam of light instead of darkness, than to draw your black line at once on the white paper? You cannot really think † that there is something complacent, sympathetic, and helpful in the nature of steel; so that while a pen-and-ink sketch may always be considered an achievement proving cleverness in the sketcher, a sketch on steel comes out by mere favor of the indulgent metal; or that the plate is woven like a piece of pattern silk, and the pattern is developed by pasteboard cards punched full of holes? Not so. Look close at this engraving, or take a smaller and simpler one, Turner’s Mercury and Argus,—imagine it to be a drawing in pen and ink, and yourself required similarly to produce its parallel! True, the steel point has the one advantage of not blotting, but it has tenfold or twentyfold disadvantage, in that you cannot slur, nor efface, except in a very resolute and laborious way, nor play with it, nor even see what you are doing with it at the moment, far less the effect that is to be. You must *feel* what you are doing with it, and know precisely what you have got to do; how deep, how broad, how far apart your lines must be, etc. and etc., (a couple of lines of etceteras would not be enough to imply all you must know). But sup-

* Miller’s large plate of the Grand Canal, Venice, after Turner; and Goodall’s, of Tivoli, after Turner. The other examples referred to are left in the University Galleries.

† This paragraph was not read at the lecture, time not allowing:—it is part of what I wrote on engraving some years ago, in the papers for the Art Journal, called the Cestus of Aglaia. (Refer now to “On the Old Road.”)



II.

The Star of FLORENCE.

pose the plate *were* only a pen drawing: take your pen—your finest—and just try to copy the leaves that entangle the head of Io, and her head itself; remembering always that the kind of work required here is mere child's play compared to that of fine figure engraving. Nevertheless, take a small magnifying glass to this—count the dots and lines that gradate the nostrils and the edges of the facial bone; notice how the light is left on the top of the head by the stopping, at its outline, of the coarse touches which form the shadows under the leaves; examine it well, and then—I humbly ask of you—try to do a piece of it yourself! You clever sketcher—you young lady or gentleman of genius—you eye-glassed dilettante—you current writer of criticism royally plural,—I beseech you,—do it yourself; do the merely etched outline yourself, if no more. Look you,—you hold your etching needle this way, as you would a pencil, nearly; and then,—you scratch with it! it is as easy as lying. Or if you think that too difficult, take an easier piece;—take either of the light sprays of foliage that rise against the fortress on the right, pass your lens over them—look how their fine outline is first drawn, leaf by leaf; then how the distant rock is put in between, with broken lines, mostly stopping before they touch the leaf-outline; and again, I pray you, do it yourself,—if not on that scale, on a larger. Go on into the hollows of the distant rock,—traverse its thickets,—number its towers;—count how many lines there are in a laurel bush—in an arch—in a casement; some hundred and fifty, or two hundred, deliberately drawn lines, you will find, in every square quarter of an inch;—say *three thousand to the inch*,—each, with skillful intent, put in its place! and then consider what the ordinary sketcher's work must appear, to the men who have been trained to this!

116. “But might not more have been done by three thousand lines to a square inch?” you will perhaps ask. Well, possibly. It may be with lines as with soldiers: three hundred, knowing their work thoroughly, may be stronger than three thousand less sure of their aim. We shall have to press

close home this question about numbers and purpose presently;—it is not the question now. Suppose certain results required,—atmospheric effects, surface textures, transparencies of shade, confusions of light,—then, more could *not* be done with less. There are engravings of this modern school, of which, with respect to their particular aim, it may be said, most truly, they “cannot be better done.”

Here is one just finished,—or, at least, finished to the eyes of ordinary mortals, though its fastidious master means to retouch it;—a quite pure line engraving, by Mr. Charles Henry Jeens; (in calling it pure line, I mean that there are no mixtures of mezzotint or any mechanical tooling, but all is steady hand-work,) from a picture by Mr. Armytage, which, without possessing any of the highest claims to admiration, is yet free from the vulgar vices which disgrace most of our popular religious art; and is so sweet in the fancy of it as to deserve, better than many works of higher power, the pains of the engraver to make it a common possession. It is meant to help us to imagine the evening of the day when the father and mother of Christ had been seeking Him through Jerusalem: they have come to a well where women are drawing water; St. Joseph passes on,—but the tired Madonna, leaning on the well’s margin, asks wistfully of the women if they have seen such and such a child astray. Now will you just look for a while into the lines by which the expression of the weary and anxious face is rendered; see how unerring they are,—how calm and clear; and think how many questions have to be determined in drawing the most minute portion of any one,—its curve,—its thickness,—its distance from the next,—its own preparation for ending, invisibly, where it ends. Think what the precision must be in these that trace the edge of the lip, and make it look quivering with disappointment, or in these which have made the eyelash heavy with restrained tears.

117. Or if, as must be the case with many of my audience, it is impossible for you to conceive the difficulties here overcome, look merely at the draperies, and other varied sub-

stances represented in the plate; see how silk, and linen, and stone, and pottery, and flesh, are all separated in texture, and gradated in light, by the most subtle artifices and appliances of line,—of which artifices, and the nature of the mechanical labor throughout, I must endeavor to give you to-day a more distinct conception than you are in the habit of forming. But as I shall have to blame some of these methods in their general result, and I do not wish any word of general blame to be associated with this most excellent and careful plate by Mr. Jeens, I will pass, for special examination, to one already in your reference series, which for the rest exhibits more various treatment in its combined landscape, background, and figures; the Belle Jardinière of Raphael, drawn and engraved by the Baron Desnoyers.

You see, in the first place, that the ground, stones, and other coarse surfaces are distinguished from the flesh and draperies by broken and wriggled lines. Those broken lines cannot be executed with the burin, they are etched in the early states of the plate, and are a modern artifice, never used by old engravers; partly because the older men were not masters of the art of etching, but chiefly because even those who were acquainted with it would not employ lines of this nature. They have been developed by the importance of landscape in modern engraving, and have produced some valuable results in small plates, especially of architecture. But they are entirely erroneous in principle, for the surface of stones and leaves is not broken or jagged in this manner, but consists of mossy, or blooming, or otherwise organic texture, which cannot be represented by these coarse lines; their general consequence has therefore been to withdraw the mind of the observer from all beautiful and tender characters in foreground, and eventually to destroy the very school of landscape engraving which gave birth to them.

Considered, however, as a means of relieving more delicate textures, they are in some degree legitimate, being, in fact, a kind of chasing or jaggling one part of the plate surface in order to throw out the delicate tints from the rough field,

But the same effect was produced with less pains, and far more entertainment to the eye, by the older engravers, who employed purely ornamental variations of line; thus in Plate IV., opposite § 137, the drapery is sufficiently distinguished from the grass by the treatment of the latter as an ornamental arabesque. The grain of wood is elaborately engraved by Marc Antonio, with the same purpose, in the plate given in your Standard Series.

118. Next, however, you observe what difference of texture and force exists between the smooth, continuous lines themselves, which are all really *engraved*. You must take some pains to understand the nature of this operation.

The line is first cut lightly through its whole course, by absolute decision and steadiness of hand, which you may endeavor to imitate if you like, in its simplest phase, by drawing a circle with your compass-pen; and then, grasping your penholder so that you can push the point like a plow, describing other circles inside or outside of it, in exact parallelism with the mathematical line, and at exactly equal distances. To approach, or depart, with your point at finely gradated intervals, may be your next exercise, if you find the first unexpectedly easy.

119. When the line is thus described in its proper course, it is plowed deeper, where depth is needed, by a second cut of the burin, first on one side, then on the other, the cut being given with gradated force so as to take away most steel where the line is to be darkest. Every line of gradated depth in the plate has to be thus cut eight or ten times over at least, with retouchings to smooth and clear all in the close. Jason has to plow his field ten-furrow deep, with his fiery oxen well in hand, all the while.

When the essential lines are thus produced in their several directions, those which have been drawn across each other, so as to give depth of shade, or richness of texture, have to be farther enriched by dots in the interstices; else there would be a painful appearance of network everywhere; and these dots require each four or five jags to produce them; and

each of these jags must be done with what artists and engravers alike call 'feeling,'—the sensibility, that is, of a hand completely under mental government. So wrought, the dots look soft, and like touches of paint; but mechanically dug in, they are vulgar and hard.

120. Now, observe, that, for every piece of shadow throughout the work, the engraver has to decide with what quantity and kind of line he will produce it. Exactly the same quantity of black, and therefore the same depth of tint in general effect, may be given with six thick lines; or with twelve, of half their thickness; or with eighteen, of a third of the thickness. The second six, second twelve, or second eighteen, may cross the first six, first twelve, or first eighteen, or go between them; and they may cross at any angle. And then the third six may be put between the first six, or between the second six, or across both, and at any angle. In the network thus produced, any kind of dots may be put in the severally shaped interstices. And for any of the series of superadded lines, dots, of equivalent value in shade, may be substituted. (Some engravings are wrought in dots altogether.) Choice infinite, with multiplication of infinity, is, at all events, to be made, for every minute space, from one side of the plate to the other.

121. The excellence of a beautiful engraving is primarily in the use of these resources to exhibit the qualities of the original picture, with delight to the eye in the method of translation; and the language of engraving, when once you begin to understand it, is, in these respects, so fertile, so ingenious, so ineffably subtle and severe in its grammar, that you may quite easily make it the subject of your life's investigation, as you would the scholarship of a lovely literature.

But in doing this, you would withdraw, and necessarily withdraw, your attention from the higher qualities of art, precisely as a grammarian, who is that, and nothing more, loses command of the matter and substance of thought. And the exquisitely mysterious mechanisms of the engraver's method have, in fact, thus entangled the intelligence of the careful

draughtsmen of Europe; so that since the final perfection of this translator's power, all the men of finest patience and finest hand have stayed content with it;—the subtlest draughtsmanship has perished from the canvas,* and sought more popular praise in this labyrinth of disciplined language, and more or less dulled or degraded thought. And, in sum, I know no cause more direct or fatal, in the destruction of the great schools of European art, than the perfectness of modern line engraving.

122. This great and profoundly to be regretted influence I will prove and illustrate to you on another occasion. My object to-day is to explain the perfectness of the art itself; and above all to request you, if you will not look at pictures instead of photographs, at least not to allow the cheap merits of the chemical operation to withdraw your interest from the splendid human labor of the engraver. Here is a little vignette from Stothard, for instance, in Rogers' poems, to the lines,

“Soared in the swing, half pleased and half afraid,
'Neath sister elms, that waved their summer shade.”

You would think, would you not? (and rightly,) that of all difficult things to express with crossed black lines and dots, the face of a young girl must be the most difficult. Yet here you have the face of a bright girl, radiant in light, transparent, mysterious, almost breathing,—her dark hair involved in delicate wreath and shade, her eyes full of joy and sweet playfulness,—and all this done by the exquisite order and gradation of a very few lines, which, if you will examine them through a lens, you find dividing and checkering the lip, and cheek, and chin, so strongly that you would have fancied they could only produce the effect of a grim iron mask. But the intelligences of order and form guide them into beauty, and inflame them with delicatest life.

* An effort has lately been made in France, by Meissonier, Gérôme, and their school, to recover it, with marvelous collateral skill of engravers. The etching of Gérôme's Louis XIV. and Molière is one of the completest pieces of skillful mechanism ever put on metal.

123. And do you see the size of this head? About as large as the bud of a forget-me-not! Can you imagine the fineness of the little pressures of the hand on the steel, in that space, which at the edge of the almost invisible lip, fashioned its less or more of smile?

My chemical friends, if you wish ever to know anything rightly concerning the arts, I very urgently advise you to throw all your vials and washes down the gutter-trap; and if you will ascribe, as you think it so clever to do, in your modern creeds, all virtue to the sun, use that virtue through your own heads and fingers, and apply your solar energies to draw a skillful line or two, for once or twice in your life. You may learn more by trying to engrave, like Goodall, the tip of an ear, or the curl of a lock of hair, than by photographing the entire population of the United States of America,—black, white, and neutral-tint.

And one word, by the way, touching the complaints I hear at my having set you to so fine work that it hurts your eyes. You have noticed that all great sculptors—and most of the great painters of Florence—began by being goldsmiths. Why do you think the goldsmith's apprenticeship is so fruitful? Primarily, because it forces the boy to do small work, and mind what he is about. Do you suppose Michael Angelo learned his business by dashing or hitting at it? He laid the foundation of all his after power by doing precisely what I am requiring my own pupils to do,—copying German engravings in facsimile! And for your eyes—you all sit up at night till you haven't got any eyes worth speaking of. Go to bed at half-past nine, and get up at four, and you'll see something out of them, in time.

124. Nevertheless, whatever admiration you may be brought to feel, and with justice, for this lovely workmanship,—the more distinctly you comprehend its merits, the more distinctly also will the question rise in your mind, How is it that a performance so marvelous has yet taken no rank in the records of art of any permanent or acknowledged kind?

How is it that these vignettes from Stothard and Turner,* like the wood-cuts from Tenniel, scarcely make the name of the engraver known; and that they never are found side by side with this older and apparently ruder art, in the cabinets of men of real judgment? The reason is precisely the same as in the case of the Tenniel wood-cut. This modern line engraving is alloyed gold. Rich in capacity, astonishing in attainment, it nevertheless admits willful fault, and misses what it ought first to have attained. It is therefore, to a certain measure, vile in its perfection; while the older work is noble even in its failure, and classic no less in what it deliberately refuses, than in what it rationally and rightly prefers and performs.

125. Here, for instance, I have enlarged the head of one of Dürer's Madonnas for you out of one of his most careful plates.† You think it very ugly. Well, so it is. Don't be afraid to think so, nor to say so. Frightfully ugly; vulgar also. It is the head, simply, of a fat Dutch girl, with all the pleasantness left out. There is not the least doubt about that. Don't let anybody force Albert Dürer down your throats; nor make you expect pretty things from him. Stothard's young girl in the swing, or Sir Joshua's Age of Innocence, is in quite angelic sphere of another world, compared to this black domain of poor, laborious Albert. We are not talking of female beauty, so please you, just now, gentlemen, but of engraving. And the merit, the classical,

* I must again qualify the too sweeping statement of the text. I think, as time passes, some of these nineteenth century line engravings will become monumental. The first vignette of the garden, with the cut hedges and fountain, for instance, in Rogers' poems, is so consummate in its use of every possible artifice of delicate line, (note the look of *tremulous* atmosphere got by the undulatory etched lines on the pavement, and the broken masses, worked with dots, of the fountain foam,) that I think it cannot but, with some of its companions, survive the refuse of its school, and become classic. I find in like manner, even with all their faults and weaknesses, the vignettes to Heyne's Virgil to be real art-possession.

† Plate XI., in the Appendix, taken from the engraving of the Virgin sitting in the fenced garden, with two angels crowning her.

indefeasible, immortal merit of this head of a Dutch girl with all the beauty left out, is in the fact that every line of it, as engraving, is as good as can be;—good, not with the mechanical dexterity of a watch-maker, but with the intellectual effort and sensitiveness of an artist who knows precisely what can be done, and ought to be attempted, with his assigned materials. He works easily, fearlessly, flexibly; the dots are not all measured in distance; the lines not all mathematically parallel or divergent. He has even missed his mark at the mouth in one place, and leaves the mistake, frankly. But there are no petrified mistakes; nor is the eye so accustomed to the look of the mechanical furrow as to accept it for final excellence. The engraving is full of the painter's higher power and wider perception; it is classically perfect, because duly subordinate, and presenting for your applause only the virtues proper to its own sphere. Among these, I must now reiterate, the first of all is the *decorative* arrangement of *lines*.

126. You all know what a pretty thing a damask tablecloth is, and how a pattern is brought out by threads running one way in one space, and across in another. So, in lace, a certain delightfulness is given by the texture of meshed lines.

Similarly, on any surface of metal, the object of the engraver is, or ought to be, to cover it with lovely *lines*, forming a lace-work, and including a variety of spaces, delicious to the eye.

And this is his business, primarily; before any other matter can be thought of, his work must be ornamental. You know I told you a sculptor's business is first to cover a surface with pleasant *bosses*, whether they mean anything or not; so an engraver's is to cover it with pleasant *lines*, whether they mean anything or not. That they should mean something, and a good deal of something, is indeed desirable afterwards; but first we must be ornamental.

127. Now if you will compare Plate II. at the beginning of this lecture, which is a characteristic example of good Florentine engraving, and represents the Planet and power

of Aphrodite, with the Aphrodite of Bewick in the upper division of Plate I., you will at once understand the difference between a primarily ornamental, and a primarily realistic, style. The first requirement in the Florentine work, is that it shall be a lovely arrangement of lines; a pretty thing upon a page. Bewick *has* a secondary notion of making his vignette a pretty thing upon a page. But he is overpowered by his vigorous veracity, and bent first on giving you his idea of Venus. Quite right, he would have been, mind you, if he had been carving a statue of her on Mount Eryx; but not when he was engraving a vignette to Æsop's fables. To engrave well is to ornament a surface well, not to create a realistic impression. I beg your pardon for my repetitions; but the point at issue is the root of the whole business, and I *must* get it well asserted, and variously.

Let me pass to a more important example.

128. Three years ago, in the rough first arrangement of the copies in the Educational Series, I put an outline of the top of Apollo's scepter, which, in the catalogue, was said to be probably by Baccio Bandini of Florence, for your first real exercise; it remains so, the olive being put first only for its mythological rank.

The series of engravings to which the plate from which that exercise is copied belongs, are part of a number, executed chiefly, I think, from early designs of Sandro Botticelli, and some in great part by his hand. He and his assistant, Baccio, worked together; and in such harmony, that Bandini probably often does what Sandro wants, better than Sandro could have done it himself; and, on the other hand, there is no design of Bandini's over which Sandro does not seem to have had influence.

And wishing now to show you three examples of the finest work of the old, the renaissance, and the modern schools,—of the old, I will take Baccio Bandini's *Astrologia*, Plate III., opposite. Of the renaissance, Dürer's Adam and Eve. And of the modern, this head of the daughter of Herodias, engraved from Luini by Beaugrand, which is as affection-



C.

ASTROLOGIA

III

III.

"At ev'ning from the top of Fesole."

ately and sincerely wrought, though in the modern manner, as any plate of the old schools.

129. Now observe the progress of the feeling for light and shade in the three examples.

The first is nearly all white paper; you think of the outline as the constructive element throughout.

The second is a vigorous piece of *white* and *black*.—not of *light* and *shade*,—for all the high lights are equally white, whether of flesh, or leaves, or goat's hair.

The third is complete in *chiaroscuro*, as far as engraving can be.

Now the dignity and virtue of the plates is in the exactly inverse ratio of their fullness in *chiaroscuro*.

Bandini's is excellent work, and of the very highest school. Dürer's entirely accomplished work, but of an inferior school. And Beaugrand's, excellent work, but of a vulgar and non-classical school.

And these relations of the schools are to be determined by the quality in the *lines*; we shall find that in proportion as the light and shade is neglected, the lines are studied; that those of Bandini are perfect; of Dürer perfect, only with a lower perfection; but of Beaugrand, entirely faultful.

130. I have just explained to you that in modern engraving the lines are cut in clean furrow, widened, it may be, by successive cuts; but, whether it be fine or thick, retaining always, when printed, the aspect of a continuous line drawn with the pen, and entirely black throughout its whole course.

Now we may increase the delicacy of this line to any extent by simply printing it in gray color instead of black. I obtained some very beautiful results of this kind in the later volumes of 'Modern Painters,' with Mr. Armytage's help, by using subdued purple tints; but, in any case, the line thus engraved must be monotonous in its character, and cannot be expressive of the finest qualities of form.

Accordingly, the old Florentine workmen constructed the line *itself*, in important places, of successive minute touches, so that it became a chain of delicate links which could be

opened or closed at pleasure.* If you will examine through a lens the outline of the face of this Astrology, you will find it is traced with an exquisite series of minute touches, susceptible of accentuation or change absolutely at the engraver's pleasure; and, in result, corresponding to the finest conditions of a pencil line drawing by a consummate master. In the fine plates of this period, you have thus the united powers of the pen and pencil, and both absolutely secure and multipliable.

131. I am a little proud of having independently discovered, and had the patience to carry out, this Florentine method of execution for myself, when I was a boy of thirteen. My good drawing-master had given me some copies calculated to teach me freedom of hand; the touches were rapid and vigorous,—many of them in mechanically regular zigzags, far beyond any capacity of mine to imitate in the bold way in which they were done. But I was resolved to have them, somehow; and actually facsimiled a considerable portion of the drawing in the Florentine manner, with the finest point I could cut to my pencil, taking a quarter of an hour to forge out the likeness of one return in the zigzag which my master carried down through twenty returns in two seconds; and so successfully, that he did not detect my artifice till I showed it him,—on which he forbade me ever to do the like again. And it was only thirty years afterwards that I found I had been quite right after all, and working like Baccio Bandini! But the patience which carried me through that early effort, served me well through all the thirty years, and enabled me to analyze, and in a measure imitate, the method of work employed by every master; so that, whether you believe me or not at first, you

* The method was first developed in engraving designs on silver—numbers of lines being executed with dots by the punch, for variety's sake. For niello, and printing, a transverse cut was substituted for the blow. The entire style is connected with the later Roman and Byzantine method of drawing lines with the drill hole, in marble. See above, Lecture II., Section 70.

will find what I tell you of their superiority, or inferiority, to be true.

132. When lines are studied with this degree of care, you may be sure the master will leave room enough for you to see them and enjoy them, and not use any at random. All the finest engravers, therefore, leave much white paper, and use their entire power on the outlines.

133. Next to them come the men of the Renaissance schools, headed by Dürer, who, less careful of the beauty and refinement of the line, delight in its vigor, accuracy, and complexity. And the essential difference between these men and the moderns is that these central masters cut their line for the most part with a single furrow, giving it depth by force of hand or wrist, and retouching, *not in the furrow itself, but with others beside it.** Such work can only be done well on copper, and it can display all faculty of hand or wrist, precision of eye, and accuracy of knowledge, which a human creature can possess. But the dotted or hatched line is not used in this central style, and the higher conditions of beauty never thought of.

In the Astrology of Bandini,—and remember that the Astrologia of the Florentine meant what we mean by Astronomy, and much more,—he wishes you first to look at the face: the lip half open, faltering in wonder; the amazed, intense, dreaming gaze; the pure dignity of forehead, undisturbed by terrestrial thought. None of these things could be so much as attempted in Dürer's method; he can engrave flowing hair, skin of animals, bark of trees, wreathings of metal-work, with the free hand; also, with labored chiar-oscuro, or with sturdy line, he can reach expressions of sadness, or gloom, or pain, or soldierly strength,—but pure beauty,—never.

134. Lastly, you have the Modern school, deepening its lines in successive cuts. The instant consequence of the introduction of this method is the restriction of curvature;

* This most important and distinctive character was pointed out to me by Mr. Burgess,

you cannot follow a complex curve again with precision through its furrow. If you are a dexterous plowman, you can drive your plow any number of times along the simple curve. But you cannot repeat again exactly the motions which cut a variable one.* You may retouch it, energize it, and deepen it in parts, but you cannot cut it all through again equally. And the retouching and energizing in parts is a living and intellectual process; but the cutting all through, equally, a mechanical one. The difference is exactly such as that between the dexterity of turning out two similar moldings from a lathe, and carving them with the free hand, like a Pisan sculptor. And although splendid intellect, and subtlest sensibility, have been spent on the production of some modern plates, the mechanical element introduced by their manner of execution always overpowers both; nor can any plate of consummate value ever be produced in the modern method.

135. Nevertheless, in landscape, there are two examples in your Reference series, of insuperable skill and extreme beauty: Miller's plate, before instanced, of the Grand Canal, Venice; and E. Goodall's of the upper fall of the Tees. The men who engraved these plates might have been exquisite artists; but their patience and enthusiasm were held captive in the false system of lines, and we lost the painters; while the engravings, wonderful as they are, are neither of them worth a Turner etching, scratched in ten minutes with the point of an old fork; and the common types of such elaborate engraving are none of them worth a single frog, pig, or puppy, out of the corner of a Bewick vignette.

136. And now, I think, you cannot fail to understand clearly what you are to look for in engraving, as a separate art from that of painting. Turn back to the 'Astrologia' as a perfect type of the purest school. She is gazing at stars, and crowned with them. But the stars are *black* instead of shining! You cannot have a more decisive and absolute proof that you must not look in engraving for chiaroscuro.

* This point will be further examined and explained in the Appendix.



IV.

"By the Springs of PARNASSUS."

Nevertheless, her body is half in shade, and her left foot; and she casts a shadow, and there is a bar of shade behind her.

All these are merely so much acceptance of shade as may relieve the forms, and give value to the linear portions. The face, though turned from the light, is shadowless.

Again. Every lock of the hair is designed and set in its place with the subtlest care, but there is no luster attempted,—no texture,—no mystery. The plumes of the wings are set studiously in their places,—they, also, lusterless. That even their filaments are not drawn, and that the broad curve embracing them ignores the anatomy of a bird's wing, are conditions of design, not execution. Of these in a future lecture.*

137. The 'Poesia,' Plate IV., opposite, is a still more severe, though not so generic, an example; its decorative foreground reducing it almost to the rank of goldsmith's ornamentation. I need scarcely point out to you that the flowing water shows neither luster nor reflection; but notice that the observer's attention is supposed to be so close to every dark touch of the graver that he will see the minute dark spots which indicate the sprinkled shower falling from the vase into the pool.

138. This habit of strict and calm attention, constant in the artist, and expected in the observer, makes all the difference between the art of Intellect, and of mere sensation. For every detail of this plate has a meaning, if you care to understand it. This is Poetry, sitting by the fountain of Castalia, which flows first out of a formal urn, to show that it is not artless; but the rocks of Parnassus are behind, and on the top of them—only one tree, like a mushroom with a thick stalk. You at first are inclined to say, How very absurd, to put only one tree on Parnassus! but this one tree is the Immortal Plane Tree, planted by Agamemnon, and at once connects our Poesia with the Iliad. Then, this

* See Appendix, Article I.

is the hem of the robe of Poetry,—this is the divine vegetation which springs up under her feet,—this is the heaven and earth united by her power,—this is the fountain of Castalia flowing out afresh among the grass,—and these are the drops with which, out of a pitcher, Poetry is nourishing the fountain of Castalia.

All which you may find out if you happen to know anything about Castalia, or about poetry; and pleasantly think more upon, for yourself. But the poor dunces, Sandro and Baccio, feeling themselves but ‘goffi nell’ arte,’ have no hope of telling you all this, except suggestively. They can’t engrave grass of Parnassus, nor sweet springs so as to look like water; but they can make a pretty damasked surface with ornamental leaves, and flowing lines, and so leave you something to think of—if you will.

139. ‘But a great many people won’t, and a great many more can’t; and surely the finished engravings are much more delightful, and the only means we have of giving any idea of finished pictures, out of our reach.’

Yes, all that is true; and when we examine the effects of line engraving upon taste in recent art, we will discuss these matters; for the present, let us be content with knowing what the best work is, and why it is so. Although, however, I do not now press further my cavils at the triumph of modern line engraving, I must assign to you, in few words, the reason of its recent decline. Engravers complain that photography and cheap wood-cutting have ended their finer craft. No complaint can be less grounded. They themselves destroyed their own craft, by vulgarizing it. Content in their beautiful mechanism, they ceased to learn, and to feel, as artists; they put themselves under the order of publishers and print-sellers; they worked indiscriminately from whatever was put into their hands,—from Bartlett as willingly as from Turner, and from Mulready as carefully as from Raphael. They filled the windows of print-sellers, the pages of gift books, with elaborate rubbish, and piteous abortions of delicate industry. They worked cheap, and cheaper,—smoothly, and

more smoothly,—they got armies of assistants, and surrounded themselves with schools of mechanical tricksters, learning their stale tricks with blundering avidity. They had fallen—before the days of photography—into providers of frontispieces for housekeepers' pocket-books. I do not know if photography itself, their redoubted enemy, has even now ousted them from that last refuge.

140. Such the fault of the engraver,—very pardonable; scarcely avoidable,—however fatal. Fault mainly of humility. But what has *your* fault been, gentlemen? what the patrons' fault, who have permitted so wide waste of admirable labor, so pathetic a uselessness of obedient genius? It was yours to have directed, yours to have raised and rejoiced in, the skill, the modesty, the patience of this entirely gentle and industrious race;—copyists with their *heart*. The common painter-copyists who encumber our European galleries with their easels and pots, are, almost without exception, persons too stupid to be painters, and too lazy to be engravers. The real copyists—the men who can put their soul into another's work—are employed at home, in their narrow rooms, striving to make their good work profitable to all men. And in their submission to the public taste they are truly national servants as much as Prime Ministers are. They fulfill the demand of the nation; what, as a people, you wish to have for possession in art, these men are ready to give you.

And what have you hitherto asked of them?—Ramsgate Sands, and Dolly Vardens, and the Paddington Station,—these, I think, are typical of your chief demands; the cartoons of Raphael—which you don't care to see themselves; and, by way of a flight into the empyrean, the Madonna di San Sisto. And literally, there are hundreds of cities and villages in Italy in which roof and wall are blazoned with the noblest divinity and philosophy ever imagined by men; and of all this treasure, I can, as far as I know, give you not *one* example, in line engraving, by an English hand!

Well, you are in the main matter right in this. You want

essentially Ramsgate Sands and the Paddington Station, because there you can see yourselves.

Make yourselves, then, worthy to be seen forever, and let English engraving become noble as the record of English loveliness and honor.

LECTURE V.

DESIGN IN THE GERMAN SCHOOLS OF ENGRAVING.

141. BY reference to the close of the preface to 'Eagle's Nest,' you will see, gentlemen, that I meant these lectures, from the first, rather to lead you to the study of the characters of two great men, than to interest you in the processes of a secondary form of art. As I draw my materials into the limited form necessary for the hour, I find my divided purpose doubly failing; and would fain rather use my time to-day in supplying the defects of my last lecture, than in opening the greater subject, which I must treat with still more lamentable inadequacy. Nevertheless, you must not think it is for want of time that I omit reference to other celebrated engravers, and insist on the special power of these two only. Many not inconsiderable reputations are founded merely on the curiosity of collectors of prints, or on partial skill in the management of processes; others, though resting on more secure bases, are still of no importance to you in the general history of art; whereas you will find the work of Holbein and Botticelli determining for you, without need of any farther range, the principal questions of moment in the relation of the Northern and Southern schools of design. Nay, a wider method of inquiry would only render your comparison less accurate in result. It is only in Holbein's majestic range of capacity, and only in the particular phase of Teutonic life which his art adorned, that the problem can be dealt with on fair terms. We Northerns can advance no fairly comparable antagonist to the artists of the South, except at that one moment, and in that one man. Rubens cannot for an instant be matched with Tintoret, nor Memling with Lippi; while

Reynolds only rivals Titian in what he learned from him. But in Holbein and Botticelli we have two men trained independently, equal in power of intellect, similar in material and mode of work, contemporary in age, correspondent in disposition. The relation between them is strictly typical of the constant aspects to each other of the Northern and Southern schools.

142. Their point of closest contact is in the art of engraving, and this art is developed entirely as the servant of the great passions which perturbed or polluted Europe in the fifteenth century. The impulses which it obeys are all new; and it obeys them with its own nascent plasticity of temper. Painting and sculpture are only modified by them; but engraving is educated.

These passions are in the main three; namely,

1. The thirst for classical literature, and the forms of proud and false taste which arose out of it, in the position it had assumed as the enemy of Christianity.
2. The pride of science, enforcing (in the particular domain of Art) accuracy of perspective, shade, and anatomy, never before dreamed of.
3. The sense of error and iniquity in the theological teaching of the Christian Church, felt by the highest intellects of the time, and necessarily rendering the formerly submissive religious art impossible.

To-day, then, our task is to examine the peculiar characters of the Design of the Northern Schools of Engraving, as affected by these great influences.

143. I have not often, however, used the word 'design,' and must clearly define the sense in which I now use it. It is vaguely used in common art-parlance; often as if it meant merely the drawing of a picture, as distinct from its color; and in other still more inaccurate ways. The accurate and proper sense, underlying all these, I must endeavor to make clear to you.

'Design' properly signifies that power in any art-work which has a purpose other than of imitation, and which is

'designed,' composed, or separated to that end. It implies the rejection of some things, and the insistence upon others, with a given object.*

Let us take progressive instances. Here is a group of prettily dressed peasant children, charmingly painted by a very able modern artist—not absolutely without design, for he really wishes to show you how pretty peasant children can be, (and, in so far, is wiser and kinder than Murillo, who likes to show how ugly they can be); also, his group is agreeably arranged, and its component children carefully chosen. Nevertheless, any summer's day, near any country village, you may come upon twenty groups in an hour as pretty as this; and may see—if you have eyes—children in them twenty times prettier than these. A photograph, if it could render them perfectly, and in color, would far excel the charm of this painting; for in it, good and clever as it is, there is nothing supernatural, and much that is subnatural.

144. Beside this group of, in every sense of the word, 'artless' little country girls, I will now set one—in the best sense of the word—'artful' little country girl,—a sketch by Gainsborough.

You never saw her like before. Never will again, now that Gainsborough is dead. No photography,—no science,—

* If you paint a bottle only to amuse the spectator by showing him how like a painting may be to a bottle, you cannot be considered, in art-philosophy, as a designer. But if you paint the cork flying out of the bottle, and the contents arriving in an arch at the mouth of a recipient glass, you are so far forth a designer or signer; probably meaning to express certain ultimate facts respecting, say, the hospitable disposition of the landlord of the house; but at all events representing the bottle and glass in a designed, and not merely natural, manner. Not merely natural—nay, in some sense non-natural, or supernatural. And all great artists show both this fantastic condition of mind in their work, and show that it has arisen out of a communicative or didactic purpose. They are the Signpainters of God.

I have added this note to the lecture in copying my memoranda of it here at Assisi, June 9th, being about to begin work in the Tavern, or Tabernaculum, of the Lower Church, with its variously significant four great 'signs.'

no industry, will touch or reach for an instant this *supernaturalness*. You will look vainly through the summer fields for such a child. "Nor up the lawn, nor by the wood," is she. Whence do you think this marvelous charm has come? Alas! if we knew, would not we all be Gainsboroughs? This only you may practically ascertain, as surely as that a flower will die if you cut its root away, that you cannot alter a single touch in Gainsborough's work without injury to the whole. Half a dozen spots, more or less, in the printed gowns of these other children whom I first showed you, will not make the smallest difference to them; nor a lock or two more or less in their hair, nor a dimple or two more or less in their cheeks. But if you alter one wave of the hair of Gainsborough's girl, the child is gone. Yet the art is so subtle, that I do not expect you to believe this. It looks so instinctive, so easy, so 'chanceux,'—the French word is better than ours. Yes, and in their more accurate sense, also, 'Il a de la chance.' A stronger Designer than he was with him. He could not tell you himself how the thing was done.

145. I proceed to take a more definite instance—this Greek head of the Lacinian Juno. The design or appointing of the forms now entirely prevails over the resemblance to Nature. No real hair could ever be drifted into these wild lines, which mean the wrath of the Adriatic winds round the Cape of Storms.

And yet, whether this be uglier or prettier than Gainsborough's child—(and you know already what *I* think about it, that no Greek goddess was ever half so pretty as an English girl, of pure clay and temper,)—uglier or prettier, it is more dignified and impressive. It at least belongs to the domain of a lordlier, more majestic, more guiding and ordaining art.

146. I will go back another five hundred years, and place an Egyptian beside the Greek divinity. The resemblance to Nature is now all but lost, the ruling law has become all. The lines are reduced to an easily counted number, and their arrangement is little more than a decorative sequence of pleasant curves cut in porphyry,—in the upper part of their

contour following the outline of a woman's face in profile, over-crested by that of a hawk, on a kind of pedestal. But that the sign-engraver meant by his hawk, Immortality, and by her pedestal, the House or Tavern of Truth, is of little importance now to the passing traveler, not yet preparing to take the sarcophagus for his place of rest.

147. How many questions are suggested to us by these transitions! Is beauty contrary to law, and grace attainable only through license? What we gain in language, shall we lose in thought? and in what we add of labor, more and more forget its ends?

Not so.

Look at this piece of Sandro's work, the Libyan Sibyl.*

It is as ordered and normal as the Egyptian's—as graceful and facile as Gainsborough's. It retains the majesty of old religion; it is invested with the joy of newly awakened childhood.

Mind, I do not expect you—do not wish you—to enjoy Botticelli's dark engraving as much as Gainsborough's aerial sketch; for due comparison of the men, painting should be put beside painting. But there is enough even in this copy of the Florentine plate to show you the junction of the two powers in it—of prophecy, and delight.

148. Will these two powers, do you suppose, be united in the same manner in the contemporary Northern art? That Northern school is my subject to-day; and yet I give you, as type of the intermediate condition between Egypt and England—not Holbein, but Botticelli. I am obliged to do this; because in the Southern art, the religious temper remains unconquered by the doctrines of the Reformation. Botticelli was—what Luther wished to be, but could not be—a reformer still believing in the Church: his mind is at peace; and his art, therefore, can pursue the delight of beauty, and yet remain prophetic. But it was far otherwise in Germany. There the Reformation of manners became the destruction of faith; and art therefore, not a prophecy, but a protest. It is

* Plate X., Lecture VI.

the chief work of the greatest Protestant who ever lived,* which I ask you to study with me to-day.

149. I said that the power of engraving had developed itself during the introduction of three new—(practically and vitally new, that is to say)—elements, into the minds of men: elements which briefly may be expressed thus:

1. Classicism, and Literary Science.
2. Medicine, and Physical Science.†
3. Reformation, and Religious Science.

And first of Classicism.

You feel, do not you, in this typical work of Gainsborough's, that his subject as well as his picture is 'artless' in a lovely sense;—nay, not only artless, but ignorant, and unscientific, in a beautiful way? You would be afterwards remorseful, I think, and angry with yourself—seeing the effect produced on her face—if you were to ask this little lady to spell a very long word? Also, if you wished to know how many times the sevens go in forty-nine, you would perhaps wisely address yourself elsewhere. On the other hand, you do not doubt that *this* lady ‡ knows very well how many times the sevens go in forty-nine, and is more Mistress of Arts than any of us are Masters of them.

150. You have then, in the one case, a beautiful simplicity, and a blameless ignorance; in the other, a beautiful artfulness, and a wisdom which you do not dread,—or, at least, even though dreading, love. But you know also that we may

* I do not mean the greatest teacher of reformed faith; but the greatest protestant against faith unreformed.

† It has become the permitted fashion among modern mathematicians, chemists, and apothecaries, to call themselves 'scientific men,' as opposed to theologians, poets, and artists. They know their sphere to be a separate one; but their ridiculous notion of its being a peculiarly scientific one ought not to be allowed in our Universities. There is a science of Morals, a science of History, a science of Grammar, a science of Music, and a science of Painting; and all these are quite beyond comparison higher fields for human intellect, and require accuracies of intenser observation, than either chemistry, electricity, or geology.

‡ The Cumæan Sibyl, Plate VII., Lecture VI.

remain in a hateful and culpable ignorance; and, as I fear too many of us in competitive effort feel, become possessed of a hateful knowledge.

Ignorance, therefore, is not evil absolutely; but, innocent, may be lovable.

Knowledge also is not good absolutely; but, guilty, may be hateful.

So, therefore, when I now repeat my former statement, that the first main opposition between the Northern and Southern schools is in the simplicity of the one, and the scholarship of the other, that statement may imply sometimes the superiority of the North, and sometimes of the South. You may have a heavenly simplicity opposed to a hellish (that is to say, a lustful and arrogant) scholarship; or you may have a barbarous and presumptuous ignorance opposed to a divine and disciplined wisdom. Ignorance opposed to learning in both cases; but evil to good, as the case may be.

151. For instance: the last time I was standing before Raphael's arabesques in the Loggias of the Vatican, I wrote down in my pocket-book the description, or, more modestly speaking, the inventory, of the small portion of that infinite wilderness of sensual fantasy which happened to be opposite me. It consisted of a woman's face, with serpents for hair, and a virgin's breasts, with stumps for arms, ending in blue butterflies' wings, the whole changing at the waist into a goat's body, which ended below in an obelisk upside-down, to the apex at the bottom of which were appended, by graceful chains, an altar, and two bunches of grapes.

Now you know in a moment, by a glance at this 'design'—beautifully struck with free hand, and richly gradated in color,—that the master was familiar with a vast range of art and literature: that he knew all about Egyptian sphinxes, and Greek Gorgons; about Egyptian obelisks, and Hebrew altars; about Hermes, and Venus, and Bacchus, and satyrs, and goats, and grapes.

You know also—or ought to know, in an instant,—that all this learning has done him no good; that he had better have

known nothing than any of these things, since they were to be used by him only to such purpose; and that his delight in armless breasts, legless trunks, and obelisks upside-down, has been the last effort of his expiring sensation, in the grasp of corrupt and altogether victorious Death. And you have thus, in Gainsborough as compared with Raphael, a sweet, sacred, and living simplicity, set against an impure, profane, and paralyzed knowledge.

152. But, next, let us consider the reverse conditions.

Let us take instance of contrast between faultful and treacherous ignorance, and divinely pure and fruitful knowledge.

In the place of honor at the end of one of the rooms of your Royal Academy—years ago—stood a picture by an English Academician, announced as a representation of Moses sustained by Aaron and Hur, during the discomfiture of Amalek. In the entire range of the Pentateuch, there is no other scene (in which the visible agents are mortal only) requiring so much knowledge and thought to reach even a distant approximation to the probabilities of the fact. One saw in a moment that the painter was both powerful and simple, after a sort; that he had really sought for a vital conception, and had originally and earnestly read his text, and formed his conception. And one saw also in a moment that he had chanced upon this subject, in reading or hearing his Bible, as he might have chanced on a dramatic scene accidentally in the street. That he knew nothing of the character of Moses,—nothing of his law,—nothing of the character of Aaron, nor of the nature of a priesthood,—nothing of the meaning of the event which he was endeavoring to represent, of the temper in which it would have been transacted by its agents, or of its relations to modern life.

153. On the contrary, in the fresco of the earlier scenes in the life of Moses, by Sandro Botticelli, you know—not ‘in a moment,’ for the knowledge of knowledge cannot be so obtained; but in proportion to the discretion of your own reading, and to the care you give to the picture, you *may* know,—

that here is a sacredly guided and guarded learning; here a Master indeed, at whose feet you may sit safely, who can teach you, better than in words, the significance of both Moses' law and Aaron's ministry; and not only these, but, if he chose, could add to this an exposition as complete of the highest philosophies both of the Greek nation, and of his own; and could as easily have painted, had it been asked of him, Draco, or Numa, or Justinian, as the herdsman of Jethro.

154. It is rarely that we can point to an opposition between faultful, because insolent, ignorance, and virtuous, because gracious, knowledge, so direct, and in so parallel elements, as in this instance. In general, the analysis is much more complex. It is intensely difficult to indicate the mischief of involuntary and modest ignorance, calamitous only in a measure; fruitful in its lower field, yet sorrowfully condemned to that lower field—not by sin, but fate.

When first I introduced you to Bewick, we closed our too partial estimate of his entirely magnificent powers with one sorrowful concession—he could draw a pig, but not a Venus.

Eminently he could so, because—which is still more sorrowfully to be conceded—he liked the pig best. I have put now in your educational series a whole galaxy of pigs by him; but, hunting all the fables through, I find only one Venus, and I think you will all admit that she is an unsatisfactory Venus.* There is honest simplicity here; but you regret it; you miss something that you find in Holbein, much more in Botticelli. You see in a moment that this man knows nothing of Sphinxes, or Muses, or Graces, or Aphrodites; and, besides, that, knowing nothing, he would have no liking for them even if he saw them; but much prefers the style of a well-to-do English housekeeper with corkscrew curls, and a portly person.

155. You miss something, I said, in Bewick which you find in Holbein. But do you suppose Holbein himself, or any other Northern painter, could wholly quit himself of the like accusations? I told you, in the second of these lectures,

* Lecture III., § 101.

that the Northern temper, refined from savageness, and the Southern, redeemed from decay, met, in Florence. Holbein and Botticelli are the purest types of the two races. Holbein is a civilized boor; Botticelli a reanimate Greek. Holbein was polished by companionship with scholars and kings, but remains always a burgher of Augsburg in essential nature. Bewick and he are alike in temper; only the one is untaught, the other perfectly taught. But Botticelli *needs* no teaching. He is, by his birth, scholar and gentleman to the heart's core. Christianity itself can only inspire him, not refine him. He is as tried gold chased by the jeweler,—the roughest part of him is the outside.

Now how differently must the newly recovered scholastic learning tell upon these two men. It is all out of Holbein's way; foreign to his nature, useless at the best, probably cumbersome. But Botticelli receives it as a child in later years recovers the forgotten dearness of a nursery tale; and is more himself, and again and again himself, as he breathes the air of Greece, and hears, in his own Italy, the lost voice of the Sibil murmur again by the Avernus Lake.

156. It is not, as we have seen, every one of the Southern race who can thus receive it. But it graces them all; is at once a part of their being; destroys them, if it is to destroy, the more utterly because it so enters into their natures. It destroys Raphael; but it graces him, and is a part of him. It all but destroys Mantegna; but it graces him. And it does not hurt Holbein, just because it does *not* grace him—never is for an instant a part of him. It is with Raphael as with some charming young girl who has a new and beautifully made dress brought to her, which entirely becomes her,—so much, that in a little while, thinking of nothing else, she becomes *it*; and is only the decoration of her dress. But with Holbein it is as if you brought the same dress to a stout farmer's daughter who was going to dine at the Hall; and begged her to put it on that she might not discredit the company. She puts it on to please you; looks entirely ridiculous in it, but is not spoiled by it,—remains herself, in spite of it.

157. You probably have never noticed the extreme awkwardness of Holbein in wearing this new dress; you would the less do so because his own people think him all the finer for it, as the farmer's wife would probably think her daughter. Dr. Woltmann, for instance, is enthusiastic in praise of the splendid architecture in the background of his Annunciation. A fine mess it must have made in the minds of simple German maidens, in their notion of the Virgin at home! I cannot show you this Annunciation; but I have under my hand one of Holbein's Bible cuts, of the deepest seriousness



and import—his illustration of the Canticles, showing the Church as the bride of Christ.

You could not find a subject requiring more tenderness, purity, or dignity of treatment. In this maid, symbolizing the Church, you ask for the most passionate humility, the most angelic beauty: "Behold, thou art fair, my dove." Now here is Holbein's ideal of that fairness; here is his "Church as the Bride."

I am sorry to associate this figure in your minds, even for a moment, with the passages it is supposed to illustrate; but the lesson is too important to be omitted. Remember, Hol-

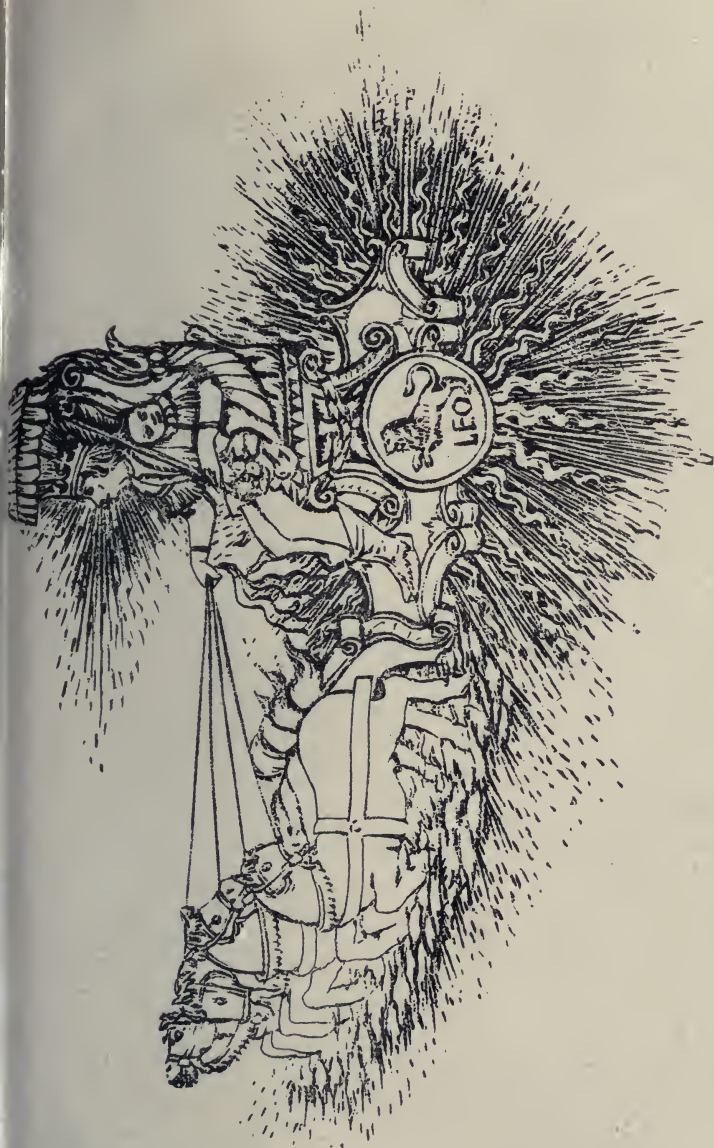
bein represents the temper of Northern Reformation. He has all the nobleness of that temper, but also all its baseness. He represents, indeed, the revolt of German truth against Italian lies; but he represents also the revolt of German animalism against Hebrew imagination. This figure of Holbein's is half-way from Solomon's mystic bride, to Rembrandt's wife, sitting on his knee while he drinks.

But the key of the question is not in this. Florentine animalism has at this time, also, enough to say for itself. But Florentine animalism, at this time, feels the joy of a gentleman, not of a churl. And a Florentine, whatever he does,—be it virtuous or sinful, chaste or lascivious, severe or extravagant,—does it with a grace.

158. You think, perhaps, that Holbein's Solomon's bride is so ungraceful chiefly because she is overdressed, and has too many feathers and jewels. No; a Florentine would have put any quantity of feathers and jewels on her, and yet never lost her grace. You shall see him do it, and that to a fantastic degree, for I have an example under my hand. Look back, first, to Bewick's Venus (Lecture III.). You can't accuse her of being overdressed. She complies with every received modern principle of taste. Sir Joshua's precept that drapery should be "drapery, and nothing more," is observed more strictly even by Bewick than by Michael Angelo. If the absence of decoration could exalt the beauty of his Venus, here had been her perfection.

Now look back to Plate II. (Lecture IV.), by Sandro; Venus in her planet, the ruling star of Florence. Anything more grotesque in conception, more unrestrained in fancy of ornament; you cannot find, even in the final days of the Renaissance. Yet Venus holds her divinity through all; she will become majestic to you as you gaze; and there is not a line of her chariot wheels, of her buskins, or of her throne, which you may not see was engraved by a gentleman.

159. Again, Plate V., opposite, is a facsimile of another engraving of the same series—the Sun in Leo. It is even more extravagant in accessories than the Venus. You see



V.

“Heat considered as a Mode of Motion.”

Florentine Natural Philosophy.

the Sun's epaulets before you see the sun; the spiral scrolls of his chariot, and the black twisted rays of it, might, so far as types of form only are considered, be a design for some modern court-dress star, to be made in diamonds. And yet all this wild ornamentation is, if you will examine it, more purely Greek in spirit than the Apollo Belvedere.

You know I have told you, again and again, that the soul of Greece is her veracity; that what to other nations were fables and symbolisms, to her became living facts—living gods. The fall of Greece was instant when her gods again became fables. The Apollo Belvedere is the work of a sculptor to whom Apollonism is merely an elegant idea on which to exhibit his own skill. He does not himself feel for an instant that the handsome man in the unintelligible attitude,* with drapery hung over his left arm, as it would be hung to dry over a clothes-line, is the Power of the Sun. But the Florentine believes in Apollo with his whole mind, and is trying to explain his strength in every touch.

For instance; I said just now, "You see the sun's epaulets before the sun." Well, *don't* you, usually, as it rises? Do you not continually mistake a luminous cloud for it, or wonder where it is, behind one? Again, the face of the Apollo Belvedere is agitated by anxiety, passion, and pride. Is the sun's likely to be so, rising on the evil and the good? This Prince sits crowned and calm: look at the quiet fingers of the hand holding the scepter,—at the restraint of the reins merely by a depression of the wrist.

160. You have to look carefully for those fingers holding the scepter, because the hand—which a great anatomist would have made so exclusively interesting—is here confused with the ornamentation of the arm of the chariot on which it rests.

* I read somewhere, lately, a new and very ingenious theory about the attitude of the Apollo Belvedere, proving, to the author's satisfaction, that the received notion about watching the arrow was all a mistake. The paper proved, at all events, one thing—namely, the statement in the text. For an attitude which has been always hitherto taken to mean one thing, and is plausibly asserted now to mean another, must be in itself unintelligible.

But look what the ornamentation is;—fruit and leaves, abundant, in the mouth of a cornucopia. A quite vulgar and meaningless ornament in ordinary renaissance work. Is it so here, think you? Are not the leaves and fruits of earth in the Sun's hand?*

You thought, perhaps, when I spoke just now of the action of the right hand, that less than a depression of the wrist would stop horses such as those. You fancy Botticelli drew them so, because he had never seen a horse; or because, able to draw fingers, he could not draw hoofs! How fine it would be to have, instead, a prancing four-in-hand, in the style of Piccadilly on the Derby-day, or at least horses like the real Greek horses of the Parthenon!

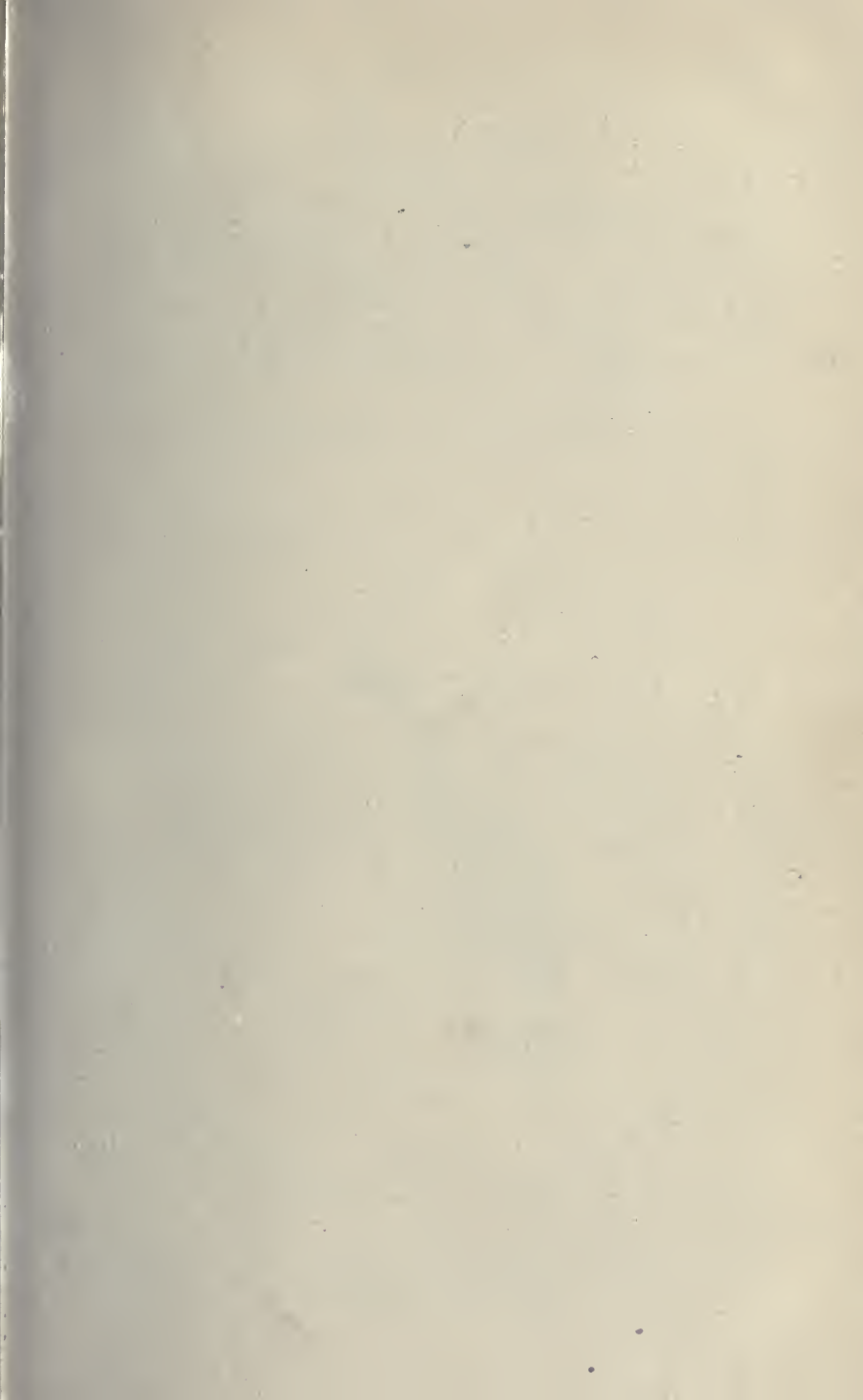
Yes; and if they had had real ground to trot on, the Florentine would have shown you he knew how they should trot. But these have to make their way up the hill-side of other lands. Look to the example in your standard series, Hermes Eriophoros. You will find his motion among clouds represented precisely in this laboring, failing, half-kneeling attitude of limb. These forms, toiling up through the rippled sands of heaven, are—not horses;—they are clouds themselves, *like* horses, but only a little like. Look how their hoofs lose themselves, buried in the ripples of cloud; it makes one think of the quicksands of Morecambe Bay.

And their tails—what extraordinary tufts of tails, ending in points! Yes; but do you not see, nearly joining with them, what is not a horse tail at all; but a flame of fire, kindled at Apollo's knee? All the rest of the radiance about him shoots *from* him. But this is rendered *up* to him. As the fruits of the earth are in one of his hands, its fire is in the other. And all the warmth, as well as all the light of it, are his.

We had a little natural philosophy, gentlemen, as well as theology, in Florence, once upon a time.

161. Natural philosophy, and also natural art, for in this

* It may be asked, why not corn also? Because that belongs to Ceres, who is equally one of the great gods.





VI.

Fairness of the Sea and Air.
In VENICE and ATHENS.

the Greek reanimate was a nobler creature than the Greek who had died. His art had a wider force and warmer glow. I have told you that the first Greeks were distinguished from the barbarians by their simple humanity; the second Greeks—these Florentine Greeks reanimate—are human more strongly, more deeply, leaping from the Byzantine death at the call of Christ, “Loose him, and let him go.” And there is upon them at once the joy of resurrection, and the solemnity of the grave.

162. Of this resurrection of the Greek, and the form of the tomb he had been buried in “those four days,” I have to give you some account in the last lecture. I will only to-day show you an illustration of it which brings us back to our immediate question as to the reasons why Northern art could not accept classicism. When, in the closing lecture of “Aratra Pentelici,”* I compared Florentine with Greek work, it was to point out to you the eager passions of the first as opposed to the formal legalism and proprieties of the other. Greek work, I told you, while truthful, was also restrained, and never but under majesty of law; while Gothic work was true, in the perfect law of Liberty or Franchise. And now I give you in facsimile (Plate VI.) the two Aphrodites thus compared—the Aphrodite Thalassia of the Tyrrhene seas, and the Aphrodite Urania of the Greek skies. You may not at first like the Tuscan best; and why she is the best, though both are noble, again I must defer explaining to next lecture. But now turn back to Bewick’s Venus, and compare her with the Tuscan Venus of the Stars, (Plate II.); and then here; in Plate VI., with the Tuscan Venus of the Seas, and the Greek Venus of the Sky. Why is the English one vulgar? What is it, in the three others, which makes them, if not beautiful, at least refined?—every one of them ‘designed’ and drawn, indisputably, by a gentleman?

I never have been so puzzled by any subject of analysis as, for these ten years, I have been by this. Every answer I give, however plausible it seems at first, fails in some way, or

* “Aratra Pentelici,” § 181.

in some cases. But there is the point for you, more definitely put, I think, than in any of my former books;—at present, for want of time, I must leave it to your own thoughts.

163. II. The second influence under which engraving developed itself, I said, was that of medicine and the physical sciences. Gentlemen, the most audacious, and the most valuable, statement which I have yet made to you on the subject of practical art, in these rooms, is that of the evil resulting from the study of anatomy. It is a statement so audacious, that not only for some time I dared not make it to you, but for ten years, at least, I dared not make it to myself. I saw, indeed, that whoever studied anatomy was in a measure injured by it; but I kept attributing the mischief to secondary causes. It *can't* be this drink itself that poisons them, I said always. This drink is medicinal and strengthening: I see that it kills them, but it must be because they drink it cold when they have been hot, or they take something else with it that changes it into poison. The drink itself *must* be good. Well, gentlemen, I found out the drink itself to be poison at last, by the breaking of my choicest Venice glass. I could not make out what it was that had killed Tintoret, and laid it long to the charge of chiaroscuro. It was only after my thorough study of his Paradise, in 1870, that I gave up this idea, finding the chiaroscuro, which I had thought exaggerated, was, in all original and undarkened passages, beautiful and most precious. And then at last I got hold of the true clue: “Il disegno di Michel Agnolo.” And the moment I had dared to accuse that, it explained everything; and I saw that the betraying demons of Italian art, led on by Michael Angelo, had been, not pleasure, but knowledge; not indolence, but ambition; and not love, but horror.

164. But when first I ventured to tell you this, I did not know, myself, the fact of all most conclusive for its confirmation. It will take me a little while to put it before you in its total force, and I must first ask your attention to a minor point. In one of the smaller rooms of the Munich Gallery is Holbein's painting of St. Margaret and St. Elizabeth of

Hungary,—standard of his early religious work. Here is a photograph from the St. Elizabeth; and, in the same frame, a French lithograph of it. I consider it one of the most important pieces of comparison I have arranged for you, showing you at a glance the difference between true and false sentiment. Of that difference, generally, we cannot speak to-day, but one special result of it you are to observe;—the omission, in the French drawing, of Holbein's daring representation of disease, which is one of the vital honors of the picture. Quite one of the chief strengths of St. Elizabeth, in the Roman Catholic view, was in the courage of her dealing with disease, chiefly leprosy. Now observe, I say *Roman Catholic* view, very earnestly just now; I am not at all sure that it is so in a Catholic view—that is to say, in an eternally Christian and Divine view. And this doubt, very nearly now a certainty, only came clearly into my mind the other day after many and many a year's meditation on it. I had read with great reverence all the beautiful stories about Christ's appearing as a leper, and the like; and had often pitied and rebuked myself alternately for my intense dislike and horror of disease. I am writing at this moment within fifty yards of the grave of St. Francis, and the story of the likeness of his feelings to mine had a little comforted me, and the tradition of his conquest of them again humiliated me; and I was thinking very gravely of this, and of the parallel instance of Bishop Hugo of Lincoln, always desiring to do service to the dead, as opposed to my own unmitigated and Louis-Quinze-like horror of funerals;—when by chance, in the cathedral of Palermo, a new light was thrown for me on the whole matter.

165. I was drawing the tomb of Frederick II., which is shut off by a grating from the body of the church; and I had, in general, quite an unusual degree of quiet and comfort at my work. But sometimes it was paralyzed by the unconscious interference of one of the men employed in some minor domestic services about the church. When he had nothing to do, he used to come and seat himself near my grating, not to look at my work, (the poor wretch had no eyes, to speak of,)

nor in any way meaning to be troublesome; but there was his habitual seat. His nose had been carried off by the most loathsome of diseases; there were two vivid circles of scarlet round his eyes; and as he sat, he announced his presence every quarter of a minute (if otherwise I could have forgotten it) by a peculiarly disgusting, loud, and long expectoration. On the second or third day, just I had forced myself into some forgetfulness of him, and was hard at my work, I was startled from it again by the bursting out of a loud and cheerful conversation close to me; and on looking round, saw a lively young fledgling of a priest, seventeen or eighteen years old, in the most eager and spirited chat with the man in the chair. He talked, laughed, and spat, himself, companionably, in the merriest way, for a quarter of an hour; evidently without feeling the slightest disgust, or being made serious for an instant, by the aspect of the destroyed creature before him.

166. His own face was simply that of the ordinary vulgar type of thoughtless young Italians, rather beneath than above the usual standard; and I was certain, as I watched him, that he was not at all my superior, but very much my inferior, in the coolness with which he beheld what was to me so dreadful. I was positive that he could look this man in the face, precisely because he could *not* look, discerningly, at any beautiful or noble thing; and that the reason I dared not, was because I had, spiritually, as much better eyes than the priest, as, bodily, than his companion.

Having got so much of clear evidence given me on the matter, it was driven home for me a week later, as I landed on the quay of Naples. Almost the first thing that presented itself to me was the sign of a traveling theatrical company, displaying the principal scene of the drama to be enacted on their classical stage. Fresh from the theater of Taormina, I was curious to see the subject of the Neapolitan popular drama. It was the capture, by the police, of a man and his wife who lived by boiling children. One section of the police was coming in, armed to the teeth, through the passage;

another section of the police, armed to the teeth, and with high feathers in its caps, was coming up through a trap-door. In fine dramatic unconsciousness to the last moment, like the clown in a pantomime, the child-boiler was represented as still industriously chopping up a child, pieces of which, ready for the pot, lay here and there on the table in the middle of the picture. The child-boiler's wife, however, just as she was taking the top off the pot to put the meat in, had caught a glimpse of the foremost policeman, and stopped, as much in rage as in consternation.

167. Now it is precisely the same feeling, or want of feeling, in the lower Italian (nor always in the lower classes only) which makes him demand the kind of subject for his secular drama; and the Crucifixion and Pietà for his religious drama. The only part of Christianity he can enjoy is its horror; and even the saint and saintess are not always denying themselves severely, either by the contemplation of torture, or the companionship with disease.

Nevertheless, we must be cautious, on the other hand, to allow full value to the endurance, by tender and delicate persons, of what is really loathsome or distressful to them in the service of others; and I think this picture of Holbein's indicative of the exact balance and rightness of his own mind in this matter, and therefore of his power to conceive a true saint also. He had to represent St. Catherine's chief effort;—he paints her ministering to the sick, and, among them, is a leper; and finding it thus his duty to paint leprosy, he courageously himself studies it from the life. Not to insist on its horror; but to assert it, to the needful point of fact, which he does with medical accuracy.

Now here is just a case in which science, in a subordinate degree, is really required for a spiritual and moral purpose. And you find Holbein does not shrink from it even in this extreme case in which it is most painful.

168. If, therefore, you *do* find him in other cases not using it, you may be sure he knew it to be unnecessary.

Now it may be disputable whether in order to draw a living

Madonna, one needs to know how many ribs she has; but it would have seemed indisputable that in order to draw a skeleton, one must know how many ribs *it* has.

Holbein is par excellence the draughtsman of skeletons. His painted Dance of Death was, and his engraved Dance of Death is, principal of such things, without any comparison or denial. He draws skeleton after skeleton, in every possible gesture; but never so much as counts their ribs! He neither knows nor cares how many ribs a skeleton has. There are always enough to rattle.

Monstrous, you think, in impudence,—Holbein for his carelessness, and I for defending him! Nay, I triumph in him; nothing has ever more pleased me than this grand negligence. Nobody wants to know how many ribs a skeleton has, any more than how many bars a gridiron has, so long as the one can breathe, and the other broil; and still less, when the breath and the fire are both out.

169. But is it only of the bones, think you, that Holbein is careless? * Nay, incredible though it may seem to you,—but, to me, explanatory at once of much of his excellence,—he did not know anatomy at all! I told you in my Preface, † already quoted, Holbein studies the face first, the body secondarily; but I had no idea, myself, how completely he had refused the venomous science of his day. I showed you a dead Christ of his, long ago. Can you match it with your academy drawings, think you? And yet he did not, and would not, know anatomy. *He* would not; but Dürer would, and did:—went hotly into it—wrote books upon it, and upon ‘proportions of the human body,’ etc., etc., and all your modern recipes for painting flesh. How did his studies prosper his art?

People are always talking of his Knight and Death, and his Melancholia, as if those were his principal works. They

* Or inventive! See Woltmann, p. 267. “The shinbone, or the lower part of the arm, exhibits only one bone, while the upper arm and thigh are often allowed the luxury of two!”

† See ante, § 141. The “preface” is that to “The Eagle’s Nest.”

are his characteristic ones, and show what he might have been *without* his anatomy; but they were mere by-play compared to his Greater Fortune, and Adam and Eve. Look at these. Here is his full energy displayed; here are both male and female forms drawn with perfect knowledge of their bones and muscles, and modes of action and digestion,—and I hope you are pleased.

But it is not anatomy only that Master Albert studies. He has a taste for optics also; and knows all about refraction and reflection. What with his knowledge of the skull inside, and the vitreous lens outside, if any man in the world is to draw an eye, here's the man to do it, surely! With a hand which can give lessons to John Bellini, and a care which would fain do all so that it can't be done better, and acquaintance with every crack in the cranium, and every humor in the lens,—if we can't draw an eye, we should just like to know who can! thinks Albert.

So having to engrave the portrait of Melanchthon, instead of looking at Melanchthon as ignorant Holbein would have been obliged to do,—wise Albert looks at the room window; and finds it has four cross-bars in it, and knows scientifically that the light on Melanchthon's eye must be a reflection of the window with its four bars—and engraves it so, accordingly; and who shall dare to say, now, it isn't like Melanchthon?

Unfortunately, however, it isn't, nor like any other person in his senses; but like a madman looking at somebody who disputes his hobby. While in this drawing of Holbein's, where a dim gray shadow leaves a mere crumb of white paper,—accidentally it seems, for all the fine scientific reflection,—behold, it is an eye indeed, and of a noble creature.

170. What is the reason? do you ask me; and is all the common teaching about generalization of details true, then?

No; not a syllable of it is true. Holbein is right, not because he draws more generally, but more truly, than Dürer. Dürer draws what he knows is there; but Holbein, only what he sees. And, as I have told you often before, the really scientific artist is he who not only asserts bravely what he

does see, but confesses honestly what he does *not*. You must not draw all the hairs in an eyelash; not because it is sublime to generalize them, but because it is impossible to see them. How many hairs there are, a sign painter or anatomist may count; but how few of them you can see, it is only the utmost masters, Carpaccio, Tintoret, Reynolds, and Velasquez, who count, or know.

171. Such was the effect, then, of his science upon Dürer's ideal of beauty, and skill in portraiture. What effect had it on the temper and quantity of his work, as compared with poor ignorant Holbein's! You have only three portraits, by Dürer, of the great men of his time, and those bad ones; while he toils his soul out to draw the hoofs of satyrs, the bristles of swine, and the distorted aspects of base women and vicious men.

What, on the contrary, has ignorant Holbein done for you? Shakespeare and he divide between them, by word and look, the Story of England under Henry and Elizabeth.

172. Of the effect of science on the art of Mantegna and Marc Antonio, (far more deadly than on Dürer's,) I must tell you in a future lecture;—the effect of it on their minds, I must partly refer to now, in passing to the third head of my general statement—the influence of new Theology. For Dürer and Mantegna, chiefly because of their science, forfeited their place, not only as painters of men, but as servants of God. Neither of them has left one completely noble or completely didactic picture; while Holbein and Botticelli, in consummate pieces of art, led the way before the eyes of all men, to the purification of their Church and land.

173. III. But the need of reformation presented itself to these two men last named on entirely different terms.

To Holbein, when the word of the Catholic Church proved false, and its deeds bloody; when he saw it selling permission of sin in his native Augsburg, and strewing the ashes of its enemies on the pure Alpine waters of Constance, what refuge was there for *him* in more ancient religion? Shall he worship Thor again, and mourn over the death of Balder? He



THE CHILD'S BEDTIME.
(Fig. 5) Facsimile from Holbein's woodcut.

reads Nature in her desolate and narrow truth, and she teaches him the Triumph of Death.

But, for Botticelli, the grand gods are old, are immortal. The priests may have taught falsely the story of the Virgin;—did they not also lie, in the name of Artemis, at Ephesus;—in the name of Aphrodite, at Cyprus?—but shall, therefore, Chastity or Love be dead, or the full moon paler over Arno? Saints of Heaven and Gods of Earth!—shall *these* perish because vain men speak evil of them! Let *us* speak good forever, and grave, as on the rock, for ages to come, the glory of Beauty, and the triumph of Faith.

174. Holbein had bitterer task.

Of old, the one duty of the painter had been to exhibit the virtues of this life, and hopes of the life to come. Holbein had to show the vices of this life, and to obscure the hope of the future. “Yes, we walk through the valley of the shadow of death, and fear all evil, for Thou art not with us, and Thy rod and Thy staff comfort us not.” He does not choose this task. It is thrust upon him,—just as fatally as the burial of the dead is in a plague-struck city. These are the things he sees, and must speak. He will not become a better artist thereby; no drawing of supreme beauty, or beautiful things, will be possible to him. Yet we cannot say he ought to have done anything else, nor can we praise him specially in doing this. It is his fate; the fate of all the bravest in that day.

175. For instance, there is no scene about which a shallow and feeble painter would have been more sure to adopt the commonplaces of the creed of his time than the death of a child,—chiefly, and most of all, the death of a country child,—a little thing fresh from the cottage and the field. Surely for such an one, angels will wait by its sick bed, and rejoice as they bear its soul away; and over its shroud flowers will be strewn, and the birds will sing by its grave. So your common sentimentalist would think, and paint. Holbein sees the facts, as they verily are, up to the point when vision ceases. He speaks, then, no more.

The country laborer’s cottage—the rain coming through its

roof, the clay crumbling from its partitions, the fire lighted with a few chips and sticks on a raised piece of the mud floor,—such dais as can be contrived, for use, not for honor. The damp wood sputters; the smoke, stopped by the roof, though the rain is not, coils round again, and down. But the mother can warm the child's supper of bread and milk so—holding the pan by the long handle; and on mud floor though it be, they are happy,—she, and her child, and its brother,—if only they could be left so. They shall not be left so: the young thing must leave them—will never need milk warmed for it any more. It would fain stay,—sees no angels—feels only an icy grip on its hand, and that it cannot stay. Those who loved it shriek and tear their hair in vain, amazed in grief. ‘Oh, little one, must you lie out in the fields then, not even under this poor torn roof of thy mother's to-night?’

176. Again: there was not in the old creed any subject more definitely and constantly insisted on than the death of a miser. He had been happy, the old preachers thought, till then: but his hour has come; and the black covetousness of hell is awake and watching; the sharp harpy claws will clutch his soul out of his mouth, and scatter his treasure for others. So the commonplace preacher and painter taught. Not so Holbein. The devil want to snatch his soul, indeed! Nay, he never *had* a soul, but of the devil's giving. His misery to begin on his death-bed! Nay, he had never an unmiserable hour of life. The fiend is with him now,—a paltry, abortive fiend, with no breath even to blow hot with. He supplies the hell-blast *with a machine*. It is winter, and the rich man has his furred cloak and cap, thick and heavy; the beggar, bare-headed to beseech him, skin and rags hanging about him together, touches his shoulder, but all in vain; there is other business in hand. More haggard than the beggar himself, wasted and palsied, the rich man counts with his fingers the gain of the years to come.

But of those years, infinite that are to be, Holbein says nothing. ‘I know not; I see not. This only I see, on this very winter's day, the low pale stumbling-block at your feet,



“HE THAT HATH EARS TO
HEAR, LET HIM HEAR.”

(Fig. 6) Facsimile from Holbein's woodcut.

the altogether by you unseen and forgotten Death. You shall not pass *him* by on the other side; here is a fasting figure in skin and bone, at last, that will stop you; and for all the hidden treasures of earth, here is your spade: dig now, and find them.'

177. I have said that Holbein was condemned to teach these things. He was not happy in teaching them, nor thanked for teaching them. Nor was Botticelli for his loverlier teaching. But they both could do no otherwise. They lived in truth and steadfastness; and with both, in their marvelous design, veracity is the beginning of invention, and love its end.

I have but time to show you, in conclusion, how this affectionate self-forgetfulness protects Holbein from the chief calamity of the German temper, vanity, which is at the root of all Dürer's weakness. Here is a photograph of Holbein's portrait of Erasmus, and a fine proof of Dürer's. In Holbein's, the face leads everything; and the most lovely qualities of the face lead in that. The cloak and cap are perfectly painted, just because you look at them neither more nor less than you would have looked at the cloak in reality. You don't say, 'How brilliantly they are touched,' as you would with Rembrandt; nor 'How gracefully they are neglected,' as you would with Gainsborough; nor 'How exquisitely they are shaded,' as you would with Leonardo; nor 'How grandly they are composed,' as you would with Titian. You say only, 'Erasmus is surely there; and what a pleasant sight!' You don't think of Holbein at all. He has not even put in the minutest letter H, that I can see, to remind you of him. Drops his H's, I regret to say, often enough. 'My hand should be enough for you; what matters my name?' But now, look at Dürer's. The very first thing you see, and at any distance, is this great square tablet with
 "The image of Erasmus, drawn from the life by Albert Dürer, 1526,"

and a great straddling A.D. besides. Then you see a cloak, and a table, and a pot, with flowers in it, and a heap of books

with all their leaves and all their clasps, and all the little bits of leather gummed in to mark the places; and last of all you see Erasmus's face; and when you do see it, the most of it is wrinkles.

All egotism and insanity, this, gentlemen. Hard words to use; but not too hard to define the faults which rendered so much of Dürer's great genius abortive, and to this day paralyze, among the details of a lifeless and ambitious precision, the student, no less than the artist, of German blood. For too many an Erasmus, too many a Dürer, among them, the world is all cloak and clasp, instead of face or book; and the first object of their lives is to engrave their initials.

178. For us, in England, not even so much is at present to be hoped; and yet, singularly enough, it is more our modesty, unwisely submissive, than our vanity, which has destroyed our English school of engraving.

At the bottom of the pretty line engravings which used to represent, characteristically, our English skill, one saw always *two* inscriptions. At the left-hand corner, "Drawn by—so-and-so;" at the right-hand corner, "Engraved by—so-and-so." Only under the worst and cheapest plates—for the Stationers' Almanack, or the like—one saw sometimes, "Drawn and engraved by—so-and-so," which meant nothing more than that the publisher would not go to the expense of an artist, and that the engraver haggled through as he could. (One fortunate exception, gentlemen, you have in the old drawings for your Oxford Almanack, though the publishers, I have no doubt, even in that case, employed the cheapest artist they could find.)* But in general, no engraver thought himself able to draw; and no artist thought it his business to engrave.

* The drawings were made by Turner, and are now among the chief treasures of the Oxford Galleries. I ought to add some notice of Hogarth to this lecture in the Appendix; but fear I shall have no time: besides, though I have profound respect for Hogarth, as, in literature, I have for Fielding, I can't criticise them, because I know nothing of their subjects.

179. But the fact that this and the following lecture are on the subject of design in engraving, implies of course that in the work we have to examine, it was often the engraver himself who designed, and as often the artist who engraved.

And you will observe that the only engravings which bear imperishable value are, indeed, in this kind. It is true that, in wood-cutting, both Dürer and Holbein, as in our own days Leech and Tenniel, have workmen under them who can do all they want. But in metal cutting it is not so. For, as I have told you, in metal cutting, ultimate perfection of Line has to be reached; and it can be reached by none but a master's hand; nor by his, unless in the very moment and act of designing. Never, unless under the vivid first force of imagination and intellect, can the Line have its full value. And for this high reason, gentlemen, that paradox which perhaps seemed to you so daring, is nevertheless deeply and finally true, that while a wood-cut may be laboriously finished, a grand engraving on metal must be comparatively incomplete. For it must be done, throughout, with the full fire of temper in it, visibly governing its lines, as the wind does the fibers of cloud.

180. The value hitherto attached to Rembrandt's etchings, and others imitating them, depends on a true instinct in the public mind for this virtue of line. But etching is an indolent and blundering method at the best; and I do not doubt that you will one day be grateful for the severe disciplines of drawing required in these schools, in that they will have enabled you to know what a line may be, driven by a master's chisel on silver or marble, following, and fostering as it follows, the instantaneous strength of his determined thought.

LECTURE VI.

DESIGN IN THE FLORENTINE SCHOOLS OF ENGRAVING.

181. IN the first of these lectures, I stated to you their subject, as the investigation of the engraved work of a group of men, to whom engraving, as a means of popular address, was above all precious, because their art was distinctively didactic.

Some of my hearers must be aware that, of late years, the assertion that art should be didactic has been clamorously and violently derided by the countless crowd of artists who have nothing to represent, and of writers who have nothing to say; and that the contrary assertion—that art consists only in pretty colors and fine words,—is accepted, readily enough, by a public which rarely pauses to look at a picture with attention, or read a sentence with understanding.

182. Gentlemen, believe me, there never was any great advancing art yet, nor can be, without didactic purpose. The leaders of the strong schools are, and must be always, either teachers of theology, or preachers of the moral law. I need not tell you that it was as teachers of theology on the walls of the Vatican that the masters with whose names you are most familiar obtained their perpetual fame. But however great their fame, you have not practically, I imagine, ever been materially assisted in your preparation for the schools either of philosophy or divinity by Raphael's 'School of Athens,' by Raphael's 'Theology,'—or by Michael Angelo's 'Judgment.' My task, to-day, is to set before you some part of the design of the first Master of the works in the Sistine Chapel; and I believe that, from his teaching, you will, even in the hour which I ask you now to give, learn what may be of true use to you in all your future labor, whether in Oxford or elsewhere.

183. You have doubtless, in the course of these lectures, been occasionally surprised by my speaking of Holbein and Sandro Botticelli, as Reformers, in the same tone of respect, and with the same implied assertion of their intellectual power and agency, with which it is usual to speak of Luther and Savonarola. You have been accustomed, indeed, to hear painting and sculpture spoken of as supporting or enforcing Church doctrine; but never as reforming or chastising it. Whether Protestant or Roman Catholic, you have admitted what in the one case you held to be the abuse of painting in the furtherance of idolatry,—in the other, its amiable and exalting ministry to the feebleness of faith. But neither has recognized,—the Protestant his ally,—or the Catholic his enemy, in the far more earnest work of the great painters of the fifteenth century. The Protestant was, in most cases, too vulgar to understand the aid offered to him by painting; and in all cases too terrified to believe in it. He drove the gift-bringing Greek with imprecations from his sectarian fortress, or received him within it only on the condition that he should speak no word of religion there.

184. On the other hand, the Catholic, in most cases too indolent to read, and, in all, too proud to dread, the rebuke of the reforming painters, confused them with the crowd of his old flatterers, and little noticed their altered language or their graver brow. In a little while, finding they had ceased to be amusing, he effaced their works, not as dangerous, but as dull; and recognized only thenceforward, as art, the innocuous bombast of Michael Angelo, and fluent efflorescence of Bernini. But when you become more intimately and impartially acquainted with the history of the Reformation, you will find that, as surely and earnestly as Memling and Giotto strove in the north and south to set forth and exalt the Catholic faith, so surely and earnestly did Holbein and Botticelli strive, in the north, to chastise, and, in the south, to revive it. In what manner, I will try to-day briefly to show you.

185. I name these two men as the reforming leaders: there

were many, rank and file, who worked in alliance with Holbein; with Botticelli, two great ones, Lippi and Perugino. But both of these had so much pleasure in their own pictorial faculty, that they strove to keep quiet, and out of harm's way,—involuntarily manifesting themselves sometimes, however; and not in the wisest manner. Lippi's running away with a novice was not likely to be understood as a step in Church reformation correspondent to Luther's marriage.* Nor have Protestant divines, even to this day, recognized the real meaning of the reports of Perugino's 'infidelity.' Botticelli, the pupil of the one, and the companion of the other, held the truths they taught him through sorrow as well as joy; and he is the greatest of the reformers, because he preached without blame; though the least known, because he died without victory.

I had hoped to be able to lay before you some better biography of him than the traditions of Vasari, of which I gave a short abstract some time back in *Fors Clavigera* (Letter XXII.); but as yet I have only added internal evidence to the popular story, the more important points of which I must review briefly. It will not waste your time if I read,—instead of merely giving you reference to,—the passages on which I must comment.

186. "His father, Mariano Filipepi, a Florentine citizen, brought him up with care, and caused him to be instructed in all such things as are usually taught to children before they choose a calling. But although the boy readily acquired whatever he wished to learn, yet was he constantly discontented; neither would he take any pleasure in reading, writing, or accounts, insomuch that the father, disturbed by the eccentric habits of his son, turned him over in despair

* The world was not then ready for *Le Père Hyacinthe*;—but the real gist of the matter is that Lippi did, openly and bravely, what the highest prelates in the Church did basely and in secret; also he loved, where they only lusted; and he has been proclaimed therefore by them—and too foolishly believed by us—to have been a shameful person. Of his true life, and the colors given to it, we will try to learn something tenable, before we end our work in Florence.

to a gossip of his, called Botticello, who was a goldsmith, and considered a very competent master of his art, to the intent that the boy might learn the same."

"He took no pleasure in reading, writing, nor accounts"! You will find the same thing recorded of Cimabue; but it is more curious when stated of a man whom I cite to you as typically a gentleman and a scholar. But remember, in those days, though there were not so many entirely correct books issued by the Religious Tract Society for boys to read, there were a great many more pretty things in the world for boys to see. The Val d'Arno was Pater-noster Row to purpose; their Father's Row, with books of His writing on the mountain shelves. And the lad takes to looking at things, and thinking about them, instead of reading about them,—which I commend to you also, as much the more scholarly practice of the two. To the end, though he knows all about the celestial hierarchies, he is not strong in his letters, nor in his dialect. I asked Mr. Tyrwhitt to help me through with a bit of his Italian the other day. Mr. Tyrwhitt could only help me by suggesting that it was "Botticelli for so-and-so." And one of the minor reasons which induced me so boldly to attribute these sibyls to him, instead of Bandini, is that the lettering is so ill done. The engraver would assuredly have had his lettering all right,—or at least neat. Botticelli blunders through it, scratches impatiently out when he goes wrong: and as I told you there's no repentance in the engraver's trade, leaves all the blunders visible.

187. I may add one fact bearing on this question lately communicated to me.* In the autumn of 1872 I possessed myself of an Italian book of pen drawings, some, I have no doubt, by Mantegna in his youth, others by Sandro himself. In examining these, I was continually struck by the comparatively feeble and blundering way in which the titles were written, while all the rest of the handling was really superb; and still more surprised when, on the sleeves and hem of the

* I insert supplementary notes, when of importance, in the text of the lecture, for the convenience of the general reader.

robe of one of the principal figures of women, ("Helena rapita da Paris,") I found what seemed to be meant for inscriptions, intricately embroidered; which nevertheless, though beautifully drawn, I could not read. In copying Botticelli's Zipporah this spring, I found the border of her robe wrought with characters of the same kind, which a young painter, working with me, who already knows the minor secrets of Italian art better than I,* assures me are letters,—and letters of a language hitherto undeciphered.

188. "There was at that time a close connection and almost constant intercourse between the goldsmiths and the painters, wherefore Sandro, who possessed considerable ingenuity, and was strongly disposed to the arts of design, became enamored of painting, and resolved to devote himself entirely to that vocation. He acknowledged his purpose at once to his father; and the latter, who knew the force of his inclination, took him accordingly to the Carmelite monk, Fra Filippo, who was a most excellent painter of that time, with whom he placed him to study the art, as Sandro himself had desired. Devoting himself thereupon entirely to the vocation he had chosen, Sandro so closely followed the directions, and imitated the manner, of his master, that Fra Filippo conceived a great love for him, and instructed him so effectually, that Sandro rapidly attained to such a degree in art as none would have predicted for him."

I have before pointed out to you the importance of training by the goldsmith. Sandro got more good of it, however, than any of the other painters so educated,—being enabled by it to use gold for light to color, in a glowing harmony never reached with equal perfection, and rarely attempted, in the later schools. To the last, his paintings are partly treated as work in niello; and he names himself, in perpetual gratitude, from this first artisan master. Nevertheless, the fortunate fellow finds, at the right moment, another, even more to his mind, and is obedient to him through his youth, as to the other through his childhood. And this master loves

* Mr. Charles F. Murray.

him; and instructs him 'so effectually,'—in grinding colors, do you suppose, only; or in laying of lines only; or in anything more than these?

189. I will tell you what Lippi must have taught any boy whom he loved. First, humility, and to live in joy and peace, injuring no man—if such innocence might be. Nothing is so manifest in every face by him, as its gentleness and rest. Secondly, to finish his work perfectly, and in such temper that the angels might say of it—not he himself—'Iste perfecit opus.' Do you remember what I told you in the Eagle's Nest (§ 53), that true humility was in hoping that angels might sometimes admire *our* work; not in hoping that we should ever be able to admire *theirs*? Thirdly,—a little thing it seems, but was a great one,—love of flowers. No one draws such lilies or such daisies as Lippi. Botticelli beat him afterwards in roses, but never in lilies. Fourthly, due honor for classical tradition. Lippi is the only religious painter who dresses John Baptist in the camelskin, as the Greeks dressed Heracles in the lion's—over the head. Lastly, and chiefly of all,—Le Père Hyacinthe taught his pupil certain views about the doctrine of the Church, which the boy thought of more deeply than his tutor, and that by a great deal; and Master Sandro presently got himself into such question for painting heresy, that if he had been as hot-headed as he was true-hearted, he would soon have come to bad end by the tar-barrel. But he is so sweet and so modest, that nobody is frightened; so clever, that everybody is pleased: and at last, actually the Pope sends for him to paint his own private chapel,—where the first thing my young gentleman does, mind you, is to paint the devil in a monk's dress, tempting Christ! The sauciest thing, out and out, done in the history of the Reformation, it seems to me; yet so wisely done, and with such true respect otherwise shown for what was sacred in the Church, that the Pope didn't mind: and all went on as merrily as marriage bells.

190. I have anticipated, however, in telling you this, the proper course of his biography, to which I now return.

“While still a youth he painted the figure of Fortitude, among those pictures of the Virtues which Antonio and Pietro Pollaiuolo were executing in the Mercatanzia, or Tribunal of Commerce, in Florence. In Santo Spirito, a church of the same city, he painted a picture for the chapel of the Bardi family: this work he executed with great diligence, and finished it very successfully, depicting certain olive and palm trees therein with extraordinary care.”

It is by a beautiful chance that the first work of his, specified by his Italian biographer, should be the Fortitude.* Note also what is said of his tree drawing.

“Having, in consequence of this work, obtained much credit and reputation, Sandro was appointed by the Guild of Porta Santa Maria to paint a picture in San Marco, the subject of which is the Coronation of Our Lady, who is surrounded by a choir of angels—the whole extremely well designed, and finished by the artist with infinite care. He executed various works in the Medici Palace for the elder Lorenzo, more particularly a figure of Pallas on a shield wreathed with vine branches, whence flames are proceeding: this he painted of the size of life. A San Sebastiano was also among the most remarkable of the works executed for Lorenzo. In the church of Santa Maria Maggiore, in Florence, is a Pietà, with small figures, by this master: this is a very beautiful work. For different houses in various parts of the city Sandro painted many pictures of a round form, with numerous figures of women undraped. Of these there are still two examples at Castello, a villa of the Duke Cosimo,—one representing the birth of Venus, who is borne to earth by the Loves and Zephyrs; the second also presenting the figure of Venus crowned with flowers by the Graces: she is here intended to denote the Spring, and the allegory is expressed by the painter with extraordinary grace.”

Our young Reformer enters, it seems, on a very miscellaneous course of study; the Coronation of Our Lady; St.

* Some notice of this picture is given at the beginning of my third Morning in Florence, ‘Before the Soldan,’

Sebastian; Pallas in vine-leaves; and Venus,—without fig-leaves. Not wholly Calvinistic, Fra Filippo's teaching seems to have been! All the better for the boy—being such a boy as he was: but I cannot in this lecture enter farther into my reasons for saying so.

191. Vasari, however, has shot far ahead in telling us of this picture of the Spring, which is one of Botticelli's completest works. Long before he was able to paint Greek nymphs, he had done his best in idealism of greater spirits; and, while yet quite a youth, painted, at Castello, the Assumption of Our Lady, with "the patriarchs, the prophets, the apostles, the evangelists, the martyrs, the confessors, the doctors, the virgins, and the hierarchies!"

Imagine this subject proposed to a young, (or even old) British Artist, for his next appeal to public sensation at the Academy! But do you suppose that the young British artist is wiser and more civilized than Lippi's scholar, because his only idea of a patriarch is of a man with a long beard; of a doctor, the M.D. with the brass plate over the way; and of a virgin, Miss —— of the —— theater?

Not that even Sandro was able, according to Vasari's report, to conduct the entire design himself. The proposer of the subject assisted him; and they made some modifications in the theology, which brought them both into trouble—so early did Sandro's innovating work begin, into which subjects our gossiping friend waives unnecessary inquiry, as follows.

"But although this picture is exceedingly beautiful, and ought to have put envy to shame, yet there were found certain malevolent and censorious persons who, not being able to affix any other blame to the work, declared that Matteo and Sandro had erred gravely in that matter, and had fallen into grievous heresy.

"Now, whether this be true or not, let none expect the judgment of that question from me: it shall suffice me to note that the figures executed by Sandro in that work are entirely worthy of praise; and that the pains he took in

depicting those circles of the heavens must have been very great, to say nothing of the angels mingled with the other figures, or of the various foreshortenings, all which are designed in a very good manner.

“About this time Sandro received a commission to paint a small picture with figures three parts of a braccio high,—the subject an Adoration of the Magi.

“It is indeed a most admirable work; the composition, the design, and the coloring are so beautiful that every artist who examines it is astonished; and, at the time, it obtained so great a name in Florence, and other places, for the master, that Pope Sixtus IV. having erected the chapel built by him in his palace at Rome, and desiring to have it adorned with paintings, commanded that Sandro Botticelli should be appointed Superintendent of the work.”

192. Vasari's words, “about this time,” are evidently wrong. It must have been many and many a day after he painted Matteo's picture that he took such high standing in Florence as to receive the mastership of the works in the Pope's chapel at Rome. Of his position and doings there, I will tell you presently; meantime, let us complete the story of his life.

“By these works Botticelli obtained great honor and reputation among the many competitors who were laboring with him, whether Florentines or natives of other cities, and received from the Pope a considerable sum of money; but this he consumed and squandered totally, during his residence in Rome, where he lived without due care, as was his habit.”

193. Well, but one would have liked to hear *how* he squandered his money, and whether he was without care—of other things than money.

It is just possible, Master Vasari, that Botticelli may have laid out his money at higher interest than you know of; meantime, he is advancing in life and thought, and becoming less and less comprehensible to his biographer. And at length, having got rid, somehow, of the money he received from the Pope; and finished the work he had to do, and

uncovered it,—free in conscience, and empty in purse, he returned to Florence, where, “being a sophistical person, he made a comment on a part of Dante, and drew the Inferno, and put it in engraving, in which he consumed much time; and not working for this reason, brought infinite disorder into his affairs.”

194. Unpaid work, this engraving of Dante, you perceive,—consuming much time also, and not appearing to Vasari to be work at all. It is but a short sentence, gentlemen,—this, in the old edition of Vasari, and obscurely worded,—a very foolish person’s contemptuous report of a thing to him totally incomprehensible. But the thing itself is out-and-out the most important fact in the history of the religious art of Italy. I can show you its significance in not many more words than have served to record it.

Botticelli had been painting in Rome; and had expressly chosen to represent there,—being Master of Works, in the presence of the Defender of the Faith,—the foundation of the Mosaic law; to his mind the Eternal Law of God,—that law of which modern Evangelicals sing perpetually their own original psalm, “Oh, how hate I Thy law! it is my abomination all the day.” Returning to Florence, he reads Dante’s vision of the Hell created by its violation. He knows that the pictures he has painted in Rome cannot be understood by the people; they are exclusively for the best trained scholars in the Church. Dante, on the other hand, can only be read in manuscript; but the people could and would understand *his* lessons, if they were pictured in accessible and enduring form. He throws all his own lauded work aside,—all for which he is most honored, and in which his now matured and magnificent skill is as easy to him as singing to a perfect musician. And he sets himself to a servile and despised labor,—his friends mocking him, his resources failing him, infinite ‘disorder’ getting into his affairs—of this world.

195. Never such another thing happened in Italy any more. Botticelli engraved her Pilgrim’s Progress for her,

putting himself in prison to do it. She would not read it when done. Raphael and Marc Antonio were the theologians for her money. Pretty Madonnas, and satyrs with abundance of tail,—let our pilgrim's progress be in *these* directions, if you please.

Botticelli's own pilgrimage, however, was now to be accomplished triumphantly, with such crowning blessings as Heaven might grant to him. In spite of his friends and his disordered affairs, he went his own obstinate way; and found another man's words worth engraving as well as Dante's; not without perpetuating, also, what he deemed worthy of his own.

196. What would that be, think you? His chosen works before the Pope in Rome?—his admired Madonnas in Florence?—his choirs of angels and thickets of flowers? Some few of these—yes, as you shall presently see; but “the best attempt of this kind from his hand is the Triumph of Faith, by Fra Girolamo Savonarola, of Ferrara, of whose sect our artist was so zealous a partisan that he totally abandoned painting, and not having any other means of living, he fell into very great difficulties. But his attachment to the party he had adopted increased; he became what was then called a Piagnone, or Mourner, and abandoned all labor; insomuch that, finding himself at length become old, being also very poor, he must have died of hunger had he not been supported by Lorenzo de' Medici, for whom he had worked at the small hospital of Volterra and other places, who assisted him while he lived, as did other friends and admirers of his talents.”

197. In such dignity and independence—having employed his talents not wholly at the orders of the dealer—died, a poor bedesman of Lorenzo de' Medici, the President of that high academy of art in Rome, whose Academicians were Perugino, Ghirlandajo, Angelico, and Signorelli; and whose students, Michael Angelo and Raphael.

‘A worthless, ill-conducted fellow on the whole,’ thinks Vasari, ‘with a crazy fancy for scratching on copper.’

Well, here are some of the scratches for you to see; only, first, I must ask you seriously for a few moments to consider what the two powers were, which, with this iron pen of his, he has set himself to reprove.

198. Two great forms of authority reigned over the entire civilized world, confessedly, and by name, in the Middle Ages. They reign over it still, and must forever, though at present very far from confessed; and, in most places, ragingly denied.

The first power is that of the Teacher, or true Father; the Father 'in God.' It may be—happy the children to whom it is—the actual father also; and whose parents have been their tutors. But, for the most part, it will be some one else who teaches them, and molds their minds and brain. All such teaching, when true, being from above, and coming down from the Father of Lights, with whom is no variable-ness, neither shadow of turning, is properly that of the holy Catholic 'ἐκκλησια,' council, church, or papacy, of many fathers in God, not of one. Eternally powerful and divine; revered of all humble and lowly scholars, in Jewry, in Greece, in Rome, in Gaul, in England, and beyond sea, from Arctic zone to zone.

The second authority is the power of National Law, enforcing justice in conduct by due reward and punishment. Power vested necessarily in magistrates capable of administering it with mercy and equity; whose authority, be it of many or few, is again divine, as proceeding from the King of kings, and was acknowledged, throughout civilized Christendom, as the power of the Holy Empire, or Holy Roman Empire, because first throned in Rome; but it is forever also acknowledged, namelessly, or by name, by all loyal, obedient, just, and humble hearts, which truly desire that, whether for them or against them, the eternal equities and dooms of Heaven should be pronounced and executed; and as the wisdom or word of their Father should be taught, so the will of their Father should be done, on earth, as it is in heaven.

199. You all here know what contention, first, and then

what corruption and dishonor, had paralyzed these two powers before the days of which we now speak. Reproof, and either reform or rebellion, became necessary everywhere. The northern Reformers, Holbein, and Luther, and Henry, and Cromwell, set themselves to their task rudely, and, it might seem, carried it through. The southern Reformers, Dante, and Savonarola, and Botticelli, set hand to their task reverently, and, it seemed, did not by any means carry it through. But the end is not yet.

200. Now I shall endeavor to-day to set before you the art of Botticelli, especially as exhibiting the modesty of great imagination trained in reverence, which characterized the southern Reformers; and as opposed to the immodesty of narrow imagination, trained in self-trust, which characterized the northern Reformers.

‘The modesty of great *imagination* ;’ that is to say, of the power which conceives all things in true relation, and not only as they affect ourselves. I can show you this most definitely by taking one example of the modern, and unschooled temper, in Bewick;* and setting it beside Botticelli’s treatment of the same subject of thought,—namely, the meaning of war, and the reforms necessary in the carrying on of war.

201. Both the men are entirely at one in their purpose. They yearn for peace and justice to rule over the earth, instead of the sword; but see how differently they will say what is in their hearts to the people they address. To Bewick, war was more an absurdity than it was a horror: he had not seen battle-fields, still less had he read of them, in ancient days. He cared nothing about heroes,—Greek, Roman, or Norman. What he knew, and saw clearly, was that Farmer Hodge’s boy went out of the village one holiday afternoon, a

* I am bitterly sorry for the pain which my partial references to the man whom of all English artists whose histories I have read, I most esteem, have given to one remaining member of his family. I hope my meaning may be better understood after she has seen the close of this lecture.

fine young fellow, rather drunk, with a colored ribbon in his hat; and came back, ten years afterwards, with one leg, one eye, an old red coat, and a tobacco-pipe in the pocket of it. That is what he has got to say, mainly. So, for the pathetic side of the business, he draws you two old soldiers meeting as bricklayers' laborers; and for the absurd side of it, he draws a stone, sloping sideways with age, in a bare field, on which you can just read, out of a long inscription, the words "glorious victory;" but no one is there to read them,—only a jackass, who uses the stone to scratch himself against.

202. Now compare with this Botticelli's reproof of war. *He* had seen it, and often; and between noble persons;—knew the temper in which the noblest knights went out to it;—knew the strength, the patience, the glory, and the grief of it. He would fain see his Florence in peace; and yet he knows that the wisest of her citizens are her bravest soldiers. So he seeks for the ideal of a soldier, and for the greatest glory of war, that in the presence of these he may speak reverently, what he must speak. He does not go to Greece for his hero. He is not sure that even her patriotic wars were always right. But, by his religious faith, he cannot doubt the nobleness of the soldier who put the children of Israel in possession of their promised land, and to whom the sign of the consent of heaven was given by its pausing light in the valley of Ajalon. Must then setting sun and risen moon stay, he thinks, only to look upon slaughter? May no soldier of Christ bid them stay otherwise than so? He draws Joshua, but quitting his hold of the sword: its hilt rests on his bent knee; and he kneels before the sun, not commands it; and this is his prayer:—

"Oh, King of kings, and Lord of lords, who alone rulest always in eternity, and who correctest all our wanderings,—Giver of melody to the choir of the angels, listen Thou a little to our bitter grief, and come and rule us, oh Thou highest King, with Thy love which is so sweet!"

Is not that a little better, and a little wiser, than Bewick's

jackass? Is it not also better, and wiser, than the sneer of modern science? 'What great men are we!—we, forsooth, can make almanacs, and know that the earth turns round. Joshua indeed! Let us have no more talk of the old-clothes-man.'

All Bewick's simplicity is in that; but none of Bewick's understanding.

203. I pass to the attack made by Botticelli upon the guilt of wealth. So I had at first written; but I should rather have written, the appeal made by him against the cruelty of wealth, then first attaining the power it has maintained to this day.

The practice of receiving interest had been confined, until this fifteenth century, with contempt and malediction, to the profession, so styled, of usurers, or to the Jews. The merchants of Augsburg introduced it as a convenient and pleasant practice among Christians also; and insisted that it was decorous and proper even among respectable merchants. In the view of the Christian Church of their day, they might more reasonably have set themselves to defend adultery.* However, they appointed Dr. John Eck, of Ingoldstadt, to hold debates in all possible universities, at their expense, on the allowing of interest; and as these Augsburgers had in Venice their special mart, Fondaco, called of the Germans, their new notions came into direct collision with old Venetian ones, and were much hindered by them, and all the more, because, in opposition to Dr. John Eck, there was preaching on the other side of the Alps. The Franciscans, poor themselves, preached mercy to the poor: one of them, Brother Marco of San Gallo, planned the 'Mount of Pity' for their defense, and the merchants of Venice set up the first in the world, against the German Fondaco. The dispute burned far on towards our own times. You perhaps have heard before of one Antonio, a merchant of Venice, who persistently retained the then obsolete practice of lending money gratis, and of the peril it brought him into with the usurers.

* Read Ezekiel xviii.

But you perhaps did not before know why it was the flesh, or heart of flesh, in him, that they so hated.

204. Against this newly risen demon of authorized usury, Holbein and Botticelli went out to war together. Holbein, as we have partly seen in his designs for the Dance of Death, struck with all his soldier's strength.* Botticelli uses neither satire nor reproach. He turns altogether away from the criminals; appeals only to heaven for defense against them. He engraves the design which, of all his work, must have cost him hardest toil in its execution,—the Virgin praying to her Son in heaven for pity upon the poor: "For these are also my children."† Underneath, are the seven works of Mercy; and in the midst of them, the building of the Mount of Pity: in the distance lies Italy, mapped in cape and bay, with the cities which had founded mounts of pity,—Venice in the distance, chief. Little seen, but engraved with the master's loveliest care, in the background there is a group of two small figures—the Franciscan brother kneeling, and an angel of Victory crowning him.

205. I call it an angel of Victory, observe, with assurance; although there is no legend claiming victory, or distinguishing this angel from any other of those which adorn with crowns of flowers the nameless crowds of the blessed. For Botticelli has other ways of speaking than by written legends. I know by a glance at this angel that he has taken the action of it from a Greek coin; and I know also that he had not, in his own exuberant fancy, the least need to copy the action of any figure whatever. So I understand, as well as if he spoke to me, that he expects me, if I am an educated gentleman, to recognize this particular action as a Greek angel's; and to know that it is a temporal victory which it crowns.

206. And now farther, observe, that this classical learning of Botticelli's, received by him, as I told you, as a native element of his being, gives not only greater dignity and

* See also the account by Dr. Woltmann of the picture of the Triumph of Riches. 'Holbein and his Time,' p. 352.

† These words are engraved in the plate, as spoken by the Virgin.

gentleness, but far wider range, to his thoughts of Reformation. As he asks for pity from the cruel Jew to the *poor* Gentile, so he asks for pity from the proud Christian to the *untaught* Gentile. Nay, for more than pity, for fellowship, and acknowledgment of equality before God. The learned men of his age in general brought back the Greek mythology as anti-Christian. But Botticelli and Perugino, as pre-Christian; nor only as pre-Christian, but as the foundation of Christianity. But chiefly Botticelli, with perfect grasp of the Mosaic and classic theology, thought over and seized the harmonics of both; and he it was who gave the conception of that great choir of the prophets and sibyls, of which Michael Angelo, more or less ignorantly borrowing it in the Sistine Chapel, in great part lost the meaning, while he magnified the aspect.

207. For, indeed, all Christian and heathen mythology had alike become to Michael Angelo only a vehicle for the display of his own powers of drawing limbs and trunks: and having resolved, and made the world of his day believe, that all the glory of design lay in variety of difficult attitude, he flings the naked bodies about his ceiling with an upholsterer's ingenuity of appliance to the corners they could fit, but with total absence of any legible meaning. Nor do I suppose that one person in a million, even of those who have some acquaintance with the earlier masters, takes patience in the Sistine Chapel to conceive the original design. But Botticelli's mastership of the works evidently was given to him as a theologian, even more than as a painter; and the moment when he came to Rome to receive it, you may hold for the crisis of the Reformation in Italy. The main effort to save her priesthood was about to be made by her wisest Reformer,—face to face with the head of her Church,—not in contest with him, but in the humblest subjection to him; and in adornment of his own chapel for his own delight, and more than delight, if it might be.

208. Sandro brings to work, not under him, but with him, the three other strongest and worthiest men he knows,

Perugino, Ghirlandajo, and Luca Signorelli. There is evidently entire fellowship in thought between Botticelli and Perugino. They two together plan the whole; and Botticelli, though the master, yields to Perugino the principal place, the end of the chapter, on which is to be the Assumption of the Virgin. It was Perugino's favorite subject, done with his central strength; assuredly the crowning work of his life, and of lovely Christian art in Europe.

Michael Angelo painted it out, and drew devils and dead bodies all over the wall instead. But there remains to us, happily, the series of subjects designed by Botticelli to lead up to this lost one.

209. He came, I said, not to attack, but to restore the Papal authority. To show the power of inherited honor, and universal claim of divine law, in the Jewish and Christian Church,—the law delivered first by Moses; then, in final grace and truth, by Christ.

He designed twelve great pictures, each containing some twenty figures the size of life, and groups of smaller ones scarcely to be counted. Twelve pictures,—six to illustrate the giving of the law by Moses; and six, the ratification and completion of it by Christ. Event by event, the jurisprudence of each dispensation is traced from dawn to close in this correspondence.

1. Covenant of Circumcision.
2. Entrance on his Ministry by Moses.
3. Moses by the Red Sea.
4. Delivery of Law on Sinai.
5. Destruction of Korah.
6. Death of Moses.
7. Covenant of Baptism.
8. Entrance on His Ministry by Christ.
9. Peter and Andrew by the Sea of Galilee.
10. Sermon on Mount.
11. Giving Keys to St. Peter.
12. Last Supper.

Of these pictures, Sandro painted three himself, Perugino three, and the Assumption; Ghirlandajo one, Signorelli one,

and Rosselli four.* I believe that Sandro intended to take the roof also, and had sketched out the main succession of its design; and that the prophets and sibyls which he meant to paint, he drew first small, and engraved his drawings afterwards, that some part of the work might be, at all events, thus communicable to the world outside of the Vatican.

210. It is not often that I tell you my beliefs; but I am forced here, for there are no dates to found more on. Is it not wonderful that among all the infinite mass of fools' thoughts about the "majestic works of Michael Angelo" in the Sistine Chapel, no slightly more rational person has ever asked what the chapel was first meant to be like, and how it was to be roofed?

Nor can I assume myself, still less you, that all these prophets and sibyls are Botticelli's. Of many there are two engravings, with variations: some are inferior in parts, many altogether. He signed none; never put grand tablets with 'S. B.' into his skies; had other letters than those to engrave, and no time to spare. I have chosen out of the series three of the sibyls, which have, I think, clear internal evidence of being his; and these you shall compare with Michael Angelo's. But first I must put you in mind what the sibyls were.

211. As the prophets represent the voice of God in man, the sibyls represent the voice of God in nature. They are properly all forms of one sibyl, $\Delta\iota\omicron\varsigma$ Βουλῆ, the counsel of God; and the chief one, at least in the Roman mind, was the Sibyl of Cumae. From the traditions of her, the Romans, and we through them, received whatever lessons the myth, or fact, of sibyl power has given to mortals.

How much have you received, or may you yet receive, think you, of that teaching? I call it the myth, or fact; but remember that, *as* a myth, it *is* a fact. This story has concentrated whatever good there is in the imagination or visionary powers in women, inspired by nature only. The traditions of witch and gypsy are partly its offshoots. You despise both, perhaps. But can you, though in utmost pride of your su-

* Cosimo Rosselli, especially chosen by the Pope for his gay coloring.

preme modern wisdom, suppose that the character—say, even of so poor and far-fallen a sibyl as Meg Merrilies—is only the coinage of Scott's brain; or that, even being no more, it is valueless? Admit the figure of the Cumaean Sibyl, in like manner, to be the coinage only of Virgil's brain. As such, it, and the words it speaks, are yet facts in which we may find use, if we are reverent to them.

To me, personally, (I must take your indulgence for a moment to speak wholly of myself,) they have been of the truest service—quite material and indisputable.

I am writing on St. John's Day, in the monastery of Assisi; and I had no idea whatever, when I sat down to my work this morning, of saying any word of what I am now going to tell you. I meant only to expand and explain a little what I said in my lecture about the Florentine engraving. But it seems to me now that I had better tell you what the Cumaean Sibyl has actually done for me.

212. In 1871, partly in consequence of chagrin at the Revolution in Paris, and partly in great personal sorrow, I was struck by acute inflammatory illness at Matlock, and reduced to a state of extreme weakness; lying at one time unconscious for some hours, those about me having no hope of my life. I have no doubt that the immediate cause of the illness was simply, eating when I was not hungry; so that modern science would acknowledge nothing in the whole business but an extreme and very dangerous form of indigestion; and entirely deny any interference of the Cumaean Sibyl in the matter.

I once heard a sermon by Dr. Guthrie, in Edinburgh, upon the wickedness of fasting. It was very eloquent and ingenious, and finely explained the superiority of the Scotch Free Church to the benighted Catholic Church, in that the Free Church saw no merit in fasting. And there was no mention, from beginning to end of the sermon, of even the existence of such texts as Daniel i. 12, or Matthew vi. 16.

Without the smallest merit, I admit, in fasting, I was nevertheless reduced at Matlock to a state very near starvation; and could not rise from my pillow, without being lifted,

for some days. And in the first clearly pronounced stage of recovery, when the perfect powers of spirit had returned, while the body was still as weak as it well could be, I had three dreams, which made a great impression on me; for in ordinary health my dreams are supremely ridiculous, if not unpleasant; and in ordinary conditions of illness, very ugly, and always without the slightest meaning. But these dreams were all distinct and impressive, and had much meaning, if I chose to take it.

213. The first * was of a Venetian fisherman, who wanted me to follow him down into some water which I thought was too deep; but he called me on, saying he had something to show me; so I followed him; and presently, through an opening, as if in the arsenal wall, he showed me the bronze horses of St. Mark's, and said, 'See, the horses are putting on their harness.'

The second was of a preparation at Rome, in St. Peter's, (or a vast hall as large as St. Peter's,) for the exhibition of a religious drama. Part of the play was to be a scene in which demons were to appear in the sky; and the stage servants were arranging gray fictitious clouds, and painted fiends, for it, under the direction of the priests. There was a woman dressed in black, standing at the corner of the stage watching them, having a likeness in her face to one of my own dead friends; and I knew somehow that she was not that friend, but a spirit; and she made me understand, without speaking, that I was to watch, for the play would turn out other than the priests expected. And I waited; and when the scene came on, the clouds became real clouds, and the fiends real fiends, agitating them in slow quivering, wild and terrible, over the heads of the people and priests. I recollected distinctly, however, when I woke, only the figure of the black woman mocking the people, and of one priest in an agony of terror, with the sweat pouring from his brow, but violently scolding one of the stage servants for having failed

* I am not certain of their order at this distance of time.

in some ceremony, the omission of which, he thought, had given the devils their power.

The third dream was the most interesting and personal. Some one came to me to ask me to help in the deliverance of a company of Italian prisoners who were to be ransomed for money. I said I had no money. They answered, Yes, I had some that belonged to me as a brother of St. Francis, if I would give it up. I said I did not know even that I *was* a brother of St. Francis; but I thought to myself, that perhaps the Franciscans of Fésolo, whom I had helped to make hay in their field in 1845, had adopted me for one; only I didn't see how the consequence of that would be my having any money. However, I said they were welcome to whatever I had; and then I heard the voice of an Italian woman singing; and I have never heard such divine singing before nor since;—the sounds absolutely strong and real, and the melody altogether lovely. If I could have written it! But I could not even remember it when I woke,—only how beautiful it was.

214. Now these three dreams have, every one of them, been of much use to me since; or so far as they have failed to be useful, it has been my own fault, and not theirs; but the chief use of them at the time was to give me courage and confidence in myself, both in bodily distress, of which I had still not a little to bear; and worse, much mental anxiety about matters supremely interesting to me, which were turning out ill. And through all such trouble—which came upon me as I was recovering, as if it meant to throw me back into the grave,—I held out and recovered, repeating always to myself, or rather having always murmured in my ears, at every new trial, one Latin line,

Tu ne cede malis, sed contra fortior ito.

Now I had got this line out of the tablet in the engraving of Raphael's vision, and had forgotten where it came from. And I thought I knew my sixth book of Virgil so well, that I never looked at it again while I was giving these lectures

at Oxford, and it was only here at Assisi, the other day, wanting to look more accurately at the first scene by the lake Avernus, that I found I had been saved by the words of the Cumaean Sibyl.

215. "Quam tua te Fortuna sinet," the completion of the sentence, has yet more and continual teaching in it for me now; as it has for all men. Her opening words, which have become hackneyed, and lost all present power through vulgar use of them, contain yet one of the most immortal truths ever yet spoken for mankind; and they will never lose their power of help for noble persons. But observe, both in that lesson, "Facilis descensus Averni," etc.; and in the still more precious, because universal, one on which the strength of Rome was founded,—the burning of the books,—the Sibyl speaks only as the voice of Nature, and of her laws;—not as a divine helper, prevailing over death; but as a mortal teacher warning us against it, and strengthening us for our mortal time; but not for eternity. Of which lesson her own history is a part, and her habitation by the Avernus lake. She desires immortality, fondly and vainly, as we do ourselves. She receives, from the love of her *refused* lover, Apollo, not immortality, but length of life;—her years to be as the grains of dust in her hand. And even this she finds was a false desire; and her wise and holy desire at last is—to die. She wastes away; becomes a shade only, and a voice. The Nations ask her, What wouldst thou? She answers, Peace; only let my last words be true. "L'ultimo mie parlar sie verace."

216. Therefore, if anything is to be conceived, rightly, and chiefly, in the form of the Cumaean Sibyl, it must be of fading virginal beauty, of enduring patience, of far-looking into futurity. "For after my death there shall yet return," she says, "another virgin."

Jam redit et virgo;—redeunt Saturnia regna,
Ultima Cumaei venit jam carminis aetas.

Here then is Botticelli's Cumaean Sibyl. She is armed, for she is the prophetess of Roman fortitude;—but her faded



VII.

For a time, and times.



VIII.

The Nymph beloved of Apollo.

(MICHAEL ANGELO.)

breast scarcely raises the corselet; her hair floats, not falls, in waves like the currents of a river,—the sign of enduring life; the light is full on her forehead: she looks into the distance as in a dream. It is impossible for art to gather together more beautifully or intensely every image which can express her true power, or lead us to understand her lesson.

217. Now you do not, I am well assured, know one of Michael Angelo's sibyls from another: unless perhaps the Delphian, whom of course he makes as beautiful as he can. But of this especially Italian prophetess, one would have thought he might, at least in some way, have shown that he knew the history, even if he did not understand it. She might have had more than one book, at all events, to burn. She might have had a stray leaf or two fallen at her feet. He could not indeed have painted her only as a voice; but his anatomical knowledge need not have hindered him from painting her virginal youth, or her wasting and watching age, or her inspired hope of a hotter future.

218. Opposite,—fortunately, photograph from the figure itself, so that you can suspect me of no exaggeration,—is Michael Angelo's Cumaean Sibyl, wasting away. It is by a grotesque and most strange chance that he should have made the figure of this Sibyl, of all others in the chapel, the most fleshly and gross, even proceeding to the monstrous license of showing the nipples of the breast as if the dress were molded over them like plaster. Thus he paints the poor nymph beloved of Apollo,—the clearest and queenliest in prophecy and command of all the sibyls,—as an ugly crone, with the arms of Goliath, poring down upon a single book.

219. There is one point of fine detail, however, in Botticelli's Cumaean Sibyl, and in the next I am going to show you, to explain which I must go back for a little while to the question of the direct relation of the Italian painters to the Greek. I don't like repeating in one lecture what I have said in another; but to save you the trouble of reference, must remind you of what I stated in my fourth lecture on Greek birds, when we were examining the adoption of the plume

crests in armor, that the crest signifies command; but the diadem, *obedience*; and that every crown is primarily a diadem. It is the thing that binds, before it is the thing that honors.

Now all the great schools dwell on this symbolism. The long flowing hair is the symbol of life, and the *διάδημα* of the law restraining it. Royalty, or kingliness, over life, restraining and glorifying. In the extremity of restraint—in death, whether noble, as of death to Earth, or ignoble, as of death to Heaven, the *διάδημα* is fastened with the mort-cloth: “Bound hand and foot with grave-clothes, and the face bound about with the napkin.”

220. Now look back to the first Greek head I ever showed you, used as the type of archaic sculpture in Aratra Pentelici, and then look at the crown in Botticelli's *Astrologia*. It is absolutely the Greek form,—even to the peculiar oval of the forehead; while the diadem—the governing law—is set with appointed stars—to rule the destiny and thought. Then return to the Cumaean Sibyl. She, as we have seen, is the symbol of enduring life—almost immortal. The diadem is withdrawn from the forehead—reduced to a narrow fillet—here, and the hair thrown free.

221. From the Cumaean Sibyl's diadem, traced only by points, turn to that of the Hellespontic, (Plate 9, opposite). I do not know why Botticelli chose her for the spirit of prophecy in old age; but he has made this the most interesting plate of the series in the definiteness of its connection with the work from Dante, which becomes his own prophecy in old age. The fantastic yet solemn treatment of the gnarled wood occurs, as far as I know, in no other engravings but this, and the illustrations to Dante; and I am content to leave it, with little comment, for the reader's quiet study, as showing the exuberance of imagination which other men at this time in Italy allowed to waste itself in idle arabesque, restrained by Botticelli to his most earnest purposes; and giving the withered tree-trunks, hewn for the rude throne of the aged prophetess, the same harmony with her fading spirit which the rose has with youth, or the laurel with victory. Also in its



X. ECCE ISO HANTACVLO RESPECTIT. PAIS HMILES ET IN
 S. S. NOVISSIMIS DIEBUS EXHEBREA VIRGINE NARCE
 S. ILLA =
 L. SPONTICA

NELLA MIEZCOLA STANDO. VIDI. FARE
 TANTO KVNA FANTINA GRANDONORE
 QVALEN VERGINITA ZIVVOL ZALVAE
 EPER DIVINA GRAEIA EZZVO. VALORE
 DISCENDILEI EVIENANCARNARE
 FIGVOLCHE FFIA DITANTO ZPLEIDORE
 EFFIE DIDDIO ZVO FIGLVOLVFRACIE
 CHE. TVTTOLZECOLNOZTRO PORRAUBACIO

weird characters, you have the best example I can show you of the orders of decorative design which are especially expressible by engraving, and which belong to a group of art instincts scarcely now to be understood, much less recovered, (the influence of modern naturalistic imitation being too strong to be conquered)—the instincts, namely, for the arrangement of pure line, in labyrinthine intricacy, through which the grace of order may give continual clue. The entire body of ornamental design, connected with writing, in the Middle Ages seems as if it were a sensible symbol, to the eye and brain, of the methods of error and recovery, the minglings of crooked with straight, and perverse with progressive, which constitute the great problem of human morals and fate; and when I chose the title for the collected series of these lectures, I hoped to have justified it by careful analysis of the methods of labyrinthine ornament, which, made sacred by Theseian traditions,* and beginning, in imitation of physical truth, with the spiral waves of the waters of Babylon as the Assyrian carved them, entangled in their returns the eyes of men, on Greek vase and Christian manuscript—till they closed in the arabesques which sprang round the last luxury of Venice and Rome.

But the labyrinth of life itself, and its more and more interwoven occupation, become too manifold, and too difficult for me; and of the time wasted in the blind lanes of it, perhaps that spent in analysis or recommendation of the art to which men's present conduct makes them insensible, has been chiefly cast away. On the walls of the little room where I finally revise this lecture,† hangs an old silken sampler of great-grandame's work: representing the domestic life of Abraham: chiefly the stories of Isaac and Ishmael. Sarah at her tent-door, watching, with folded arms, the dismissal of Hagar: above, in a wilderness full of fruit trees, birds, and butterflies, little Ishmael lying at the root of a tree, and the spent bottle under another; Hagar in prayer, and the angel

* Callimachus, 'Delos,' 304, etc.

† In the Old King's Arms Hotel, Lancaster.

appearing to her out of a wreathed line of gloomily undulating clouds, which, with a dark-rayed sun in the midst, surmount the entire composition in two arches, out of which descend shafts of (I suppose) beneficent rain; leaving, however, room, in the corner opposite to Ishmael's angel, for Isaac's, who stays Abraham in the sacrifice; the ram in the thicket, the squirrel in the plum tree above him, and the grapes, pears, apples, roses, and daisies of the foreground, being all wrought with involution of such ingenious needlework as may well rank, in the patience, the natural skill, and the innocent pleasure of it, with the truest works of Florentine engraving. Nay; the actual tradition of many of the forms of ancient art is in many places evident,—as, for instance, in the spiral summits of the flames of the wood on the altar, which are like a group of first-springing fern. On the wall opposite is a smaller composition, representing Justice with her balance and sword, standing between the sun and moon, with a background of pinks, borage, and corn-cockle: a third is only a cluster of tulips and iris, with two Byzantine peacocks; but the spirits of Penelope and Ariadne reign vivid in all the work—and the richness of pleasurable fancy is as great still, in these silken labors, as in the marble arches and golden roof of the cathedral of Monreale.

But what is the use of explaining or analyzing it? Such work as this means the patience and simplicity of all feminine life; and can be produced, among *us* at least, no more. Gothic tracery itself, another of the instinctive labyrinthine intricacies of old, though analyzed to its last section, has become now the symbol only of a foolish ecclesiastical sect, retained for their shibboleth, joyless and powerless for all good. The very labyrinth of the grass and flowers of our fields, though dissected to its last leaf, is yet bitten bare, or trampled to slime, by the Minotaur of our lust; and for the traceried spire of the poplar by the brook, we possess but the four-square furnace tower, to mingle its smoke with heaven's thunder-clouds.*

* A manufacturer wrote to me the other day, "We don't want to

SIBYLLALIBI
CA

ECCE VENIENTEM DIEM
ET LATENTIA APERIENTEM
TENEBIT GREMIO
GENTIVM REGINA



LI VERRA CHE LETTERNO SIGNORE
IVME DARA ALLE COSE NAS COSE
ELEGAMI ISCORA DE INOSTRO ERRORE
FARA LESINAGOGHE IVMINOS E
ESOIVERA LE LABRA AL PECHATORE
E FIE STADIRA DI VTE LE COSE
ENGRENBO ALLA REINA DELLE GENTE
SEDRA QVESTO RESANTO EVIVENTE

X.

Grass of the Desert.

We will look yet at one sampler more of the engraved work, done in the happy time when flowers were pure, youth simple, and imagination gay,—Botticelli's Libyan Sibyl.

Glance back first to the Hellespontic, noting the close fillet, and the cloth bound below the face, and then you will be prepared to understand the last I shall show you, and the loveliest of the southern Pythonesses.

222. A less deep thinker than Botticelli would have made her parched with thirst, and burnt with heat. But the voice of God, through nature, to the Arab or the Moor, is not in the thirst, but in the fountain—not in the desert, but in the grass of it. And this Libyan Sibyl is the spirit of wild grass and flowers, springing in desolate places.

You see, her diadem is a wreath of them; but the blossoms of it are not fastening enough for her hair, though it is not long yet—(she is only in reality a Florentine girl of fourteen or fifteen)—so the little darling knots it under her ears, and then makes herself a necklace of it. But though flowing hair and flowers are wild and pretty, Botticelli had not, in these only, got the power of Spring marked to his mind. Any girl might wear flowers; but few, for ornament, would be likely to wear grass. So the Sibyl shall have grass in her diadem; not merely interwoven and bending, but springing and strong. You thought it ugly and grotesque at first, did not you? It was made so, because precisely what Botticelli wanted you to look at.

But that's not all. This conical cap of hers, with one bead at the top,—considering how fond the Florentines are of graceful head-dresses, this seems a strange one for a young girl. But, exactly as I know the angel of Victory to be Greek, at his Mount of Pity, so I know this head-dress to be "make smoke!" Who said they did?—a hired murderer does not want to commit murder, but does it for sufficient motive. (Even our ship-owners don't want to drown their sailors; they will only do it for sufficient motive.) If the dirty creatures *did* want to make smoke, there would be more excuse for them: and that they are not clever enough to consume it, is no praise to them. A man who can't help his hiccough leaves the room; why do they not leave the England they pollute?

taken from a Greek coin, and to be meant for a Greek symbol. It is the Petasus of Hermes—the mist of morning over the dew. Lastly, what will the Libyan Sibyl say to you? The letters are large on her tablet. Her message is the oracle from the temple of the Dew: “The dew of thy birth is as the womb of the morning.”—“*Ecce venientem diem, et latentia aperientem, tenebit gremio gentium regina.*”

223. Why the daybreak came not then, nor yet has come, but only a deeper darkness; and why there is now neither queen nor king of nations, but every man doing that which is right in his own eyes, I would fain go on, partly to tell you, and partly to meditate with you: but it is not our work for to-day. The issue of the Reformation which these great painters, the scholars of Dante, began, we may follow, farther, in the study to which I propose to lead you, of the lives of Cimabue and Giotto, and the relation of their work at Assisi to the chapel and chambers of the Vatican.

224. To-day let me finish what I have to tell you of the style of southern engraving. What sudden bathos in the sentence, you think! So contemptible the question of style, then, in painting, though not in literature? You study the ‘style’ of Homer; the style, perhaps, of Isaiah; the style of Horace, and of Massillon. Is it so vain to study the style of Botticelli?

In all cases, it is equally vain, if you think of their style first. But know their purpose, and then, their way of speaking is worth thinking of. These apparently unfinished and certainly unfilled outlines of the Florentine,—clumsy work, as Vasari thought them,—as Mr. Otley and most of our English amateurs still think them,—are these good or bad engraving?

You may ask now, comprehending their motive, with some hope of answering or being answered rightly. And the answer is, They are the finest gravers’ work ever done yet by human hand. You may teach, by process of discipline and of years, any youth of good artistic capacity to engrave a plate in the modern manner; but only the noblest passion,

and the tenderest patience, will ever engrave one line like these of Sandro Botticelli.

225. Passion, and patience! Nay, even these you may have to-day in England, and yet both be in vain. Only a few years ago, in one of our northern iron-foundries, a workman of intense power and natural art-faculty set himself to learn engraving;—made his own tools; gave all the spare hours of his laborious life to learn their use; learnt it; and engraved a plate which, in manipulation, no professional engraver would be ashamed of. He engraved his blast furnace, and the casting of a beam of a steam engine. This, to him, was the power of God,—it was his life. No greater earnestness was ever given by man to promulgate a Gospel. Nevertheless, the engraving is absolutely worthless. The blast furnace is *not* the power of God; and the life of the strong spirit was as much consumed in the flames of it, as ever driven slave's by the burden and heat of the day.

How cruel to say so, if he yet lives, you think! No, my friends; the cruelty will be in you, and the guilt, if, having been brought here to learn that God is your Light; you yet leave the blast furnace to be the only light of England.

226. It has been, as I said in the note above (§ 200), with extreme pain that I have hitherto limited my notice of our own great engraver and moralist, to the points in which the disadvantages of English art-teaching made him inferior to his trained Florentine rival. But, that these disadvantages were powerless to arrest or ignobly depress him;—that however failing in grace and scholarship, he should never fail in truth or vitality; and that the precision of his unerring hand *—his inevitable eye—and his rightly judging heart—should place him in the first rank of the great artists not of England only, but of all the world and of all time:—that *this* was possible to him, was simply because he lived a *country* life.

* I know no drawing so subtle as Bewick's, since the fifteenth century, except Holbein's and Turner's. I have been greatly surprised lately by the exquisite water-color work in some of Stothard's smaller vignettes; but he cannot set the line like Turner or Bewick.

Bewick himself, Botticelli himself, Apelles himself, and twenty times Apelles, condemned to slavery in the hell-fire of the iron furnace, could have done—NOTHING. Absolute paralysis of all high human faculty *must* result from labor near fire. The poor engraver of the piston-rod had faculties—not like Bewick's, for if he had had those, he never would have endured the degradation; but assuredly, (I know this by his work,) faculties high enough to have made him one of the most accomplished figure painters of his age. And they are scorched out of him, as the sap from the grass in the oven: while on his Northumberland hill-sides, Bewick grew into as stately life as their strongest pine.

227. And therefore, in words of his, telling consummate and unchanging truth concerning the life, honor, and happiness of England, and bearing directly on the points of difference between class and class which I have not dwelt on without need, I will bring these lectures to a close.

“ I have always, through life, been of opinion that there is no business of any kind that can be compared to that of a man who farms his own land. It appears to me that every earthly pleasure, with health, is within his reach. But numbers of these men (the old statesmen) were grossly ignorant, and in exact proportion to that ignorance they were sure to be offensively proud. This led them to attempt appearing above their station, which hastened them on to their ruin; but, indeed, this disposition and this kind of conduct invariably leads to such results. There were many of these lairds on Tyneside; as well as many who held their lands on the tenure of ‘suit and service,’ and were nearly on the same level as the lairds. Some of the latter lost their lands (not fairly, I think) in a way they could not help; many of the former, by their misdirected pride and folly, were driven into towns, to slide away into nothingness, and to sink into oblivion, while their ‘ha’ houses’ (halls), that ought to have remained in their families from generation to generation, have moldered away. I have always felt extremely grieved to see the ancient mansions of many of the country gentlemen, from some-

what similar causes, meet with a similar fate. The gentry should, in an especial manner, prove by their conduct that they are guarded against showing any symptom of foolish pride, at the same time that they soar above every meanness, and that their conduct is guided by truth, integrity, and patriotism. If they wish the people to partake with them in these good qualities, they must set them the example, without which no real respect can ever be paid to them. Gentlemen ought never to forget the respectable station they hold in society, and that they are the natural guardians of public morals and may with propriety be considered as the head and the heart of the country, while ‘a bold peasantry’ are, in truth, the arms, the sinews, and the strength of the same; but when these last are degraded, they soon become dispirited and mean, and often dishonest and useless.”

* * * * * *

“This singular and worthy man * was perhaps the most

* Gilbert Gray, bookbinder. I have to correct the inaccurate—and very harmfully inaccurate, expression which I used of Bewick, in Love’s *Meinie* (§ 3), ‘a printer’s lad at Newcastle.’ His first master was a goldsmith and engraver, else he could never have been an artist. I am very heartily glad to make this correction, which establishes another link of relation between Bewick and Botticelli; but my error was partly caused by the impression which the above description of his “most invaluable friend” made on me, when I first read it.

Much else that I meant to correct, or promised to explain, in this lecture, must be deferred to the Appendix; the superiority of the Tuscan to the Greek Aphrodite I may perhaps, even at last, leave the reader to admit or deny as he pleases, having more important matters of debate on hand. But as I mean only to play with Proserpina during the spring, I will here briefly anticipate a statement I mean in the Appendix to enforce, namely, of the extreme value of colored copies by hand, of paintings whose excellence greatly consists in color, as auxiliary to engravings of them. The prices now given without hesitation for nearly worthless original drawings by fifth-rate artists, would obtain for the misguided buyers, in something like a proportion of ten to one, most precious copies of drawings which can only be represented at all in engraving by entire alteration of their treatment, and abandonment of their finest purposes. I feel this so strongly that I have given my best attention, during upwards of ten years, to train a copyist to perfect fidelity in rendering the work of Turner; and having now suc-

invaluable acquaintance and friend I ever met with. His moral lectures and advice to me formed a most important succedaneum to those imparted by my parents. His wise remarks, his detestation of vice, his industry, and his temperance, crowned with a most lively and cheerful disposition, altogether made him appear to me as one of the best of characters. In his workshop I often spent my winter evenings. This was also the case with a number of young men who might be considered as his pupils; many of whom, I have no doubt, he directed into the paths of truth and integrity, and who revered his memory through life. He rose early to work, lay down when he felt weary, and rose again when refreshed. His diet was of the simplest kind; and he ate when hungry, and drank when dry, without paying regard to meal-times. By steadily pursuing this mode of life he was enabled to accumulate sums of money—from ten to thirty pounds. This enabled him to get books, of an entertaining and moral tendency, printed and circulated at a cheap rate. His great object was, by every possible means, to promote honorable feelings in the minds of youth, and to prepare them for becoming good members of society. I have often discovered that he did not overlook ingenious mechanics, whose misfortunes—perhaps mismanagement—had led them to a lodging in Newgate. To these he directed his compassionate eye, and for the deserving (in his estimation), he paid their debt, and set them at liberty. He felt hurt at seeing the hands of an ingenious man tied up in prison, where they were of no use either to himself or to the community. This worthy man had been

ceeded in enabling him to produce facsimiles so close as to look like replicas, facsimiles which I must sign with my own name and his, in the very work of them, to prevent their being sold for real Turner vignettes, I can obtain no custom for him, and am obliged to leave him to make his bread by any power of captivation his original sketches may possess in the eyes of a public which maintains a nation of copyists in Rome, but is content with black and white renderings of great English art; though there is scarcely one cultivated English gentleman or lady who has not been twenty times in the Vatican, for once that they have been in the National Gallery.

educated for a priest; but he would say to me, 'Of a "trouth," Thomas, I did not like their ways.' So he gave up the thoughts of being a priest, and bent his way from Aberdeen to Edinburgh, where he engaged himself to Allan Ramsay, the poet, then a bookseller at the latter place, in whose service he was both shopman and bookbinder. From Edinburgh he came to Newcastle. Gilbert had had a liberal education bestowed upon him. He had read a great deal, and had reflected upon what he had read. This, with his retentive memory, enabled him to be a pleasant and communicative companion. I lived in habits of intimacy with him to the end of his life; and, when he died, I, with others of his friends, attended his remains to the grave at the Ballast Hills."

And what graving on the sacred cliffs of Egypt ever honored them, as that grass-dimmed furrow does the mounds of our Northern land?

NOTES.

228. I. The following letter, from one of my most faithful readers, corrects an important piece of misinterpretation in the text. The waving of the reins must be only in sign of the fluctuation of heat round the Sun's own chariot:—

“Spring Field, Ambleside,
“February 11, 1875.

“Dear Mr. Ruskin,—Your fifth lecture on Engraving I have to hand.

“Sandro intended those wavy lines meeting under the Sun's right * hand, (Plate V.) primarily, no doubt, to represent the four ends of the four reins dangling from the Sun's hand. The flames and rays are seen to continue to radiate from the platform of the chariot between and beyond these ends of the reins, and over the knee. He may have wanted to acknowledge that the warmth of the earth was Apollo's, by making these ends of the reins spread out separately and wave, and thereby inclose a form like a flame. But I cannot think it.

“Believe me,
“Ever yours truly,
“CHAS. WM. SMITH.”

II. I meant to keep labyrinthine matters for my Appendix; but the following most useful by-words from Mr. Tyrwhitt had better be read at once:—

“In the matter of Cretan Labyrinth, as connected by

* “Would not the design have looked better, to us, on the plate than on the print? On the plate, the reins would be in the left hand; and the whole movement be from the left to the right? The two different forms that the radiance takes would symbolize respectively heat and light, would they not?”

Virgil with the Ludus Trojæ, or equestrian game of winding and turning, continued in England from twelfth century; and having for last relic the maze * called 'Troy Town,' at Troy Farm, near Somerton, Oxfordshire, which itself resembles the circular labyrinth on a coin of Cnossus in Fors Clavigera. (Letter 23, p. 12.)

"The connecting quotation from Virg., *Æn.*, V. 588, is as follows:

'Ut quondam Creta fertur Labyrinthus in alta
Parietibus textum cæcis iter, ancipitemque
Mille viis habuisse dolum, qua signa sequendi
Falleret indeprencus et inremeabilis error.
Haud alio Teucrūn nati vestigia cursu
Impediunt, texuntque fagas et proelia ludo,
Delphinum similes.'"

Labyrinth of Ariadne, as cut on the Downs by shepherds from time immemorial,—

Shakespeare, 'Midsummer Night's Dream,' Act ii., sc. 2:

"*Oberon.* The nine-men's morris † is filled up with mud;
And the quaint mazes in the wanton green
By lack of tread are undistinguishable."

The following passage, 'Merchant of Venice,' Act iii., sc. 2, confuses (to all appearance) the Athenian tribute to Crete, with the story of Hesione: and may point to general confusion in the Elizabethan mind about the myths:

"*Portia.* with much more love
Than young Alcides, when he did reduce
The virgin-tribute paid by howling Troy
To the sea monster." ‡

Theseus is the Attic Hercules, however; and Troy may have been a sort of house of call for mythical monsters, in the view of midland shepherds.

* Strutt, pp. 97-8, ed. 1801.

† Explained as "a game still played by the shepherds, cowkeepers," etc., in the midland counties.

‡ See *Iliad*, 20, 145.



OREDE RE OSIGNORDESIGNORI
 CHE NELLO ETERNO REGGI SENPRE SOLO
 ECHE CHORREGGI TVTTI ENOSTRI ERRORI
 STANDOASSEDEPE SVNELSVPERNO POLO
 OMELODIA DEGLANCELICI CHORI.
 ASCHOLTA VNPOCHO ELNOSTROAMAROD 710
 EVIENI EREGGI NOTLORE ALTISSIMO
 COLIVO AMORECHEE TANTO DOLCISISSO

APPENDIX.

ARTICLE I.

NOTES ON THE PRESENT STATE OF ENGRAVING IN ENGLAND.

229. I HAVE long deferred the completion of this book, because I had hoped to find time to show, in some fullness, the grounds for my conviction that engraving, and the study of it, since the development of the modern finished school, have been ruinous to European knowledge of art. But I am more and more busied in what I believe to be better work, and can only with extreme brevity state here the conclusions of many years' thought.

These, in several important particulars, have been curiously enforced on me by the carelessness shown by the picture dealers about the copies from Turner which it has cost Mr. Ward and me * fifteen years of study together to enable ourselves to make. "They are only copies," say they,— "nobody will look at them."

230. It never seems to occur even to the most intelligent persons that an engraving also is 'only a copy,' and a copy done with refusal of color, and with disadvantage of means in rendering shade. But just because this utterly inferior copy can be reduplicated, and introduces a different kind of skill, in another material, people are content to lose all the composition, and all the charm, of the original,—so far as these depend on the chief gift of a *painter*,—color; while they are gradually misled into attributing to the painter himself qualities impertinently added by the engraver to make his plate

* See note to the close of this article, p. 156.

popular: and, which is far worse, they are as gradually and subtly prevented from looking, in the original, for the qualities which engraving could never render. Further, it continually happens that the very best color-compositions engrave worst; for they often extend colors over great spaces at equal pitch, and the green is as dark as the red, and the blue as the brown; so that the engraver can only distinguish them by lines in different directions, and his plate becomes a vague and dead mass of neutral tint; but a bad and forced piece of color, or a piece of work of the Bolognese school, which is everywhere black in the shadows, and colorless in the lights, will engrave with great ease, and appear spirited and forcible. Hence engravers, as a rule, are interested in reproducing the work of the worst schools of painting.

Also, the idea that the merit of an engraving consisted in light and shade, has prevented the modern masters from even attempting to render works dependent mainly on outline and expression; like the early frescoes, which should indeed have been the objects of their most attentive and continual skill: for outline and expression are entirely within the scope of engraving; and the scripture histories of an aisle of a cloister might have been engraved, to perfection, with little more pains than are given by ordinary workmen to round a limb by Correggio, or imitate the texture of a dress by Sir Joshua, —and both, at last, inadequately.

231. I will not lose more time in asserting or lamenting the mischief arising out of the existing system: but will rapidly state what the public should now ask for.

1. Exquisitely careful engraved outlines of all remaining frescoes of the thirteenth, fourteenth, and fifteenth centuries in Italy, with so much pale tinting as may be explanatory of their main masses; and with the local darks and local lights brilliantly relieved. The Arundel Society have published some meritorious plates of this kind from Angelico,—not, however, paying respect enough to the local colors, but conventionalizing the whole too much into outline.

2. Finished small plates for book illustration. The cheap

wood-cutting and etching of popular illustrated books have been endlessly mischievous to public taste: they first obtained their power in a general reaction of the public mind from the insipidity of the lower school of line engraving, brought on it by servile persistence in hack work for ignorant publishers. The last dregs of it may still be seen in the sentimental landscapes engraved for cheap ladies' pocket-books. But the wood-cut can never, educationally, take the place of serene and accomplished line engraving; and the training of young artists in whom the gift of delineation prevails over their sense of color, to the production of scholarly, but small plates, with their utmost honor of skill, would give a hitherto unconceived dignity to the character and range of our popular literature.

3. Vigorous mezzotints from pictures of the great masters, which originally present noble contrasts of light and shade. Many Venetian works are magnificent in this character.

4. Original design by painters themselves, decisively engraved in few lines—(*not etched*); and with such insistence by dotted work on the main contours as we have seen in the examples given from Italian engraving.

5. On the other hand, the men whose quiet patience and exquisite manual dexterity are at present employed in producing large and costly plates, such as that of the *Belle Jardinière de Florence*, by M. Boucher Desnoyers, should be entirely released from their servile toil, and employed exclusively in producing colored copies, or light drawings, from the original work. The same number of hours of labor, applied with the like conscientious skill, would multiply precious likenesses of the real picture, full of subtle veracities which no steel line could approach, and conveying, to thousands, true knowledge and unaffected enjoyment of painting; while the finished plate lies uncared for in the portfolio of the virtuoso, serving only, so far as it is seen in the printseller's window by the people, to make them think that sacred painting must always be dull, and unnatural.

232. I have named the above engraving, because, for persons wishing to study the present qualities and methods of line-work, it is a pleasant and sufficient possession, uniting every variety of texture with great serenity of unforced effect, and exhibiting every possible artifice and achievement in the distribution of even and rugged, or of close and open line; artifices for which,—while I must yet once more and emphatically repeat that they are illegitimate, and could not be practiced in a revived school of classic art,—I would fain secure the reader's reverent admiration, under the conditions exacted by the school to which they belong. Let him endeavor, with the finest point of pen or pencil he can obtain, to imitate the profile of this Madonna in its relief against the gray background of the water surface; let him examine, through a good lens, the way in which the lines of the background are ended in a lance-point as they approach it; the exact equality of depth of shade being restored by inserted dots, which prepare for the transition to the manner of shade adopted in the flesh: then let him endeavor to trace with his own hand some of the curved lines at the edge of the eyelid, or in the rounding of the lip; or if these be too impossible, even a few of the quiet undulations which graduate the folds of the hood behind the hair; and he will, I trust, begin to comprehend the range of delightful work which would be within the reach of such an artist, employed with more tractable material on more extended subject.

233. If, indeed, the present system were capable of influencing the mass of the people, and enforcing among them the subtle attention necessary to appreciate it, something might be pleaded in defense of its severity. But all these plates are entirely above the means of the lower middle classes, and perhaps not one reader in a hundred can possess himself, for the study I ask of him, even of the plate to which I have just referred. What, in the stead of such, he can and does possess, let him consider,—and, if possible, just after examining the noble qualities of this conscientious engraving.

234. Take up, for an average specimen of modern illus-

trated works, the volume of Dickens's 'Master Humphrey's Clock,' containing 'Barnaby Rudge.'

You have in that book an entirely profitless and monstrous story, in which the principal characters are a coxcomb, an idiot, a madman, a savage blackguard, a foolish tavern-keeper, a mean old maid, and a conceited apprentice,—mixed up with a certain quantity of ordinary operatic pastoral stuff, about a pretty Dolly in ribbons, a lover with a wooden leg, and an heroic locksmith. For these latter, the only elements of good, or life, in the filthy mass of the story,* observe that the author must filch the wreck of those old times of which we fiercely and frantically destroy every living vestige, whenever it is possible. You cannot have your Dolly Varden brought up behind the counter of a railway station; nor your jolly locksmith trained at a Birmingham brass-foundry. And of these materials, observe that you can only have the ugly ones illustrated. The cheap popular art cannot draw for you beauty, sense, or honesty; and for Dolly Varden, or the locksmith, you will look through the vignettes in vain. But every species of distorted folly and vice,—the idiot, the blackguard, the coxcomb, the paltry fool, the degraded woman,—are pictured for your honorable pleasure in every page, with clumsy caricature, struggling to render its dullness tolerable by insisting on defect,—if perchance a penny or two more may be coined out of the Cockney reader's itch for loathsomeness.

235. Or take up, for instance of higher effort, the 'Cornhill Magazine' for this month, July, 1876. It has a vignette of Venice for an illuminated letter. That is what your decorative art has become, by help of Kensington! The letter to be produced is a T. There is a gondola in the front of the design, with the canopy slipped back to the stern like a saddle over a horse's tail. There is another in the middle distance, all gone to seed at the prow, with its gondolier emaciated into

* The raven, however, like all Dickens's animals, is perfect: and I am the more angry with the rest because I have every now and then to open the book to look for him.

an oar, at the stern; then there is a Church of the Salute, and a Ducal Palace,—in which I beg you to observe all the felicity and dexterity of modern cheap engraving; finally, over the Ducal Palace there is something, I know not in the least what meant for, like an umbrella dropping out of a balloon, which is the ornamental letter T. Opposite this ornamental design, there is an engraving of two young ladies and a parasol, between two trunks of trees. The white face and black feet of the principal young lady, being the points of the design, are done with as much care,—not with as much dexterity,—as an ordinary sketch of Du Maurier's in Punch. The young lady's dress, the next attraction, is done in cheap white and black cutting, with considerably less skill than that of any ordinary tailor's or milliner's shop-book pattern drawing. For the other young lady, and the landscape, take your magnifying glass, and look at the hacked wood that forms the entire shaded surface—one mass of idiotic scabble, without the remotest attempt to express a single leaf, flower, or clod of earth. It is such landscape as the public sees out of its railroad window at sixty miles of it in the hour—and good enough for such a public.

236. Then turn to the last—the poetical plate, p. 122: “Lifts her—lays her down with care.” Look at the gentleman with a spade, promoting the advance, over a hillock of hay, of the reposing figure in the black-sided tub. Take your magnifying glass to *that*, and look what a dainty female arm and hand your modern scientific and anatomical schools of art have provided you with! Look at the tender horizontal flux of the sea round the promontory point above. Look at the tender engraving of the linear light on the divine horizon, above the ravenous sea-gull. Here is Development and Progress for you, from the days of Perugino's horizon, and Dante's daybreaks! Truly, here it seems

“Si che le bianche e le vermiglie guance
Per troppa etate divenivan rance.”

237. I have chosen no gross or mean instances of modern

work. It is one of the saddest points connected with the matter that the designer of this last plate is a person of consummate art faculty, but bound to the wheel of the modern Juggernaut, and broken on it. These wood-cuts, for 'Barnaby Rudge' and the 'Cornhill Magazine,' are favorably representative of the entire illustrative art industry of the modern press,—industry enslaved to the ghastly service of catching the last gleams in the glued eyes of the daily more bestial English mob,—railroad born and bred, which drags itself about the black world it has withered under its breath, in one eternal grind and shriek,—gobbling,—staring,—chattering,—giggling,—trampling out every vestige of national honor and domestic peace, wherever it sets the staggering hoof of it; incapable of reading, of hearing, of thinking, of looking,—capable only of greed for money, lust for food, pride of dress, and the prurient itch of momentary curiosity for the politics last announced by the newsmonger, and the religion last rolled by the chemist into electuary for the dead.

238. In the miserably competitive labor of finding new stimulus for the appetite—daily more gross—of this tyrannous mob, we may count as lost, beyond any hope, the artists who are dull, docile, or distressed enough to submit to its demands; and we may count the dull and the distressed by myriads;—and among the docile, many of the best intellects we possess. The few who have sense and strength to assert their own place and supremacy, are driven into discouraged disease by their isolation, like Turner and Blake; the one abandoning the design of his 'Liber Studiorum' after imperfectly and sadly, against total public neglect, carrying it forward to what it is,—monumental, nevertheless, in landscape engraving; the other producing, with one only majestic series of designs from the book of Job, nothing for his life's work but coarsely iridescent sketches of enigmatic dream.

239. And, for total result of our English engraving industry during the last hundred and fifty years, I find that practically at this moment I cannot get a *single* piece of true, sweet, and comprehensible art, to place for instruction in any

children's school! I can get, for ten pounds apiece, well-engraved portraits of Sir Joshua's beauties showing graceful limbs through flowery draperies; I can get—dirt-cheap—any quantity of Dutch flats, ditches, and hedges, enlivened by cows chewing the cud, and dogs behaving indecently; I can get heaps upon heaps of temples, and forums, and altars, arranged as for academical competition, round seaports, with curled-up ships that only touch the water with the middle of their bottoms. I can get, at the price of lumber, any quantity of British squires flourishing whips and falling over hurdles; and, in suburban shops, a dolorous variety of widowed mothers nursing babies in a high light with the Bible on a table, and baby's shoes on a chair. Also, of cheap prints, painted red and blue, of Christ blessing little children, of Joseph and his brethren, the infant Samuel, or Daniel in the lions' den, the supply is ample enough to make every child in these islands think of the Bible as a somewhat dull story-book, allowed on Sunday;—but of trained, wise, and worthy art, applied to gentle purposes of instruction, no single example can be found in the shops of the British printseller or bookseller. And after every dilettante tongue in European society has filled drawing-room and academy alike with idle clatter concerning the divinity of Raphael and Michael Angelo, for these last hundred years, I cannot at this instant, for the first school which I have some power of organizing under St. George's laws, get a good print of Raphael's Madonna of the tribune, or an ordinarily intelligible view of the side and dome of St. Peter's!

240. And there are simply no words for the mixed absurdity and wickedness of the present popular demand for art, as shown by its supply in our thoroughfares. Abroad, in the shops of the Rue de Rivoli, brightest and most central of Parisian streets, the putrescent remnant of what was once Catholicism promotes its poor gilded pedlars' ware of nativity and crucifixion into such honorable corners as it can find among the more costly and studious illuminations of the brothel: and although, in Pall Mall, and the Strand, the

large-margined Landseer,—Stanfield,—or Turner-proofs, in a few stately windows, still represent, uncared-for by the people, or inaccessible to them, the power of an English school now wholly perished,—these are too surely superseded, in the windows that stop the crowd, by the thrilling attraction with which Doré, Gérôme, and Tadema have invested the gambling table, the dueling ground, and the arena; or by the more material and almost tangible truth with which the apothecary-artist stereographs the stripped actress, and the railway mound.

241. Under these conditions, as I have now repeatedly asserted, no professorship, nor school, of art can be of the least use to the general public. No race can understand a visionary landscape, which blasts its real mountains into ruin, and blackens its river-beds with foam of poison. Nor is it of the least use to exhibit ideal Diana at Kensington, while substantial Phryne may be worshiped in the Strand. The only recovery of our art-power possible,—nay, when once we know the full meaning of it, the only one desirable,—must result from the purification of the nation's heart, and chastisement of its life: utterly hopeless now, for our adult population, or in our large cities, and their neighborhood. But, so far as any of the sacred influence of former design can be brought to bear on the minds of the young, and so far as, in rural districts, the first elements of scholarly education can be made pure, the foundation of a new dynasty of thought may be slowly laid. I was strangely impressed by the effect produced in a provincial seaport school for children, chiefly of fishermen's families, by the gift of a little colored drawing of a single figure from the Paradise of Angelico in the Accademia of Florence. The drawing was wretched enough, seen beside the original; I had only bought it from the poor Italian copyist for charity: but, to the children, it was like an actual glimpse of heaven; they rejoiced in it with pure joy, and their mistress thanked me for it more than if I had sent her a whole library of good books. Of such copies, the grace-giving industry of young

girls, now worse than lost in the spurious charities of the bazaar, or selfish ornamentations of the drawing-room, might, in a year's time, provide enough for every dame-school in England; and a year's honest work of the engravers employed on our base novels, might represent to our advanced students every frescoed legend of philosophy and morality extant in Christendom.

242. For my own part, I have no purpose, in what remains to me of opportunity, either at Oxford or elsewhere, to address any farther course of instruction towards the development of existing schools. After seeing the stream of the Teviot as black as ink, and a putrid carcass of a sheep lying in the dry channel of the Jed, under Jedburgh Abbey, (the entire strength of the summer stream being taken away to supply a single mill,) I know, finally, what value the British mind sets on the 'beauties of nature,' and shall attempt no farther the excitement of its enthusiasm in that direction. I shall indeed endeavor to carry out, with Mr. Ward's help, my twenty years' held purpose of making the real character of Turner's work known, to the persons who, formerly interested by the engravings from him, imagined half the merit was of the engraver's giving. But I know perfectly that to the general people, trained in the midst of the ugliest objects that vice can design, in houses, mills, and machinery, *all* beautiful form and color is as invisible as the seventh heaven. It is not a question of appreciation at all; the thing is physically invisible to them, as human speech is inaudible during a steam whistle.

243. And I shall also use all the strength I have to convince those, among our artists of the second order, who are wise and modest enough not to think themselves the matches of Turner or Michael Angelo, that in the present state of art they only waste their powers in endeavoring to produce original pictures of human form or passion. Modern aristocratic life is too vulgar, and modern peasant life too unhappy, to furnish subjects of noble study; while, even were it otherwise, the multiplication of designs by painters

of second-rate power is no more desirable than the writing of music by inferior composers. They may, with far greater personal happiness, and incalculably greater advantage to others, devote themselves to the affectionate and sensitive copying of the works of men of just renown. The dignity of this self-sacrifice would soon be acknowledged with sincere respect; for copies produced by men working with such motive would differ no less from the common trade-article of the galleries than the rendering of music by an enthusiastic and highly trained executant differs from the grinding of a street organ. And the change in the tone of public feeling, produced by familiarity with such work, would soon be no less great than in their musical enjoyment, if having been accustomed only to hear black Christys, blind fiddlers, and hoarse beggars scrape or howl about their streets, they were permitted daily audience of faithful and gentle orchestral rendering of the work of the highest classical masters.

244. I have not, until very lately, rightly appreciated the results of the labor of the Arundel Society in this direction. Although, from the beginning, I have been honored in being a member of its council, my action has been hitherto rather of check than help, because I thought more of the differences between our copies and the great originals, than of their unquestionable superiority to anything the public could otherwise obtain.

I was practically convinced of their extreme value only this last winter, by staying at the house of a friend in which the Arundel engravings were the principal decoration; and where I learned more of Masaccio from the Arundel copy of the contest with Simon Magus, than in the Brancacci chapel itself; for the daily companionship with the engraving taught me subtleties in its composition which had escaped me in the multitudinous interest of visits to the actual fresco.

But the work of the Society has been sorely hindered hitherto, because it has had at command only the skill of copyists trained in foreign schools of color, and accustomed to meet no more accurate requisitions than those of the

fashionable traveler. I have always hoped for, and trust at last to obtain, co-operation with our too mildly laborious copyists, of English artists possessing more brilliant color faculty; and the permission of our subscribers to secure for them the great ruins of the noble past, undesecrated by the trim, but treacherous, plastering of modern emendation.

245. Finally, I hope to direct some of the antiquarian energy often to be found remaining, even when love of the picturesque has passed away, to encourage the accurate delineation and engraving of historical monuments, as a direct function of our schools of art. All that I have generally to suggest on this matter has been already stated with sufficient clearness in the first of my inaugural lectures at Oxford: and my forthcoming 'Elements of Drawing' * will contain all the directions I can give in writing as to methods of work for such purpose. The publication of these has been hindered, for at least a year, by the abuses introduced by the modern cheap modes of printing engravings. I find the men won't use any ink but what pleases them; nor print but with what pressure pleases them; and if I can get the foreman to attend to the business, and choose the ink right, the men change it the moment he leaves the room, and threaten to throw up the job when they are detected. All this, I have long known well, is a matter of course, in the outcome of modern principles of trade; but it has rendered it hitherto impossible for me to produce illustrations, which have been ready, as far as my work or that of my own assistants is concerned, for a year and a half. Any one interested in hearing of our progress—or arrest, may write to my Turner copyist, Mr. Ward: † and, in the meantime, they can help my designs

* "Laws of Fésolé."

† 2, Church Terrace, Richmond, Surrey. NOTE.—I have hitherto permitted Mr. Ward to copy any Turner drawing he was asked to do; but, finding there is a run upon the vignettes of Loch Lomond and Derwent, I have forbidden him to do more of them for the present, lest his work should get the least mechanical. The admirable drawings of Venice, by my good assistant, Mr. Bunney, resident there, will become of more value to their purchasers every year, as the buildings

for art education best by making these Turner copies more generally known; and by determining, when they travel, to spend what sums they have at their disposal, not in fady photography, but in the encouragement of any good *water-color* and *pencil* draughtsmen whom they find employed in the *galleries* of Europe.

from which they are made are destroyed. I was but just in time, working with him at Verona, to catch record of Fra Giocondo's work in the smaller square; the most beautiful Renaissance design in North Italy.

ARTICLE II.

DETACHED NOTES.

I.

On the series of Sibyl engravings attributed to Botticelli.

246. SINCE I wrote the earlier lectures in this volume, I have been made more doubtful on several points which were embarrassing enough before, by seeing some better (so-called) impressions of my favorite plates containing light and shade which did not improve them.

I do not choose to waste time or space in discussion, till I know more of the matter; and that more I must leave to my good friend Mr. Reid of the British Museum to find out for me; for I have no time to take up the subject myself, but I give, for frontispiece to this Appendix, the engraving of Joshua referred to in the text, which however beautiful in thought, is an example of the inferior execution and more elaborate shade which puzzle me. But whatever is said in the previous pages of the plates chosen for example, by whomsoever done, is absolutely trustworthy. Thoroughly fine they are, in their existing state, and exemplary to all persons and times. And of the rest, in fitting place I hope to give complete—or at least satisfactory account.

II.

On the three excellent engravers representative of the first, middle, and late schools.

247. I have given opposite a photograph, slightly reduced from the Dürer Madonna, alluded to often in the text, as an example of his best conception of womanhood. It is very



XII.

The Coronation in the Garden.

curious that Dürer, the least able of all great artists to represent womanhood, should of late have been a very principal object of feminine admiration. The last thing a woman should do is to write about art. They never see anything in pictures but what they are told, (or resolve to see out of contradiction,)—or the particular things that fall in with their own feelings. I saw a curious piece of enthusiastic writing by an Edinburgh lady, the other day, on the photographs I had taken from the tower of Giotto. She did not care a straw what Giotto had meant by them, declared she felt it her duty only to announce what they were to *her*; and wrote two pages on the bas-relief of Heracles and Antæus—assuming it to be the death of Abel.

248. It is not, however, by women only that Dürer has been over-praised. He stands so alone in his own field, that the people who care much for him generally lose the power of enjoying anything else rightly; and are continually attributing to the force of his imagination quaintnesses which are merely part of the general mannerism of his day.

The following notes upon him, in relation to two other excellent engravers, were written shortly for extempore expansion in lecturing. I give them, with the others in this terminal article, mainly for use to myself in future reference; but also as more or less suggestive to the reader, if he has taken up the subject seriously, and worth, therefore, a few pages of this closing sheet.

249. The men I have named as representative of all the good ones composing their school, are alike resolved their engraving shall be lovely.

But Botticelli, the ancient, wants, with as little engraving, as much Sibyl as possible.

Dürer, the central, wants, with as much engraving as possible, anything of Sibyl that may chance to be picked up with it.

Beaugrand, the modern, wants, as much Sibyl as possible, and as much engraving too.

250. I repeat—for I want to get this clear to you—

Botticelli wants, with as little engraving, as much Sibyl as possible. For his head is full of Sibyls, and his heart. He can't draw them fast enough: one comes, and another and another; and all, gracious and wonderful and good, to be engraved forever, if only he had a thousand hands and lives. He scratches down one, with no haste, with no fault, divinely careful, scrupulous, patient, but with as few lines as possible. 'Another Sibyl—let me draw another, for heaven's sake, before she has burnt all her books, and vanished.'

Dürer is exactly Botticelli's opposite. He is a workman, to the heart, and will do his work magnificently. 'No matter what I do it on, so that my craft be honorably shown. Anything will do; a Sibyl, a skull, a Madonna and Christ, a hat and feather, an Adam, an Eve, a cock, a sparrow, a lion with two tails, a pig with five legs,—anything will do for me. But see if I don't show you what engraving is, be my subject what it may!'

251. Thirdly: Beaugrand, I said, wants as much Sibyl as possible, and as much engraving. He is essentially a copyist, and has no ideas of his own, but deep reverence and love for the work of others. He will give his life to represent another man's thought. He will do his best with every spot and line,—exhibit to you, if you will only look, the most exquisite completion of obedient skill; but will be content, if you will not look, to pass his neglected years in fruitful peace, and count every day well spent that has given softness to a shadow, or light to a smile.

III.

On Dürer's landscape, with reference to the sentence on p. 101: "I hope you are pleased."

252. I spoke just now only of the ill-shaped body of this figure of Fortune, or Pleasure. Beneath her feet is an elaborate landscape. It is all drawn out of Dürer's head;—he would look at bones or tendons carefully, or at the leaf details

of foreground;—but at the breadth and loveliness of real landscape, never.

He has tried to give you a bird's-eye view of Germany; rocks, and woods, and clouds, and brooks, and the pebbles in their beds, and mills, and cottages, and fences, and what not; but it is all a feverish dream, ghastly and strange, a monotone of diseased imagination.

And here is a little bit of the world he would not look at—of the great river of his land, with a single cluster of its reeds, and two boats, and an island with a village, and the way for the eternal waters opened between the rounded hills.*

It is just what you may see any day, anywhere,—innocent, seemingly artless; but the artlessness of Turner is like the face of Gainsborough's village girl, and a joy forever.

IV.

On the study of anatomy.

253. The virtual beginner of artistic anatomy in Italy was a man called 'The Poulterer'—from his grandfather's trade; 'Pollajuolo,' a man of immense power, but on whom the curse of the Italian mind in this age † was set at its deepest.

Any form of passionate excess has terrific effects on body and soul, in nations as in men; and when this excess is in rage, and rage against your brother, and rage accomplished in habitual deeds of blood,—do you think Nature will forget to set the seal of her indignation upon the forehead? I told you that the great division of spirit between the northern and southern races had been reconciled in the Val d'Arno. The Font of Florence, and the Font of Pisa, were as the very

* The engraving of Turner's "Scene on the Rhine" (near Bingen?) with boats on the right, and reedy foreground on the left; the opening between its mountain banks in central distance. It is exquisitely engraved, the plate being of the size of the drawing, about ten inches by six, and finished with extreme care and feeling.

† See the horrible picture of St. Sebastian by him in our own National Gallery.

springs of the life of the Christianity which had gone forth to teach all nations, baptizing them in the name of the Prince of Peace. Yet these two brother cities were to each other—I do not say as Abel and Cain, but as Eteocles and Polynices, and the words of Æschylus are now fulfilled in them to the uttermost. The Arno baptizes their dead bodies:—their native valley between its mountains is to them as the furrow of a grave;—“and so much of their land they have, as is sepulcher.” Nay, not of Florence and Pisa only was this true: Venice and Genoa died in death-grapple; and eight cities of Lombardy divided between them the joy of leveling Milan to her lowest stone. Nay, not merely in city against city, but in street against street, and house against house, the fury of the Theban dragon flamed ceaselessly, and with the same excuse upon men’s lips. The sign of the shield of Polynices, Justice bringing back the exile, was to them all, in turn, the portent of death: and their history, in the sum of it and substance, is as of the servants of Joab and Abner by the pool of Gibeon. “They caught every one his fellow by the head, and thrust his sword in his fellow’s side; so they fell down together: wherefore that place was called ‘the field of the strong men.’”

254. Now it is not possible for Christian men to live thus, except under a fever of insanity. I have before, in my lectures on Prudence and Insolence in art, deliberately asserted to you the logical accuracy of the term ‘demoniacal possession’*—the being in the power or possession of a betraying spirit; and the definite sign of such insanity is delight in witnessing pain, usually accompanied by an instinct that gloats over or plays with physical uncleanness or disease, and always by a morbid egotism. It is not to be recognized for demoniacal power so much by its *viciousness*, as its *paltriness*,—the taking pleasure in minute, contemptible, and loathsome things.† Now, in the middle of the

* See “The Eagle’s Nest,” § 79.

† As in the muscles of the legs and effort in stretching bows, of the executioners, in the picture just referred to.

gallery of the Brera at Milan, there is an elaborate study of a dead Christ, entirely characteristic of early fifteenth century Italian madman's work. It is called—and was presented to the people as—a Christ; but it is only an anatomical study of a vulgar and ghastly dead body, with the soles of the feet set straight at the spectator, and the rest foreshortened. It is either Castagno's or Mantegna's,—in my mind, set down to Castagno; but I have not looked at the picture for years, and am not sure at this moment. It does not matter a straw which: it is exactly characteristic of the madness in which all of them—Pollajuolo, Castagno, Mantegna, Lionardo da Vinci, and Michael Angelo, polluted their work with the science of the sepulcher,* and degraded it with

* Observe, I entirely distinguish the study of *anatomy*—i.e., of intense bone and muscle—from study of the nude, as the Greeks practiced it. This for an entirely great painter is absolutely necessary; but yet I believe, in the case of Botticelli, it was nobly restricted. The following note by Mr. Tyrwhitt contains, I think, the probable truth:—

“The facts relating to Sandro Botticelli's models, or rather to his favorite model (as it appears to me), are but few; and it is greatly to be regretted that his pictures are seldom dated;—if it were certain in what order they appeared, what follows here might approach moral certainty.

“There is no doubt that he had great personal regard for Fra Filippo, up to that painter's death in 1469, Sandro being then twenty-two years old. He may probably have got only good from him; anyhow he would get a strong turn for Realism,—i.e. the treatment of sacred and all other subjects in a realistic manner. He is described in Crowe and Cavalcaselle from Filippino Lippi's Martyrdom of St. Peter, as a sullen and sensual man, with beetle brows, large fleshy mouth, etc., etc. Probably he was a strong man, and intense in physical and intellectual habit.

“This man, then, begins to paint in his strength, with conviction—rather happy and innocent than not—that it is right to paint any beautiful thing, and best to paint the most beautiful,—say in 1470, at twenty-three years of age. The allegorical Spring and the Graces, and the Aphrodite now in the Ufficii, were painted for Cosmo, and seem to be taken by Vasari and others as early, or early-central, works in his life: also the portrait of Simonetta Vespucci.¹ He is known to have painted much in early life for the Vespucci and the Medici;—and this daughter

¹ Pitti, Stanza di Prometeo, 348.

presumptuous and paltry technical skill. Foreshorten your Christ, and paint Him, if you can, half putrefied,—that is the scientific art of the Renaissance.

255. It is impossible, however, in so vast a subject to distinguish always the beginner of things from the establisher.

of the former house seems to have been *inamorata* or mistress of Giuliano de' Medici, murdered by the Pazzi in 1478. Now it seems agreed by Crowe and Cavalcaselle, Pater, etc., (and I am quite sure of it myself as to the pictures mentioned)—first, that the same slender and long-throated model appears in Spring, the Aphrodite, Calumny, and other works.¹ Secondly, that she was Simonetta, the original of the Pitti portrait.

“Now I think she must have been induced to let Sandro draw from her whole person undraped, more or less; and that he must have done so as such a man probably would, in strict honor as to deed, word, and *definite* thought, but under occasional accesses of passion of which he said nothing, and which in all probability and by grace of God refined down to nil, or nearly so, as he got accustomed to look in honor at so beautiful a thing. (He may have left off the undraped after her death.) First, her figure is absolutely fine Gothic; I don't think any antique is so slender. Secondly, she has the sad, passionate, and exquisite Lombard mouth. Thirdly, her limbs shrink together, and she seems not quite to have ‘liked it’ or been an accustomed model. Fourthly, there is tradition, giving her name to all those forms.

“Her lover Giuliano was murdered in 1478, and Savonarola hanged and burnt in 1498. Now, can her distress, and Savonarola's preaching, between them, have taken, in few years, all the carnality out of Sandro, supposing him to have come already, by seventy-eight, to that state in which the sight of her delighted him, without provoking ulterior feelings? All decent men accustomed to draw from the nude tell us they get to that.

“Sandro's Dante is dated as published in 1482. He may have been saddening by that time, and weary of beauty, pure or mixed;—though he went on painting Madonnas, I fancy. (Can Simonetta be traced in any of them? I think not. The Sistine paintings extend from 1481 to 1484, however. I cannot help thinking Zipporah is impressed with her.) After Savonarola's death, Sandro must have lost heart, and gone into Dante altogether. Most ways in literature and art lead to Dante; and this question about the nude and the purity of Botticelli is no exception to the rule.

“Now in the Purgatorio, Lust is the last sin of which we are to be made pure, and it has to be burnt out of us; being itself as searching

¹ I think Zipporah may be a remembrance of her.

To the poulterer's son, Pollajuolo, remains the eternal shame of first making insane contest the only subject of art; but the two *establishers* of anatomy were Lionardo and Michael Angelo. You hear of Lionardo chiefly because of his Last Supper, but Italy did not hear of him for that. This was not what brought *her* to worship Lionardo—but the Battle of the Standard.

V.

Fragments on Holbein and others.

256. Of Holbein's St. Elizabeth, remember, she is not a perfect Saint Elizabeth, by any means. She is an honest and sweet German lady,—the best he could see; he could do no better;—and so I come back to my old story,—no man can as fire, as smoldering, devouring, and all that. *Corruptio: optimi pessima*; and it is the most searching and lasting of evils, because it really is a corruption attendant on true Love, which is eternal—whatever the word means. That this is so, seems to me to demonstrate the truth of the Fall of Man from the condition of moral very-goodness in God's sight. And I think that Dante connected the purifying pains of his intermediate state with actual sufferings in this life, working out repentance,—in himself and others. And the 'torment' of this passion, to the repentant or resisting, or purity-seeking soul is decidedly like the pain of physical burning.

“Further, its casuistry is impracticable; because the more you stir the said 'fire' the stronger hold it takes. Therefore, men and women are *rightly* secret about it, and detailed confessions unadvisable. Much talk about 'hypocrisy' in this matter is quite wrong and unjust. Then, its connection with female beauty, as a cause of love between man and woman, seems to me to be the inextricable nodus of the Fall, the here inseparable mixture of good and evil, till soul and body are parted. For the sense of seen Beauty is the awakening of Love, at whatever distance from any kind of return or sympathy—as with a rose, or what not. Sandro may be the man who has gone nearest to the right separation of Delight from Desire: supposing that he began with religion and a straight conscience; saw lovingly the error of Fra Filippo's way; saw with intense distant love the error of Simonetta's; and reflected on Florence and *its* way, and drew nearer and nearer to Savonarola, being yet too big a man for asceticism; and finally wearied of all things and sunk into poverty and peace.”

do better than he sees: if he can reach the nature round him, it is well; he may fall short of it; he cannot rise above it; "the best, in this kind, are but shadows."

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Yet that intense veracity of Holbein is indeed the strength and glory of all the northern schools. They exist only in being true. Their work among men is the definition of what is, and the abiding by it. They cannot dream of what is not. They make fools of themselves if they try. Think how feeble even Shakspeare is when he tries his hand at a Goddess;—women, beautiful and womanly, as many as you choose; but who cares what his Minerva or Juno says, in the masque of the *Tempest*? And for the painters—when Sir Joshua tries for a Madonna, or Vandyke for a Diana—they can't even *paint!* they become total simpletons. Look at Rubens' mythologies in the Louvre, or at modern French heroics, or German pietisms! Why, all—Cornelius, Hesse, Overbeck, and David—put together, are not worth one De Hooghe of an old woman with a broom sweeping a back-kitchen. The one thing we northerns can do is to find out what is fact, and insist on it: mean fact it may be, or noble—but fact always, or we die.

257. Yet the intensest form of northern realization can be matched in the south, when the southernns choose. There are two pieces of animal drawing in the Sistine Chapel unrivaled for literal veracity. The sheep at the well in front of Zipporah; and afterwards, when she is going away, leading her children, her eldest boy, like every one else, has taken his chief treasure with him, and this treasure is his pet dog. It is a little sharp-nosed white fox-terrier, full of fire and life; but not strong enough for a long walk. So little Gershom, whose name was "the stranger" because his father had been a stranger in a strange land,—little Gershom carries his white terrier under his arm, lying on the top of a large bundle to make it comfortable. The doggie puts its sharp nose and bright eyes out, above his hand, with a little roguish

gleam sideways in them, which means,—if I can read rightly a dog's expression,—that he has been barking at Moses all the morning and has nearly put him out of temper:—and without any doubt, I can assert to you that there is not any other such piece of animal painting in the world,—so brief, intense, vivid, and absolutely balanced in truth: as tenderly drawn as if it had been a saint, yet as humorously as Landseer's Lord Chancellor poodle.

258. Oppose to—

Holbein's Veracity—Botticelli's Fantasy.

“ Shade “ Color.

“ Despair “ Faith.

“ Grossness “ Purity.

True Fantasy. Botticelli's Tree in Hellespontic Sibyl. Not a real tree at all—yet founded on intensest perception of beautiful reality. So the swan of Clio, as opposed to Dürer's cock, or to Turner's swan.

The Italian power of abstraction into one mythologic personage—Holbein's death is only literal. He has to split his death into thirty different deaths; and each is but a skeleton. But Orcagna's death is one—the power of death itself. There may thus be as much *breadth in thought*, as in execution.

* * * *

259. What then, we have to ask, is a man *conscious of* in what he sees?

For instance, in all Cruikshank's etchings—however slight the outline—there is an intense consciousness of light and shade, and of local color, *as a part* of light and shade; but none of color itself. He was wholly incapable of coloring; and perhaps this very deficiency enabled him to give graphic harmony to engraving.

* * * *

Bewick—snow-pieces, etc. *Gray* predominant; *perfect sense of color*, coming out in patterns of birds;—yet so uncul-

tivated, that he engraves the brown birds better than pheasant or peacock!

For quite perfect consciousness of color makes engraving impossible, and you have instead—Correggio.

VI.

Final notes on light and shade.

260. You will find in the 138th and 147th paragraphs of my Inaugural lectures, statements which, if you were reading the book by yourselves, would strike you probably as each of them difficult, and in some degree inconsistent,—namely, that the school of color has exquisite character and sentiment; but is childish, cheerful, and fantastic; while the school of shade is deficient in character and sentiment; but supreme in intellect and veracity. “The way by light and shade,” I say, “is taken by men of the highest powers of thought and most earnest desire for truth.”

The school of shade, I say, is deficient in character and sentiment. Compare any of Dürer’s Madonnas with any of Angelico’s.

Yet you may discern in the Apocalypse engravings that Dürer’s mind was seeking for truths, and dealing with questions, which no more could have occurred to Angelico’s mind than to that of a two-years-old baby.

261. The two schools unite in various degrees; but are always distinguishably generic, the two headmost masters representing each being Tintoret and Perugino. The one, deficient in sentiment, and continually offending us by the want of it, but full of intellectual power and suggestion.

The other, repeating ideas with so little reflection that he gets blamed for doing the same thing over again, (Vasari); but exquisite in sentiment and the conditions of taste which it forms, so as to become the master of it to Raphael and to all succeeding him; and remaining such a type of sentiment, too delicate to be felt by the latter practical mind of Dutch-

bred England, that Goldsmith makes the admiration of him the test of absurd connoisseurship. But yet, with under-current of intellect, which gets him accused of free-thinking, and therefore with under-current of entirely exquisite chiaroscuro.

Light and shade, then, imply the understanding of things—Color, the imagination and the sentiment of them.

262. In Turner's distinctive work, color is scarcely acknowledged unless under influence of sunshine. The sunshine is his treasure; his lividest gloom contains it; his grayest twilight regrets it, and remembers. Blue is always a blue shadow; brown or gold, always light;—nothing is cheerful but sunshine; wherever the sun is not, there is melancholy or evil. Apollo is God; and all forms of death and sorrow exist in opposition to him.

But in Perugino's distinctive work,—and therefore I have given him the captain's place over all,—there is simply *no* darkness, *no* wrong. Every color is lovely, and every space is light. The world, the universe, is divine: all sadness is a part of harmony; and all gloom, a part of peace.

THE END.

LOVE'S MEINIE.

THREE LECTURES ON
GREEK AND ENGLISH BIRDS.

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PREFACE.

BRANTWOOD, 9th June, 1881.

Quarter past five, morning.

THE birds chirping feebly,—mostly chaffinches answering each other, the rest discomposed, I fancy, by the June snow; * the lake neither smooth nor rippled, but like a surface of perfectly bright glass, ill cast; the lines of wave few and irregular, like flaws in the planes of a fine crystal.

I see this book was begun eight years ago;—then intended to contain only four Oxford lectures: but the said lectures also ‘intended’ to contain the cream of forty volumes of scientific ornithology. Which intentions, all and sundry, having gone, Carlyle would have said, to water, and more piously-minded persons, to fire, I am obliged now to cast my materials into another form: and here, at all events, is a bundle of what is readiest under my hand. The nature and name of which I must try to make a little more intelligible than my books have lately been, either in text or title.

‘Meinie’ is the old English word for ‘Many,’ in the sense of ‘a many’ persons attending one, as bridesmaids, when in sixes or tens or dozens;—courtiers, footmen, and the like. It passes gradually into ‘Menial,’ and unites the senses of Multitude and Servitude.

In the passages quoted from, or referred to in, Chaucer’s translation of the Romance of the Rose, at the end of the first lecture, any reader who cares for a clue to the farther significances of the title, may find one to lead him safely through richer labyrinths of thought than mine: and ladder enough also,—if there be either any heavenly, or pure

* The summits of the Old Man, of Wetherlam, and Helvellyn, were all white, on the morning when this was written.

earthly, Love, in his own breast,—to guide him to a pretty bird's nest; both in the Romances of the Rose and of Juliet, and in the Sermons of St. Francis and St. Bernard.

The term 'Lecture' is retained, for though I lecture no more, I still write habitually in a manner suited for oral delivery, and imagine myself speaking to my pupils, if ever I am happily thinking in myself. But it will be also seen that by the help of this very familiarity of style, I am endeavoring, in these and my other writings on Natural History, to compel in the student a clearness of thought and precision of language which have not hitherto been in any wise the virtues, or skills, of scientific persons. Thoughtless readers, who imagine that my own style (such as it is, the one thing which the British public concedes to me as a real power) has been formed without pains, may smile at the confidence with which I speak of altering accepted, and even long-established, nomenclature. But the use which I now have of language has taken me forty years to attain; and those forty years spent, mostly, in walking through the wilderness of this world's vain words, seeking how they might be pruned into some better strength. And I think it likely that at last I may put in my pruning-hook with effect; for indeed a time must come when English fathers and mothers will wish their children to learn English again, and to speak it for all scholarly purposes; and, if they use, instead, Greek or Latin, to use them only that they may be understood by Greeks or Latins;* and not that they may mystify the illiterate many of their own land. Dead languages, so called, may at least be left at rest, if not honored; and must not be torn in mutilation out of their tumuli, that the skins and bones of them may help to hold our living nonsense together; while languages called living, but which live only to slack themselves into slang, or bloat themselves into bombast, must one day have new grammars written for their license, and new laws for their insolence.

* Greek is now a living nation's language, from Messina to Delos—and Latin still lives for the well-trained churchmen and gentlemen of Italy.

Observe, however, that the recast methods of classification adopted in this book, and in 'Proserpina,' must be carefully distinguished from their recastings of nomenclature. I am perfectly sure that it is wiser to use plain short words than obscure long ones; but not in the least sure that I am doing the best that can be done for my pupils, in classing swallows with owls, or milkworts with violets. The classification is always given as tentative; and, at its utmost, elementary: but the nomenclature, as in all probability conclusive.

For the rest, the success and the service of all depend on the more or less thorough accomplishment of plans long since laid, and which would have been good for little if their coping could at once have been conjectured or foretold in their foundations. It has been throughout my trust, that if Death should write on these, "What this man began to build, he was not able to finish," God may also write on them, not in anger, but in aid,

"A stronger than he, cometh."

LOVE'S MEINIE.

“ Il etoit tout couvert d'oisiaulx.”

Romance of the Rose.

LECTURE I.*

THE ROBIN.

1. AMONG the more splendid pictures in the Exhibition of the Old Masters, this year, you cannot but remember the Vandyke portraits of the two sons of the Duke of Lennox. I think you cannot but remember it, because it would be difficult to find, even among the works of Vandyke, a more striking representation of the youth of our English noblesse; nor one in which the painter had more exerted himself, or with better success, in rendering the decorous pride and natural grace of honorable aristocracy.

Vandyke is, however, inferior to Titian and Velasquez, in that his effort to show this noblesse of air and persons may always be detected; also the aristocracy of Vandyke's day were already so far fearful of their own position as to feel anxiety that it should be immediately recognized. And the effect of the painter's conscious deference, and of the equally conscious pride of the boys, as they stood to be painted, has been somewhat to shorten the power of the one, and to abase the dignity of the other. And thus, in the midst of my admiration of the youths' beautiful faces, and natural quality of majesty, set off by all splendors of dress and courtesies

* Delivered at Oxford, March 15th, 1873,

of art, I could not forbear questioning with myself what the true value was, in the scales of creation, of these fair human beings who set so high a value on themselves; and,—as if the only answer,—the words kept repeating themselves in my ear, “Ye are of more value than many sparrows.”

2. Passeres, *στρούθοι*,—the things that open their wings, and are not otherwise noticeable; small birds of the land and wood; the food of the serpent, of man, or of the stronger creatures of their own kind,—that even these, though among the simplest and obscurest of beings, have yet price in the eyes of their Maker, and that the death of one of them cannot take place but by His permission, has long been the subject of declamation in our pulpits, and the ground of much sentiment in nursery education. But the declamation is so aimless, and the sentiment so hollow, that, practically, the chief interest of the leisure of mankind has been found in the destruction of the creatures which they professed to believe even the Most High would not see perish without pity; and, in recent days, it is fast becoming the only definition of aristocracy, that the principal business of its life is the killing of sparrows.

Sparrows, or pigeons, or partridges, what does it matter? “Centum mille perdrices plumbo confecit;” * that is, indeed, too often the sum of the life of an English lord; much questionable now, if *indeed* of more value than that of many sparrows.

3. Is it not a strange fact, that, interested in nothing so much for the last two hundred years, as in his horses, he yet left it to the farmers of Scotland to relieve draught horses from the bearing-rein? † is it not one equally strange that, master of the forests of England for a thousand years, and of its libraries for three hundred, he left the natural history of birds to be written by a card-printer's lad of Newcastle? ‡ Written, and not written, for indeed we have no natural

* The epitaph on Count Zachdarm, in “Sartor Resartus.”

† Sir Arthur Helps. “Animals and their Masters,” p. 67.

‡ Ariadne Florentina, vi, 45.

history of birds written yet. It cannot be written but by a scholar and a gentleman; and no English gentleman in recent times has ever thought of birds except as flying targets, or flavorful dishes. The only piece of natural history worth the name in the English language, that I know of, is in the few lines of Milton on the Creation. The only example of a proper manner of contribution to natural history is in White's Letters from Selborne. You know I have always spoken of Bewick as pre-eminently a vulgar or boorish person, though of splendid honor and genius; his vulgarity shows in nothing so much as in the poverty of the details he has collected, with the best intentions, and the shrewdest sense, for English ornithology. His imagination is not cultivated enough to enable him to choose, or arrange.

4. Nor can much more be said for the observations of modern science. It is vulgar in a far worse way, by its arrogance and materialism. In general, the scientific natural history of a bird consists of four articles,—first, the name and estate of the gentleman whose gamekeeper shot the last that was seen in England; secondly, two or three stories of doubtful origin, printed in every book on the subject of birds for the last fifty years; thirdly, an account of the feathers, from the comb to the rump, with enumeration of the colors which are never more to be seen on the living bird by English eyes; and, lastly, a discussion of the reasons why none of the twelve names which former naturalists have given to the bird are of any further use, and why the present author has given it a thirteenth, which is to be universally, and to the end of time, accepted.

5. You may fancy this is caricature; but the abyss of confusion produced by modern science in nomenclature, and the utter void of the abyss when you plunge into it after any one useful fact, surpass all caricature. I have in my hand thirteen plates of thirteen species of eagles; eagles all, or hawks all, or falcons all—whichever name you choose for the great race of the hook-headed birds of prey—some so like that you can't tell the one from the other, at the distance at

which I show them to you, all absolutely alike in their eagle or falcon character, having, every one, the falx for its beak, and every one, flesh for its prey. Do you suppose the unhappy student is to be allowed to call them all eagles, or all falcons, to begin with, as would be the first condition of a wise nomenclature, establishing resemblance by specific name, before marking variation by individual name? No such luck. I hold you up the plates of the thirteen birds one by one, and read you their names off the back:—

The first,	is an Aquila.
The second,	a Haliaetus.
The third,	a Milvus.
The fourth,	a Pandion.
The fifth,	an Astur.
The sixth,	a Falco.
The seventh,	a Pernis.
The eighth,	a Circus.
The ninth,	a Buteo.
The tenth,	an Archibuteo.
The eleventh,	an Accipiter.
The twelfth,	an Erythropus.
And the thirteenth,	a Tinnunculus.

There's a nice little lesson to entertain a parish school-boy with, beginning his natural history of birds!

6. There are not so many varieties of robin as of hawk, but the scientific classifiers are not to be beaten. If they cannot find a number of similar birds to give different names to, they will give two names to the same one. Here are two pictures of your own redbreast, out of the two best modern works on ornithology. In one, it is called "*Motacilla rubecula*;" in the other, "*Rubecula familiaris*."

7. It is indeed one of the most serious, as one of the most absurd, weaknesses, of modern naturalists to imagine that *any* presently invented nomenclature can stand, even were it adopted by the consent of nations, instead of the conceit of individuals. It will take fifty years' digestion before the recently ascertained elements of natural science can permit

the arrangement of species in any permanently (even over a limited period) namable order; nor then, unless a great man is born to perceive and exhibit such order. In the meantime, the simplest and most descriptive nomenclature is the best. Every one of these birds, for instance, might be called *falco* in Latin, hawk in English, some word being added to distinguish the genus, which should describe its principal aspect or habit. *Falco montium*, Mountain Hawk; *Falco silvarum*, Wood Hawk; *Falco procellarum*, Sea Hawk; and the like. Then, one descriptive epithet would mark species. *Falco montium, aureus*, Golden Eagle; *Falco silvarum, apivorus*, Honey Buzzard; and so on; and the naturalists of Vienna, Paris, and London should confirm the names of known creatures, in conclave, once every half-century, and let them so stand for the next fifty years.

8. In the meantime, you yourselves, or, to speak more generally, the young rising scholars of England,—all of you who care for life as well as literature, and for spirit,—even the poor souls of birds,—as well as lettering of their classes in books,—you, with all care, should cherish the old Saxon-English and Norman-French names of birds, and ascertain them with the most affectionate research—never despising even the rudest or most provincial forms: all of them will, some day or other, give you clue to historical points of interest. Take, for example, the common English name of this low-flying falcon, the most tamable and affectionate of his tribe, and therefore, I suppose, fastest vanishing from field and wood, the buzzard. That name comes from the Latin “*buteo*,” still retained by the ornithologists; but, in its original form, valueless, to you. But when you get it comfortably corrupted into Provençal “*Busac*,” (whence gradually the French *busard*, and our buzzard,) you get from it the delightful compound “*busacador*,” “*adorer of buzzards*”—meaning, generally, a sporting person; and then you have Dante’s *Bertrand de Born*, the first troubadour of war, bearing witness to you how the love of mere hunting and falconry was already, in his day, degrading the military

classes, and, so far from being a necessary adjunct of the noble disposition of lover or soldier, was, even to contempt, showing itself separate from both.

“Le ric home, cassador,
M'enneion, e'l buzacador.
Parlan de volada, d'austor,
Ne jamais, d'armas, ni d'amor.”

The rich man, the chaser,
Tires me to death; and the adorer of buzzards.
They talk of covey and hawk,
And never of arms, nor of love.

“Cassador,” of course, afterwards becomes “chasseur,” and “austor” “vautour.” But after you have read this, and familiarized your ear with the old word, how differently Milton's phrase will ring to you,—“Those who thought no better of the Living God than of a buzzard idol,”—and how literal it becomes, when we think of the actual difference between a member of Parliament in Milton's time, and the Busacador of to-day;—and all this freshness and value in the reading, observe, come of your keeping the word which great men have used for the bird, instead of letting the anatomists blunder out a new one from their Latin dictionaries.

9. There are not so many namable varieties, I just now said, of robin as of falcon; but this is somewhat inaccurately stated. Those thirteen birds represented a very large proportion of the entire group of the birds of prey, which in my sevenfold classification I recommended you to call universally, “hawks.” The robin is only one of the far greater multitude of small birds which live almost indiscriminately on grain or insects, and which I recommended you to call generally “sparrows”; but of the robin itself, there are two important European varieties—one red-breasted, and the other blue-breasted.

10. You probably, some of you, never heard of the blue-breast; very few, certainly, have seen one alive, and, if alive, certainly not wild in England.

Here is a picture of it, daintily done,* and you can see the pretty blue shield on its breast, perhaps, at this distance. Vain shield, if ever the fair little thing is wretched enough to set foot on English ground! I find the last that was seen was shot at Margate so long ago as 1842,—and there seems to be no official record of any visit before that, since Mr. Thomas Embleton shot one on Newcastle town moor in 1816. But this rarity of visit to us is strange; other birds have no such clear objection to being shot, and really seem to come to England expressly for the purpose. And yet this blue-bird—(one can't say “blue robin”—I think we shall have to call him “bluet,” like the cornflower)—stays in Sweden, where it sings so sweetly that it is called “a hundred tongues.”

11. That, then, is the utmost which the lords of land, and masters of science, do for us in their watch upon our feathered suppliants. One kills them, the other writes classifying epitaphs.

We have next to ask what the poets, painters, and monks have done.

The poets—among whom I affectionately and reverently class the sweet singers of the nursery, mothers and nurses—have done much; very nearly all that I care for your thinking of. The painters and monks, the one being so greatly under the influence of the other, we may for the present class together; and may almost sum their contributions to ornithology in saying that they have plucked the wings from birds, to make angels of men, and the claws from birds, to make devils of men.

If you were to take away from religious art these two great helps of its—I must say, on the whole, very feeble—imagination; if you were to take from it, I say, the power of putting wings on shoulders, and claws on fingers and toes, how wonderfully the sphere of its angelic and diabolic characters would be contracted! Reduced only to the sources of expression in face or movements, you might still find in

* Mr. Gould's, in his “Birds of Great Britain.”

good early sculpture very sufficient devils; but the best angels would resolve themselves, I think, into little more than, and not often into so much as, the likenesses of pretty women, with that grave and (I do not say it ironically) majestic expression which they put on, when, being very fond of their husbands and children, they seriously think either the one or the other have misbehaved themselves.

12. And it is not a little discouraging for me, and may well make you doubtful of my right judgment in this endeavor to lead you into closer attention to the bird, with its wings and claws still in its own possession;—it is discouraging, I say, to observe that the beginning of such more faithful and accurate observation in former art, is exactly coeval with the commencement of its decline. The feverish and ungraceful natural history of Paul, called, “of the birds,” Paolo degli Uccelli, produced, indeed, no harmful result on the minds of his contemporaries, they watched in him, with only contemptuous admiration, the fantasy of zoological instinct which filled his house with painted dogs, cats, and birds, because he was too poor to fill it with real ones. Their judgment of this morbidly naturalistic art was conclusively expressed by the sentence of Donatello, when going one morning into the Old Market, to buy fruit, and finding the animal painter uncovering a picture, which had cost him months of care, (curiously symbolic in its subject, the infidelity of St. Thomas, of the investigatory fingering of the natural historian,) “Paul, my friend,” said Donatello, “thou art uncovering the picture just when thou shouldst be shutting it up.”

13. No harm, therefore, I repeat, but, on the contrary, some wholesome stimulus to the fancy of men like Luca and Donatello themselves, came of the grotesque and impertinent zoology of Uccello.

But the fatalest institutor of proud modern anatomical and scientific art, and of all that has polluted the dignity, and darkened the charity, of the greater ages, was Antonio Pollajuolo of Florence. Antonio (that is to say) the Poul-

terer—so named from the trade of his grandfather, and with just so much of his grandfather's trade left in his own disposition, that being set by Lorenzo Ghiberti to complete one of the ornamental festoons of the gates of the Florentine Baptistery, there, (says Vasari) "Antonio produced a quail, which may still be seen, and is so beautiful, nay, so perfect, that it wants nothing but the power of flight."

14. Here, the morbid tendency was as attractive as it was subtle. Ghiberti himself fell under the influence of it; allowed the borders of his gates, with their fluttering birds and bossy fruits, to dispute the spectators' favor with the religious subjects they inclosed; and, from that day forward, minuteness and muscularity were, with curious harmony of evil, delighted in together; and the lancet and the microscope, in the hands of fools, were supposed to be complete substitutes for imagination in the souls of wise men: so that even the best artists are gradually compelled, or beguiled, into compliance with the curiosity of their day; and Francia, in the city of Bologna, is held to be a "kind of god, more particularly" (again I quote Vasari) "after he had painted a set of caparisons for the Duke of Urbino, on which he depicted a great forest all on fire, and whence there rushes forth an immense number of every kind of animal, with several human figures. This terrific, yet truly beautiful representation, was all the more highly esteemed for the time that had been expended on it in the plumage of the birds, and other minutiae in the delineation of the different animals, and in the diversity of the branches and leaves of the various trees seen therein;" and thenceforward the catastrophe is direct, to the ornithological museums which Breughel painted for gardens of Eden, and to the still life and dead game of Dutch celebrities.

15. And yet I am going to invite you to-day to examine, down to almost microscopic detail, the aspect of a small bird, and to invite you to do this, as a most expedient and sure step in your study of the greatest art.

But the difference in our motive of examination will entirely alter the result. To paint birds that we may show how

minutely we can paint, is among the most contemptible occupations of art. To paint them, that we may show how beautiful they are, is not indeed one of its highest, but quite one of its pleasantest and most useful; it is a skill within the reach of every student of average capacity, and which, so far as acquired, will assuredly both make their hearts kinder, and their lives happier.

Without further preamble, I will ask you to look to-day, more carefully than usual, at your well-known favorite, and to think about him with some precision.

16. And first, Where does he come from? I stated that my lectures were to be on English and Greek birds; but we are apt to fancy the robin all our own. How exclusively, do you suppose, he really belongs to us? You would think this was the first point to be settled in any book about him. I have hunted all my books through, and can't tell you how much he is our own, or how far he is a traveler.

And, indeed, are not all our ideas obscure about migration itself? You are broadly told that a bird travels, and how wonderful it is that it finds its way; but you are scarcely ever told, or led to think, what it really travels for—whether for food, for warmth, or for seclusion—and how the traveling is connected with its fixed home. Birds have not their town and country houses,—their villas in Italy, and shooting boxes in Scotland. The country in which they build their nests is their proper home,—the country, that is to say, in which they pass the spring and summer. Then they go south in the winter, for food and warmth; but in what lines, and by what stages? The general definition of a migrant in this hemisphere is a bird that goes north to build its nest, and south for the winter; but, then, the one essential point to know about it is the breadth and latitude of the zone it properly inhabits,—that is to say, in which it builds its nest; next, its habits of life, and extent and line of southing in the winter; and finally, its manner of traveling.

17. Now, here is this entirely familiar bird, the robin. Quite the first thing that strikes me about it, looking at it

as a painter, is the small effect it seems to have had on the minds of the southern nations. I trace nothing of it definitely, either in the art or literature of Greece or Italy. I find, even, no definite name for it; you don't know if Lesbia's "passer" had a red breast, or a blue, or a brown. And yet Mr. Gould says it is abundant in all parts of Europe, in all the islands of the Mediterranean, and in Madeira and the Azores. And then he says—(now notice the puzzle of this),—"In many parts of the Continent it is a migrant, and, contrary to what obtains with us, is there treated as a vagrant, for there is scarcely a country across the water in which it is not shot down and eaten."

"In many parts of the Continent it is a migrant." In what parts—how far—in what manner?

18. In none of the old natural history books can I find any account of the robin as a traveler, but there is, for once, some sufficient reason for their reticence. He has a curious fancy in his manner of traveling. Of all birds, you would think he was likely to do it in the cheerfulest way, and he does it in the saddest. Do you chance to have read, in the Life of Charles Dickens, how fond he was of taking long walks in the night and alone? The robin, en voyage, is the Charles Dickens of birds. He always travels in the night, and alone; rests, in the day, wherever day chances to find him; sings a little, and pretends he hasn't been anywhere. He goes as far, in the winter, as the north-west of Africa; and in Lombardy, arrives from the south early in March; but does not stay long, going on into the Alps, where he prefers wooded and wild districts. So, at least, says my Lombard informant.

I do not find him named in the list of Cretan birds; but even if often seen, his dim red breast was little likely to make much impression on the Greeks, who knew the flamingo, and had made it, under the name of Phœnix or Phœnicopterus, the center of their myths of scarlet birds. They broadly embraced the general aspect of the smaller and more obscure species, under the term *ξουθος*, which, as I understand their use of it, exactly implies the indescribable

silky brown, the groundwork of all other color in so many small birds, which is indistinct among green leaves, and absolutely identifies itself with dead ones, or with mossy stems.

19. I think I show it you more accurately in the robin's back than I could in any other bird; its mode of transition into more brilliant color is, in him, elementarily simple; and although there is nothing, or rather because there is nothing, in his plumage, of interest like that of tropical birds, or even of our own game-birds, I think it will be desirable for you to learn first from the breast of the robin what a feather is. Once knowing that, thoroughly, we can further learn from the swallow what a wing is; from the chough what a beak is; and from the falcon what a claw is.

I must take care, however, in neither of these last two particulars, to do injustice to our little English friend here; and before we come to his feathers, must ask you to look at his bill and his feet.

20. I do not think it is distinctly enough felt by us that the beak of a bird is not only its mouth, but its hand, or rather its two hands. For, as its arms and hands are turned into wings, all it has to depend upon, in economical and practical life, is its beak. The beak, therefore, is at once its sword, its carpenter's tool-box, and its dressing-case; partly also its musical instrument; all this besides its function of seizing and preparing the food, in which functions alone it has to be a trap, carving-knife, and teeth, all in one.

21. It is this need of the beak's being a mechanical tool which chiefly regulates the form of a bird's face, as opposed to a four-footed animal's. If the question of food were the only one, we might wonder why there were not more four-footed creatures living on seeds than there are; or why those that do—field-mice and the like—have not beaks instead of teeth. But the fact is that a bird's beak is by no means a perfect eating or food-seizing instrument. A squirrel is far more dexterous with a nut than a cockatoo; and a dog manages a bone incomparably better than an eagle. But the beak has to do so much more! Pruning feathers, building

nests, and the incessant discipline in military arts, are all to be thought of, as much as feeding.

Soldiership, especially, is a much more imperious necessity among birds than quadrupeds. Neither lions nor wolves habitually use claws or teeth in contest with their own species; but birds, for their partners, their nests, their hunting-grounds, and their personal dignity, are nearly always in contention; their courage is unequaled by that of any other race of animals capable of comprehending danger; and their pertinacity and endurance have, in all ages, made them an example to the brave, and an amusement to the base, among mankind.

22. Nevertheless, since as sword, as trowel, or as pocket-comb, the beak of the bird has to be pointed, the collection of seeds may be conveniently intrusted to this otherwise penetrative instrument, and such food as can only be obtained by probing crevices, splitting open fissures, or neatly and minutely picking things up, is allotted, pre-eminently, to the bird species.

The food of the robin, as you know, is very miscellaneous. Linnæus says of the Swedish one, that it is "*delectatus euonymi baccis*,"—"delighted with dogwood berries,"—the dogwood growing abundantly in Sweden, as once in Forfarshire, where it grew, though only a bush usually in the south, with trunks a foot or eighteen inches in diameter, and the tree thirty feet high. But the Swedish robin's taste for its berries is to be noted by you, because, first, the dogwood berry is commonly said to be so bitter that it is not eaten by birds (Loudon, "*Arboretum*," ii., 497, 1.); and, secondly, because it is a pretty coincidence that this most familiar of household birds should feed fondly from the tree which gives the housewife her spindle,—the proper name of the dogwood in English, French, and German being alike "*Spindle-tree*." It feeds, however, with us, certainly, most on worms and insects. I am not sure how far the following account of its mode of dressing its dinners may be depended on: I take it from an old book on Natural History, but find it, more or

less, confirmed by others: "It takes a worm by one extremity in its beak, and beats it on the ground till the inner part comes away. Then seizing it in a similar manner by the other end, it entirely cleanses the outer part, which alone it eats."

One's first impression is that this must be a singularly unpleasant operation for the worm, however fastidiously delicate and exemplary in the robin. But I suppose the real meaning is, that as a worm lives by passing earth through its body, the robin merely compels it to quit this—not ill-gotten, indeed, but now quite unnecessary—wealth. We human creatures, who have lived the lives of worms, collecting dust, are served by Death in exactly the same manner.

23. You will find that the robin's beak, then, is a very prettily representative one of general bird power. As a weapon, it is very formidable indeed; he can kill an adversary of his own kind with one blow of it in the throat; and is so pugnacious, "*valde pugnax*," says Linnæus, "*ut non una arbor duos capiat erithacos*,"—"no single tree can hold two cock-robins;" and for precision of seizure, the little flat hook at the end of the upper mandible is one of the most delicately formed points of forceps which you can find among the grain eaters. But I pass to one of his more special perfections.

24. He is very notable in the exquisite silence and precision of his movements, as opposed to birds who either creak in flying, or waddle in walking. "Always quiet," says Gould, "for the silkiness of his plumage renders his movements noiseless, and the rustling of his wings is never heard, any more than his tread on earth, over which he bounds with amazing sprightliness." You know how much importance I have always given, among the fine arts, to good dancing. If you think of it, you will find one of the robin's very chief ingratiatory faculties is his dainty and delicate movement,—his footing it feately here and there. Whatever prettiness there may be in his red breast, at his brightest he can always be outshone by a brickbat. But if he is rationally

proud of anything about him, I should think a robin must be proud of his legs. Hundreds of birds have longer and more imposing ones—but for real neatness, finish, and precision of action, commend me to his fine little ankles, and fine little feet; this long stilted process, as you know, corresponding to our ankle-bone. Commend me, I say, to the robin for use of his ankles—he is, of all birds, the pre-eminent and characteristic Hopper; none other so light, so pert, or so swift.

25. We must not, however, give too much credit to his legs in this matter. A robin's hop is half a flight; he hops, very essentially, with wings and tail, as well as with his feet, and the exquisitely rapid opening and quivering of the tail-feathers certainly give half the force to his leap. It is in this action that he is put among the motacillae, or wag-tails; but the ornithologists have no real business to put him among them. The swing of the long tail feathers in the true wagtail is entirely consequent on its motion, not impulsive of it—the tremulous shake is *after* alighting. But the robin leaps with wing, tail, and foot, all in time, and all helping each other. Leaps, I say; and you check at the word; and ought to check: you look at a bird hopping, and the motion is so much a matter of course, you never think how it is done. But do you think you would find it easy to hop like a robin if you had two—all but wooden—legs, like this?

26. I have looked wholly in vain through all my books on birds, to find some account of the muscles it uses in hopping, and of the part of the toes with which the spring is given. I must leave you to find out that for yourselves; it is a little bit of anatomy which I think it highly desirable for you to know, but which it is not my business to teach you. Only observe, this is the point to be made out. You leap yourselves, with the toe and ball of the foot; but, in that power of leaping, you lose the faculty of grasp; on the contrary, with your hands, you grasp as a bird with its feet. But you cannot hop on your hands: A cat, a leopard, and a monkey, leap or grasp with equal ease; but the action of their paws in leap-

ing is, I imagine, from the fleshy ball of the foot; while in the bird, characteristically *γαμφῶνυξ*, this fleshy ball is reduced to a boss or series of bosses, and the nails are elongated into sickles or horns; nor does the springing power seem to depend on the development of the bosses. They are far more developed in an eagle than a robin; but you know how unpar-donably and preposterously awkward an eagle is when he hops. When they are most of all developed, the bird walks, runs, and digs well, but leaps badly.

27. I have no time to speak of the various forms of the ankle itself, or of the scales of armor, more apparent than real, by which the foot and ankle are protected. The use of this lecture is not either to describe or to exhibit these varieties to you, but so to awaken your attention to the real points of character, that, when you have a bird's foot to draw, you may do so with intelligence and pleasure, knowing whether you want to express force, grasp, or firm ground pressure, or dexterity and tact in motion. And as the actions of the foot and the hand in man are made by every great painter perfectly expressive of the character of mind, so the expressions of rapacity, cruelty, or force of seizure, in the harpy, the gryphon, and the hooked and clawed evil spirits of early religious art, can only be felt by extreme attention to the original form.

28. And now I return to our main question, for the robin's breast to answer, "What is a feather?" You know something about it already; that it is composed of a quill, with its lateral filaments terminating generally, more or less, in a point; that these extremities of the quills, lying over each other like the tiles of a house, allow the wind and rain to pass over them with the least possible resistance, and form a protection alike from the heat and the cold; which, in structure much resembling the scale-armor assumed by man for very different objects, is, in fact, intermediate, exactly, between the fur of beasts and the scales of fishes; having the minute division of the one, and the armor-like symmetry and succession of the other.

29. Not merely symmetry, observe, but extreme flatness. Feathers are smoothed down, as a field of corn by wind with rain; only the swathes laid in beautiful order. They are fur, so structurally placed as to imply, and submit to, the perpetually swift forward motion. In fact, I have no doubt the Darwinian theory on the subject is that the feathers of birds once stuck up all erect, like the bristles of a brush, and have only been blown flat by continual flying.

Nay, we might even sufficiently represent the general manner of conclusion in the Darwinian system by the statement that if you fasten a hair-brush to a mill-wheel, with the handle forward, so as to develop itself into a neck by moving always in the same direction, and within continual hearing of a steam-whistle, after a certain number of revolutions the hair-brush will fall in love with the whistle; they will marry, lay an egg, and the produce will be a nightingale.

30. Whether, however, a hog's bristle can turn into a feather or not, it is vital that you should know the present difference between them.

The scientific people will tell you that a feather is composed of three parts—the down, the laminae, and the shaft.

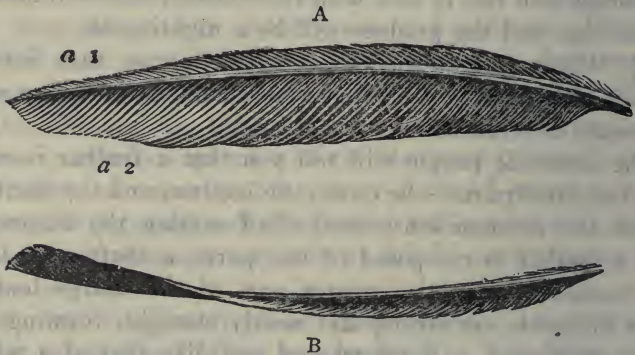
But the common-sense method of stating the matter is that a feather is composed of two parts, a shaft with lateral filaments. For the greater part of the shaft's length, these filaments are strong and nearly straight, forming, by their attachment, a finely warped sail, like that of a wind-mill. But towards the root of the feather they suddenly become weak, and confusedly flexible, and form the close down which immediately protects the bird's body.

To show you the typical arrangement of these parts, I choose, as I have said, the robin; because, both in his power of flying, and in his color, he is a moderate and balanced bird;—not turned into nothing but wings, like a swallow, or nothing but neck and tail, like a peacock. And first for his flying power. There is one of the long feathers of robin's wing, and here (Fig. 1) the analysis of its form.

31. First, in pure outline (A), seen from above, it is very nearly a long oval, but with this peculiarity, that it has, as it were, projecting shoulders at *a 1* and *a 2*. I merely desire you to observe this, in passing, because one usually thinks of the contour as sweeping unbroken from the root to the point. I have not time to-day to enter on any discussion of the reason for it, which will appear when we examine the placing of the wing feathers for their stroke.

Now, I hope you are getting accustomed to the general method in which I give you the analysis of all forms—leaf, or feather, or shell, or limb. First, the plan; then the profile; then the cross-section.

FIG. 1.
(Twice the size of reality.)



I take next, the profile of my feather (B, Fig. 1), and find that it is twisted as the sail of a windmill is, but more distinctly, so that you can always see the upper surface of the feather at its root, and the under at its end. Every primary wing-feather, in the fine flyers, is thus twisted; and is best described as a sail striking with the power of a cimeter, but with the flat instead of the edge.

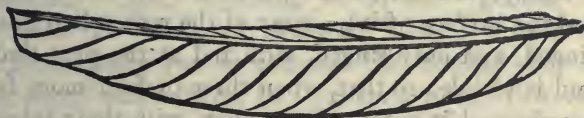
32. Further, you remember that on the edges of the broad side of feathers you find always a series of undulations, irregularly sequent, and lapping over each other like waves on sand. You might at first imagine that this appearance was

owing to a slight ruffling or disorder of the filaments; but it is entirely normal, and, I doubt not, so constructed, in order to insure a redundance of material in the plume, so that no accident or pressure from wind may leave a gap anywhere. How this redundance is obtained you will see in a moment by bending any feather the wrong way. Bend, for instance, this plume, B, Fig. 2, into the reversed curve, A, Fig. 2; then all the filaments of the plume become perfectly even, and there are no waves at the edge. But let the plume return into its proper form, B, and the tissue being now contracted into a smaller space, the edge waves are formed in it instantly.

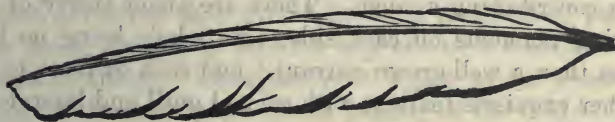
Hitherto, I have been speaking only of the filaments

FIG. 2.

A



B



arranged for the strength and continuity of the energetic plume; they are entirely different when they are set together for decoration instead of force. After the feather of the robin's wing, let us examine one from his breast.

33. I said, just now, he might be at once outshone by a brickbat. Indeed, the day before yesterday, sleeping at Lichfield, and seeing, the first thing when I woke in the morning, (for I never put down the blinds of my bedroom windows,) the not uncommon sight in an English country town of an entire house-front of very neat, and very flat, and very red bricks, with very exactly squared square windows

in it; and not feeling myself in anywise gratified or improved by the spectacle, I was thinking how in this, as in all other good, the too much destroyed all. The breadth of a robin's breast in brick-red is delicious, but a whole house-front of brick-red as vivid, is alarming. And yet one cannot generalize even that trite moral with any safety—for infinite breadth of green is delightful, however green; and of sea or sky, however blue.

You must note, however, that the robin's charm is greatly helped by the pretty space of gray plumage which separates the red from the brown back, and sets it off to its best advantage. There is no great brilliancy in it, even so relieved; only the finish of it is exquisite.

34. If you separate a single feather, you will find it more like a transparent hollow shell than a feather (so delicately rounded the surface of it),—gray at the root, where the down is,—tinged, and only tinged, with red at the part that overlaps and is visible; so that, when three or four more feathers have overlapped it again, all together, with their joined red, are just enough to give the color determined upon, each of them contributing a tinge. There are about thirty of these glowing filaments on each side, (the whole being no larger across than a well-grown currant,) and each of these is itself another exquisite feather, with central quill and lateral webs, whose filaments are not to be counted.

The extremity of these breast plumes parts slightly into two, as you see in the peacock's, and many other such decorative ones. The transition from the entirely leaf-like shape of the active plume, with its oblique point, to the more or less symmetrical dualism of the decorative plume, corresponds with the change from the pointed green leaf to the dual, or heart-shaped, petal of many flowers. I shall return to this part of our subject, having given you, I believe, enough of detail for the present.

35. I have said nothing to-day of the mythology of the bird, though I told you that would always be, for us, the most important part of its natural history. But I am obliged,

sometimes, to take what we immediately want, rather than what, ultimately, we shall need chiefly. In the second place, you probably, most of you, know more of the mythology of the robin than I do, for the stories about it are all northern, and I know scarcely any myths but the Italian and Greek. You will find under the name "Robin," in Miss Yonge's exhaustive and admirable "History of Christian Names," the various titles of honor and endearment connected with him, and with the general idea of redness,—from the bishop called "Bright Red Fame," who founded the first great Christian church on the Rhine, (I am afraid of your thinking I mean a pun, in connection with robins, if I tell you the locality of it,) down through the Hoods, and Roys, and Grays, to Robin Goodfellow, and Spenser's "Hobbinol," and our modern "Hob,"—joining on to the "goblin," which comes from the old Greek *Κόβαλος*. But I cannot let you go without asking you to compare the English and French feeling about small birds, in Chaucer's time, with our own on the same subject. I say English and French, because the original French of the Romance of the Rose shows more affection for birds than even Chaucer's translation, passionate as he is, always, in love for any one of his little winged brothers or sisters. Look, however, either in the French or English at the description of the coming of the God of Love, leading his carol-dance, in the garden of the Rose.

His dress is embroidered with figures of flowers and of beasts; but about him fly the *living* birds. The French is:

Il estoit tout couvert d'oisiaux
 De rossignols et de papegaulx
 De calendre, et de mesangel.
 Il sembloit que ce fut une angle
 Qui fuz tout droit venuz du ciel.

36. There are several points of philology in this transitional French, and in Chaucer's translation, which it is well worth your patience to observe. The monkish Latin "angelus," you see, is passing through the very unpoetical form

“angle,” into “ange;” but, in order to get a rhyme with it in that angular form, the French troubadour expands the bird’s name, “mesange,” quite arbitrarily, into “mesangel.” Then Chaucer, not liking the “mes” at the beginning of the word, changes that unscrupulously into “arch;” and gathers in, though too shortly, a lovely bit from another place about the nightingales flying so close round Love’s head that they strike some of the leaves off his crown of roses; so that the English runs thus:

But nightingales, a full great rout
That flien over his head about,
The leaves felden as they flien
And he was all with birds wrien,
With popinjay, with nightingale,
With chelaundre, and with wodewale,
With finch, with lark, and with archangel.
He seemed as he were an angell,
That down were comen from Heaven clear.

Now, when I first read this bit of Chaucer, without referring to the original, I was greatly delighted to find that there was a bird in his time called an archangel, and set to work, with brightly hopeful industry, to find out what it was. I was a little discomfited by finding that in old botany the word only meant “dead-nettle,” but was still sanguine about my bird, till I found the French form descend, as you have seen, into a mesangel, and finally into mesange, which is a provincialism from *μειον*, and means, the smallest of birds—or, specially here,—a titmouse. I have seldom had a less expected or more ignominious fall from the clouds.

37. The other birds, named here and in the previous description of the garden, are introduced, as far as I can judge, nearly at random, and with no precision of imagination like that of Aristophanes; but with a sweet childish delight in crowding as many birds as possible into the smallest space. The popinjay is always prominent; and I want some of you to help me (for I have not time at present for the chase) in hunting the parrot down on his first appearance in

Europe. Just at this particular time he contested favor even with the falcon; and I think it a piece of good fortune that I chanced to draw for you, thinking only of its brilliant color, the popinjay, which Carpaccio allows to be present on the grave occasion of St. George's baptizing the princess and her father.

38. And, indeed, as soon as the Christian poets begin to speak of the singing of the birds, they show themselves in quite a different mood from any that ever occurs to a Greek. Aristophanes, with infinitely more skill, describes, and partly imitates, the singing of the nightingale; but simply as beautiful sound. It "fills the thickets with honey;" and if in the often-quoted—just because it is *not* characteristic of Greek literature—passage of the Coloneus, a deeper sentiment is shown, that feeling is dependent on association of the bird-voices with deeply pathetic circumstances. But this troubadour finds his heart in heaven by the power of the singing only:—

Trop parfoisaient beau servise
 Ciz oiselles que je vous devise.
 Il chantaient un chant ytel
 Com fussent angle esperitel.

We want a moment more of word-chasing to enjoy this. "Oiseau," as you know, comes from "avis;" but it had at this time got "oysel" for its singular number, of which the terminating "sel" confused itself with the "selle," from "ancilla" in domisella and demoiselle; and the feminine form "oiselle" thus snatched for itself some of the delightfulness belonging to the title of a young lady. Then note that "esperitel" does not here mean merely spiritual, (because all angels are spiritual) but an "angle esperitel" is an angel of the air. So that, in English, we could only express the meaning in some such fashion as this:—

They perfected all their service of love,
 These maiden birds that I tell you of.
 They sang such a song, so finished-fair,
 As if they were angels, born of the air.

39. Such were the fancies, then, and the scenes, in which Englishmen took delight in Chaucer's time. England was then a simple country; we boasted, for the best kind of riches, our birds and trees, and our wives and children. We had now grown to be a rich one; and our first pleasure is in shooting our birds; but it has become too expensive for us to keep our trees. Lord Derby, whose crest is the eagle and child—you will find the northern name for it, the bird and bantling, made classical by Scott—is the first to propose that wood-birds should have no more nests. We must cut down all our trees, he says, that we may effectively use the steam-plow; and the effect of the steam-plow, I find by a recent article in the *Cornhill Magazine*, is that an English laborer must not any more have a nest, nor bantlings, neither; but may only expect to get on prosperously in life, if he be perfectly skillful, sober, and honest, and dispenses, at least until he is forty-five, with the "luxury of marriage."

40. Gentlemen, you may perhaps have heard me blamed for making no effort here to teach in the artisans' schools. But I can only say that, since the future life of the English laborer or artisan (summing the benefits to him of recent philosophy and economy) is to be passed in a country without angels and without birds, without prayers and without songs, without trees and without flowers, in a state of exemplary sobriety, and (extending the Catholic celibacy of the clergy into celibacy of the laity) in a state of dispensation with the luxury of marriage, I do not believe he will derive either profit or entertainment from lectures on the Fine Arts.

LECTURE II.*

THE SWALLOW.

41. WE are to-day to take note of the form of a creature which gives us a singular example of the unity of what artists call beauty, with the fineness of mechanical structure, often mistaken for it. You cannot but have noticed how little, during the years of my past professorship, I have introduced any questions as to the nature of beauty. I avoided them, partly because they are treated of at length in my books; and partly because they are, in the last degree, unpractical. We are born to like or dislike certain aspects of things; nor could I, by any arguments, alter the defined tastes which you received at your birth, and which the surrounding circumstances of life have enforced, without any possibility of your voluntary resistance to them. And the result of those surrounding circumstances, to-day, is that most English youths would have more pleasure in looking at a locomotive than at a swallow; and that many English philosophers would suppose the pleasure so received to be through a new sense of beauty. But the meaning of the word "beauty" in the fine arts, and in classical literature, is properly restricted to those very qualities in which the locomotion of a swallow differs from that of an engine.

42. Not only from that of an engine; but also from that of animals, in whose members the mechanism is so complex as to give them a resemblance to engines. The dart of the common house-fly, for instance, in full strength, is a more wonderful movement than that of a swallow. The mechanism of it is not only more minute, but the swiftness of the

* Delivered at Oxford, May 2d, 1873.

action so much greater, that the vibration of the wing is invisible. But though a school-boy might prefer the locomotive to the swallow, he would not carry his admiration of finely mechanical velocity into unqualified sympathy with the workmanship of the God of Ekron; and would generally suppose that flies were made only to be food for the more graceful fly-catcher,—whose finer grace you will discover, upon reflection, to be owing to the very moderation and simplicity of its structure, and to the subduing of that infinitude of joints, claws, tissues, veins, and fibers which inconceivably vibrate in the microscopic * creature's motion, to a quite intelligible and simple balance of rounded body upon edged plume, maintained not without visible, and sometimes fatigued, exertion, and raising the lower creature into fellowship with the volition and the virtue of humanity.

43. With the virtue, I say, in an exceedingly qualified sense; meaning rather the strength and art displayed in overcoming difficulties, than any distinct morality of disposition. The bird has kindly and homely qualities; but its principal "virtue" for us, is its being an incarnate voracity, and that it moves as a consuming and cleansing power. You sometimes hear it said of a humane person that they would not kill a fly: from 700 to 1,000 flies a day are a moderate allowance for a baby swallow.

44. Perhaps, as I say this, it may occur to some of you to think, for the first time, of the reason of the bird's name. For it is very interesting, as a piece of language study, to consider the different power on our minds,—nay, the different sweetness to the ear,—which, from association, these same two syllables receive, when we read them as a noun, or as a verb. Also, the word is a curious instance of the traps which are continually open for rash etymologists. At first, nothing would appear more natural than that the name should have been given to the bird from its reckless function of devouring. But if you look to your Johnson, you will find, to your better

* I call it so because the members and action of it cannot be seen with the unaided eye.

satisfaction, that the name means "bird of porticos," or porches, from the Gothic "swale;" "subdivale,"—so that he goes back in thought as far as Virgil's, "Et nunc porticibus vacuis, nunc humida circum, stagna sonat." Notice, in passing, how a simile of Virgil's, or any other great master's, will probably tell in two or more ways at once. Juturna is compared to the swallow, not merely as winding and turning swiftly in her chariot, but as being a water-nymph by birth,—*"Stagnis quae, fluminibusque sonoris, praesidet."* How many different creatures in one the swallow is by birth, as a Virgilian simile is many thoughts in one, it would take many more lectures than one to show you clearly; but I will indicate them with such rough sketch as is possible.

45. It belongs, as most of you know, to a family of birds called *Fissirostres*, or, literally, split-beaks. Split heads would be a better term, for it is the enormous width of mouth and power of gaping which the epithet is meant to express. A dull sermon, for instance, makes half the congregation "*fissirostres*." The bird, however, is most vigilant when its mouth is widest, for it opens as a net to catch whatever comes in its way,—hence the French, giving the whole family the more literal name, "*Gobble-fly*"—*Gobe-mouche*, extend the term to the open-mouthed and too acceptant appearance of a simpleton.

46. Partly in order to provide for this width of mouth, but more for the advantage in flight, the head of the swallow is rounded into a bullet shape, and sunk down on the shoulders, with no neck whatever between, so as to give nearly the aspect of a conical rifle bullet to the entire front of the body; and, indeed, the bird moves more like a bullet than an arrow—dependent on a certain impetus of weight rather than on sharp penetration of the air. I say dependent on, but I have not yet been able to trace distinct relation between the shapes of birds and their powers of flight. I suppose the form of the body is first determined by the general habits and food, and that nature can make any form she chooses volatile; only one point I think is always notable, that a complete master

of the art of flight must be short-necked, so that he turns altogether, if he turns at all. You don't expect a swallow to look round a corner before he goes round it; he must take his chance. The main point is that he may be able to stop himself, and turn, in a moment.

47. The stopping, on any terms, is difficult enough to understand; nor less so, the original gaining of the pace. We always think of flight as if the main difficulty of it were only in keeping up in the air;—but the buoyancy is conceivable enough, the far more wonderful matter is the getting along. You find it hard work to row yourself at anything like speed, though your impulse-stroke is given in a heavy element, and your return-stroke in a light one. But both in birds and fishes, the impelling stroke and its return are in the same element; and if, for the bird, that medium yields easily to its impulses, it secedes as easily from the blow that gives it. And if you think what an effort you make to leap six feet, with the earth for a fulcrum, the dart either of a trout or a swallow, with no fulcrum but the water and air they penetrate, will seem to you, I think, greatly marvelous. Yet of the mode in which it is accomplished you will as yet find no undisputed account in any book on natural history, and scarcely, as far as I know, definite notice even of the rate of flight. What do you suppose it is? We are apt to think of the migration of a swallow, as we should ourselves of a serious journey. How long, do you think, it would take him, if he flew uninterruptedly, to get from here to Africa?

48. Michelet gives the rate of his flight (at full speed, of course,) as eighty leagues an hour. I find no more sound authority; but do not doubt his approximate accuracy; * still how curious and how provoking it is that neither White

* I wrote this some time ago, and the endeavors I have since made to verify statements on points of natural history which I had taken on trust have given me reason to doubt everybody's accuracy. The ordinary flight of the swallow does not, assuredly, even in the dashes, reach anything like this speed.

of Selborne, Bewick, Yarrell, nor Gould, says a word about this, one should have thought the most interesting, power of the bird.*

Taking Michelet's estimate — eighty French leagues, roughly two hundred and fifty miles, an hour—we have a thousand miles in four hours. That is to say, leaving Devonshire after an early breakfast, he could be in Africa to lunch.

49. He could, I say, if his flight were constant; but though there is much inconsistency in the accounts, the sum of testimony seems definite that the swallow is among the most fatiguable of birds. "When the weather is hazy," (I quote Yarrell) "they will alight on fishing-boats a league or two from land, so tired that when any one tries to catch them, they can scarcely fly from one end of the boat to the other."

I have no time to read to you the interesting evidence on this point given by Yarrell, but only that of the brother of White of Selborne, at Gibraltar. "My brother has always found," he himself writes, "that some of his birds, and particularly the swallow kind, are very sparing of their pains in crossing the Mediterranean; for when arrived at Gibraltar, they do not 'set forth their airy caravan, high over seas,' but scout and hurry along in little detached parties of six or seven in a company; and sweeping low, just over the surface of the land and water, direct their course to the opposite continent at the narrowest passage they can find."

50. You will observe, however, that it remains an open question whether this fear of sea may not be, in the swallow, like ours of the desert. The commissariat department is a serious one for birds that eat a thousand flies a day when just out of the egg; and it is possible that the weariness of swallows at sea may depend much more on fasting than flying. Captain (or Admiral?) Sir Charles Wager says that "one spring-time, as he came into soundings in the English Channel, a great flock of swallows came and settled on all his rigging; every rope was covered; they hung on one another

* Incidentally suggestive sentences occur in the history of Selborne, but its author never comes to the point, in this case.

like a swarm of bees; even the decks were filled with them. They seemed almost famished and spent, and were only feathers and bone; but, being recruited with a night's rest, took their flight in the morning."

51. Now I detain you on this point somewhat, because it is intimately connected with a more important one. I told you we should learn from the swallow what a wing was. Few other birds approach him in the beauty of it, or apparent power. And yet, after all this care taken about it, he gets tired; and instead of flying, as we should do in his place, all over the world, and tasting the flavor of the midges in every marsh which the infinitude of human folly has left to breed gnats instead of growing corn,—he is of all birds, characteristically, except when he absolutely can't help it, the stayer at home; and contentedly lodges himself and his family in an old chimney, when he might be flying all over the world.

At least you would think, if he built in an English chimney this year, he would build in a French one next. But no. Michelet prettily says of him, "He is the bird of return." If you will only treat him kindly, year after year, he comes back to the same niche, and to the same hearth, for his nest.

To the same niche; and builds himself an opaque walled house within that. Think of this a little, as if you heard of it for the first time.

52. Suppose you had never seen a swallow; but that its general habit of life had been described to you, and you had been asked, how you thought such a bird would build its nest. A creature, observe, whose life is to be passed in the air; whose beak and throat are shaped with the fineness of a net for the catching of gnats; and whose feet, in the most perfect of the species, are so feeble that it is called the Footless Swallow, and cannot stand a moment on the ground with comfort. Of all land birds, the one that has least to do with the earth; of all, the least disposed, and the least able, to stop to pick anything up. What will it build with? Gossamer, we should say,—thistledown,—anything it can catch floating, like flies.

But it builds with stiff clay.

53. And observe its chosen place for building also. You would think, by its play in the air, that not only of all birds, but of all creatures, it most delighted in space and freedom. You would fancy its notion of the place for a nest would be the openest field it could find; that anything like confinement would be an agony to it; that it would almost expire of horror at the sight of a black hole.

And its favorite home is down a chimney.

54. Not for your hearth's sake, nor for your company's. Do not think it. The bird will love you if you treat it kindly; is as frank and friendly as bird can be; but it does not, more than others, seek your society. It comes to your house because in no wild wood, nor rough rock, can it find a cavity close enough to please it. It comes for the blessedness of imprisonment, and the solemnity of an unbroken and constant shadow, in the tower, or under the eaves.

Do you suppose that this is part of its necessary economy, and that a swallow could not catch flies unless it lived in a hole?

Not so. This instinct is part of its brotherhood with another race of creatures. It is given to complete a mesh in the reticulation of the orders of life.

55. I have already given you several reasons for my wish that you should retain, in classifying birds, the now rejected order of Picae. I am going to read you a passage from Humboldt, which shows you what difficulties one may get into for want of it.

You will find in the second volume of his personal narrative, an account of the cave of Caripe in New Andalusia, which is inhabited by entirely nocturnal birds, having the gaping mouths of the goat-sucker and the swallow, and yet feeding on fruit.

Unless, which Mr. Humboldt does not tell us, they sit under the trees outside, in the night time, and hold their mouths open, for the berries to drop into, there is not the smallest occasion for their having wide mouths, like swallows.

Still less is there any need, since they are fruit eaters, for their living in a cavern 1,500 feet out of daylight. They have only, in consequence, the trouble of carrying in the seeds to feed their young, and the floor of the cave is thus covered, by the seeds they let fall, with a growth of unfortunate pale plants, which have never seen day. Nay, they are not even content with the darkness of their cave; but build their nests in the funnels with which the roof of the grotto is pierced like a sieve; live actually in the chimney, not of a house, but of an Egyptian sepulcher! The color of this bird, of so remarkable taste in lodging, Humboldt tells us, is "of dark bluish-gray, mixed with streaks and specks of black. Large white spots, which have the form of a heart, and which are bordered with black, mark the head, the wings, and the tail. The spread of the wings, which are composed of seventeen or eighteen quill feathers, is three feet and a half. Suppressing, with Mr. Cuvier, the order of Picae, we must refer this extraordinary bird to the *Sparrows*."

56. We can only suppose that it must be, to our popular sparrows, what the swallow of the cinnamon country is to our subordinate swallow. Do you recollect the cinnamon swallows of Herodotus, who build their mud-nests in the faces of the cliffs where Dionusos was brought up, and where nobody can get near them; and how the cinnamon merchants fetch them joints of meat, which the unadvised birds, flying up to their nests with, instead of cinnamon,—nest and all come down together,—the original of Sindbad's valley-of-diamond story?

57. Well, Humboldt is reduced, by necessities of recent classification, to call a bird three feet and a half across the wings, a sparrow. I have no right to laugh at him, for I am just going, myself, to call the cheerfulest and brightest of birds of the air, an owl. All these architectural and sepulchral habits, these Egyptian manners of the sand-martin, digging caves in the sand, and border-trooper's habits of the chimney swallow, living in round towers instead of open air, belonging to them as connected with the tribe of the falcons

through the owls! and not only so, but with the mammalia through the bats! A swallow is an emancipated owl, and a glorified bat; but it never forgets its fellowship with night.

58. Its *ancient* fellowship, I had nearly written; so natural is it to think of these similarly-minded creatures, when the feelings that both show are evidently useless to one of them, as if the inferior had changed into the higher. The doctrine of development seems at first to explain all so pleasantly, that the scream of consent with which it has been accepted by men of science, and the shriller vociferation of the public's gregarious applause, scarcely permit you the power of antagonistic reflection. I must justify to-day, in graver tone than usual, the terms in which I have hitherto spoken,—it may have been thought with less than the due respect to my audience,—of the popular theory.

59. Supposing that the octohedrons of galena, of gold, and of oxide of iron, were endowed with powers of reproduction, and perished at appointed dates of dissolution or solution, you would without any doubt have heard it by this time asserted that the octohedric form, which was common to all, indicated their descent from a common progenitor; and it would have been ingeniously explained to you how the angular offspring of this eight-sided ancestor had developed themselves, by force of circumstances, into their distinct metallic perfections; how the galena had become gray and brittle under prolonged subterranean heat, and the gold yellow and ductile, as it was rolled among the pebbles of amber-colored streams.

60. By the denial to these structures of any individually reproductive energy, you are forced to accept the inexplicable (and why expect it to be otherwise than inexplicable?) fact, of the formation of a series of bodies having very similar aspects, qualities, and chemical relations to other substances, which yet have no connection whatever with each other, and are governed, in their relation with their native rocks, by entirely arbitrary laws. It has been the pride of modern chemistry to extricate herself from the vanity of the alchem-

ist, and to admit, with resignation, the independent, though apparently fraternal, natures, of silver, of lead, of platinum, —aluminium,—potassium. Hence, a rational philosophy would deduce the probability that when the arborescence of dead crystallization rose into the radiation of the living tree, and sentient plume, the splendor of nature in her more exalted power would not be restricted to a less variety of design; and the beautiful caprice in which she gave to the silver its frost and to the opal its fire, would not be subdued under the slow influences of accident and time, when she wreathed the swan with snow, and bathed the dove in iridescence. That the infinitely more exalted powers of life must exercise more intimate influence over matter than the reckless forces of cohesion;—and that the loves and hatreds of the now conscious creatures would modify their forms into parallel beauty and degradation, we might have anticipated by reason, and we ought long since to have known by observation. But this law of its spirit over the substance of the creature involves, necessarily, the indistinctness of its type, and the existence of inferior and of higher conditions, which whole eras of heroism and affection—whole eras of misery and misconduct,—confirm into glory, or confuse into shame. Collecting the causes of changed form, in lower creatures, by distress, or by adaptation,—by the disturbance or intensifying of the parental strength, and the native fortune—the wonder is, not that species should sometimes be confused, but that the greater number of them remain so splendidly, so manifestly, so eternally distinct; and that the vile industries and vicious curiosities of modern science, while they have robbed the fields of England of a thousand living creatures, have not created in them one.

61. But even in the paltry knowledge we have obtained, what unanimity have we?—what security? Suppose any man of ordinary sense, knowing the value of time, and the relative importance of subjects of thought, and that the whole scientific world was agog concerning the origin of species, desired to know first of all—what was meant by a species.

He would naturally look for the definition of species first among the higher animals, and expect it to be best defined in those which were best known. And being referred for satisfaction to the 226th page of the first volume of Mr. Darwin's "Descent of Man," he would find this passage:—

"Man has been studied more carefully than any other organic being, and yet there is the greatest possible diversity among capable judges, whether he should be classed as a single species or race, or as two (Virey), as three (Jacquinot), as four (Kant), five (Blumenbach), six (Buffon), seven (Hunter), eight (Agassiz), eleven (Pickering), fifteen (Bory St. Vincent), sixteen (Desmoulins), twenty-two (Morton), sixty (Crawford), or as sixty-three according to Burke."

And in the meantime, while your men of science are thus vacillating, in the definition of the species of the only animal they have the opportunity of studying inside and out, between one and sixty-three; and disputing about the origin, in past ages, of what they cannot define in the present ones; and deciphering the filthy heraldries which record the relation of humanity to the ascidian and the crocodile, you have ceased utterly to distinguish between the two species of man, evermore separate by infinite separation: of whom the one, capable of loyalty and of love, can at least conceive spiritual natures which have no taint from their own, and leave behind them, diffused among thousands on earth, the happiness they never hoped, for themselves, in the skies; and the other, capable only of avarice, hatred, and shame, who in their lives are the companions of the swine, and leave in death nothing but food for the worm and the vulture.

62. Now I have first traced for you the relations of the creature we are examining to those beneath it and above, to the bat and to the falcon. But you will find that it has still others to entirely another world. As you watch it glance and skim over the surface of the waters, has it never struck you what relation it bears to the creatures that glance and glide *under* their surface? Fly-catchers, some of them, also,—fly-

catchers in the same manner, with wide mouth; while in motion the bird almost exactly combines the dart of the trout with the dash of the dolphin, to the rounded forehead and projecting muzzle of which its own bullet head and bill exactly correspond. In its plunge, if you watch it bathing, you may see it dip its breast just as much under the water as a porpoise shows its back above. You can only rightly describe the bird by the resemblances, and images of what it seems to have changed from,—then adding the fantastic and beautiful contrast of the unimaginable change. It is an owl that has been trained by the Graces. It is a bat that loves the morning light. It is the aërial reflection of a dolphin. It is the tender domestication of a trout.

63. And yet be assured, as it cannot have been all these creatures, so it has never, in truth, been any of them. The transformations believed in by the mythologists are at least spiritually true; you cannot too carefully trace or too accurately consider them. But the transformations believed in by the anatomist are as yet proved true in no single instance, and in no substance, spiritual or material; and I cannot too often, or too earnestly, urge you not to waste your time in guessing what animals may once have been, while you remain in nearly total ignorance of what they are.

64. Do you even know distinctly from each other,—(for that is the real naturalist's business; instead of confounding them with each other),—do you know distinctly the five great species of this familiar bird?—the swallow, the house-martin, the sand-martin, the swift, and the Alpine swift?—or can you so much as answer the first question which would suggest itself to any careful observer of the form of its most familiar species,—yet which I do not find proposed, far less answered, in any scientific book,—namely, why a swallow has a swallow-tail?

It is true that the tail feathers in many birds appear to be entirely,—even cumbrously, decorative; as in the peacock, and birds of paradise. But I am confident that it is not so in the swallow, and that the forked tail, so defined in form

and strong in plume, has indeed important functions in guiding the flight; yet notice how surrounded one is on all sides with pitfalls for the theorists. The forked tail reminds you at once of a fish's; and yet, the action of the two creatures is wholly contrary. A fish lashes himself forward with his tail, and steers with his fins; a swallow lashes himself forward with his fins, and steers with his tail; partly, not necessarily, because in the most dashing of the swallows, the swift, the fork of the tail is the least developed. And I never watch the bird for a moment without finding myself in some fresh puzzle out of which there is no clue in the scientific books. I want to know, for instance, how the bird turns. What does it do with one wing, what with the other? Fancy the pace that has to be stopped; the force of bridle-hand put out in an instant. Fancy how the wings must bend with the strain; what need there must be for the perfect aid and work of every feather in them. There is a problem for you, students of mechanics,—How does a swallow turn?

You shall see, at all events, to begin with, to-day, how it gets along.

65. I say you shall see; but indeed you have often seen, and felt,—at least with your hands, if not with your shoulders,—when you chanced to be holding the sheet of a sail.

I have said that I never got into scrapes by blaming people wrongly; but I often do by praising them wrongly. I never praised, without qualification, but one scientific book in my life (that I remember)—this of Dr. Pettigrew's on the *Wing*;* and now I must qualify my praise considerably,

* "On the Physiology of Wings." Transactions of the Royal Society of Edinburgh. Vol. xxvi., Part ii. I cannot sufficiently express either my wonder or regret at the petulance in which men of science are continually tempted into immature publicity, by their rivalry with each other. Page after page of this book, which, slowly digested and taken counsel upon, might have been a noble contribution to natural history, is occupied with dispute utterly useless to the reader, on the question of the priority of the author, by some months, to a French savant, in the statement of a principle which neither has yet proved; while page after page is rendered worse than useless to the reader by the author's passionate

discovering, when I examined the book farther, that the good doctor had described the motion of a bird as resembling that of a kite, without ever inquiring what, in a bird, represented that somewhat important part of a kite, the string. You will, however, find the book full of important observations, and illustrated by valuable drawings. But the point in question you must settle for yourselves, and you easily may. Some of you perhaps, knew, in your time, better than the doctor, how a kite stopped; but I do not doubt that a great many of you also know, now, what is much more to the purpose, how a ship gets along. I will take the simplest, the most natural, the most beautiful of sails,—the lateen sail of the Mediterranean.

66. I draw it rudely in outline, as it would be set for a side-wind on the boat you probably know best,—the boat of burden on the Lake of Geneva (Fig. 3), not confusing the drawing by adding the mast, which, you know, rakes a little, carrying the yard across it. (*a*). Then, with your permission, I will load my boat thus, with a few casks of Vevay vintage—and, to keep them cool, we will put an awning over them, so (*b*). Next, as we are classical scholars, instead of this rustic stern of the boat, meant only to run easily on a flat shore, we will give it an Attic *εμβολον* (*c*). (We have no business, indeed, yet, to put an *εμβολον* on a boat of burden, but I hope some day to see all our ships of war loaded with bread and wine, instead of artillery.) Then I

endeavor to contradict the ideas of unquestionably previous investigators. The problem of flight was, to all serious purpose, solved by Borelli in 1680, and the following passage is very notable as an example of the way in which the endeavor to obscure the light of former ages too fatally dims and distorts that by which modern men of science walk, themselves. "Borelli, and all who have written since his time, are unanimous in affirming that the horizontal transference of the body of the bird is due to the perpendicular vibration of the wings, and to the yielding of the posterior or flexible margins of the wings in an upward direction, as the wings descend. I" (Dr. Pettigrew) "am, however, disposed to attribute it to the fact (1st), that *the wings*, both when elevated and depressed, *leap forwards* in curves, those curves uniting to form a continuous waved track; (2d), to the tendency which the body of the bird has to swing forwards, in a

shade the entire form (*c*); and, lastly, reflect it in the water (*d*)—and you have seen something like that before, besides a boat, haven't you?

There is the gist of the whole business for you, put in very small space; with these only differences: in a boat, the air strikes the sail; in a bird, the sail strikes the air: in a boat,

FIG. 3.



the force is lateral, and in a bird downwards; and it has its sail on both sides. I shall leave you to follow out the

more or less horizontal direction, *when once set in motion*; (3d), to the construction of the wings; they are elastic helices or screws, which twist and untwist while they vibrate, and tend to bear upwards and onwards any weight suspended from them; (4th), to the action of the air on the under surfaces of the wings; (5th), to the ever-varying power with which the wings are urged, this being greatest at the beginning of the down-stroke, and least at the end of the up one; (6th), to the contraction of the voluntary

mechanical problem for yourselves, as far as the mere resolution of force is concerned. My business, as a painter, is only with the exquisite organic weapon that deals with it.

67. Of which you are now to note farther, that a bird is required to manage his wing so as to obtain two results with one blow:—he has to keep himself up, as well as to get along.

But observe, he only requires to keep himself up *because* he has to get along. The buoyancy might have been given at once, if nature had wanted *that* only; she might have blown the feathers up with the hot air of the breath, till the bird rose in air like a cork in water. But it has to be, not a buoyant cork, but a buoyant *bullet*. And therefore that it may have momentum for pace, it must have weight to carry; and to carry that weight, the wings must deliver their blow with effective vertical, as well as oblique, force.

Here, again, you may take the matter in brief sum. Whatever is the ship's loss, is the bird's gain; whatever tendency *muscles* and elastic ligaments, and to the effect produced by the various inclined surfaces formed by the wings during their oscillations; (7th), *to the weight of the bird*—weight itself, when acting upon wings, becoming a propelling power, and so contributing to horizontal motion."

I will collect these seven reasons for the forward motion, in the gist of them, which I have marked by italics, that the reader may better judge of their collective value. The bird is carried forward, according to Dr. Pettigrew—

1. Because its wings leap forward.
2. Because its body has a tendency to swing forward.
3. Because its wings are screws so constructed as to screw upwards and onwards any body suspended from them.
4. Because the air reacts on the under surfaces of the wings.
5. Because the wings are urged with ever-varying power.
6. Because the voluntary muscles contract.
7. Because the bird is heavy.

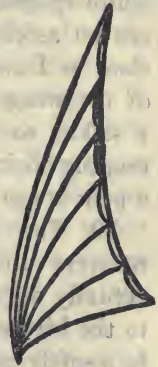
What must be the general conditions of modern science, when it is possible for a man of great experimental knowledge and practical ingenuity, to publish nonsense such as this, becoming, to all intents and purposes, insane, in the passion of his endeavor to overthrow the statements of his rival? Had he merely taken patience to consult any elementary scholar in dynamics, he would have been enabled to understand his own machines, and develop, with credit to himself, what had been rightly judged or noticed by others.

the ship has to leeway, is all given to the bird's support, so that every atom * of force in the blow is of service.

68. Therefore you have to construct your organic weapon, so that this absolutely and perfectly economized force may be distributed as the bird chooses at any moment. That, if it wants to rise, it may be able to strike vertically more than obliquely;—if the order is, go-ahead, that it may put the oblique screw on. If it wants to stop in an instant, that it may be able to throw its wings up full to the wind; if it wants to hover, that it may be able to lay itself quietly on the wind with its wings and tail, or, in calm air, to regulate their vibration and expansion into tranquillity of gliding, or of pausing power. Given the various proportions of weight and wing; the conditions of possible increase of muscular force and quill-strength in proportion to size; and the different objects and circumstances of flight,—you have a series of exquisitely complex problems, and exquisitely perfect solutions, which the life of the youngest among you cannot be long enough to read through so much as once, and of which the future infinitudes of human life, however granted or extended, never will be fatigued in admiration.

69. I take the rude outline of sail in Fig. 3, and now considering it as a jib of one of our own sailing vessels, slightly exaggerate the loops at the edge, and draw curved lines from them to the opposite point, Fig. 4; and I have a reptilian or dragon's wing, which would, with some ramification of the supporting ribs, become a bat's or moth's; that is to say, an extension of membrane between the ribs (as in an umbrella), which will catch the wind, and flutter upon it, like a leaf; but cannot strike it to any purpose. The flying squirrel drifts like a falling leaf; the bat flits like a black rag

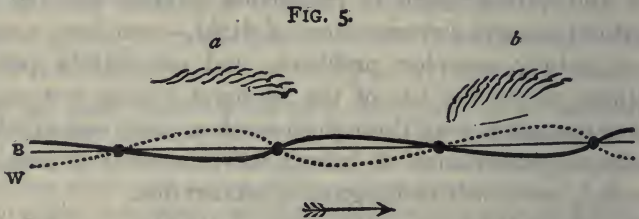
FIG. 4.



* I don't know what word to use for an infinitesimal degree or divided portion of force: one cannot properly speak of a force being cut into pieces; but I can think of no other word than atom.

torn at the edge. To give power, we must have plumes that can strike, as with the flat of a sword-blade; and to give *perfect* power, these must be laid over each other, so that each may support the one below it. I use the word below advisedly: we have to strike *down*. The lowest feather is the one that first meets the adverse force. It is the one to be supported.

Now for the manner of the support. You must all know well the look of the machicolated parapets in mediæval castles. You know they are carried on rows of small projecting buttresses constructed so that, though the uppermost stone, far-projecting, would break easily under any shock, it is supported by the next below, and so on, down to the wall. Now in this figure I am obliged to separate the feathers by



white spaces, to show you them distinctly. In reality they are set as close to each other as can be, but putting them as close as I can, you get *a* or *b*, Fig. 5, for the rough section of the wing, thick towards the bird's head, and curved like a sickle, so that in striking down it catches the air, like a reaping-hook, and in rising up, it throws off the air like a pent-house.

70. The stroke would therefore be vigorous, and the recovery almost effortless, were even the direction of both actually vertical. But they are vertical only with relation to the bird's body. In space they follow the forward flight, in a softly curved line; the downward stroke being as effective as the bird chooses, the recovery scarcely encounters resistance in the softly gliding ascent. Thus, in Fig. 5, (I can only explain this to readers a little versed in the elements of

mechanics,) if B is the locus of the center of gravity of the bird, moving in slow flight in the direction of the arrow, w is the locus of the leading feather of its wing, and a and b , roughly, the successive positions of the wing in the down-stroke and recovery.

71. I say the down-stroke is as effective as the bird chooses; that is to say, it can be given with exactly the quantity of impulse, and exactly the quantity of supporting power, required at the moment. Thus, when the bird wants to fly slowly, the wings are fluttered fast, giving vertical blows; if it wants to pause absolutely in still air, (this large birds cannot do, not being able to move their wings fast enough,) the velocity becomes vibration, as in the humming-bird: but if there is wind, any of the larger birds can lay themselves on it like a kite, their own weight answering the purpose of the string,* while they keep the wings and tail in an inclined plane, giving them as much gliding ascent as counteracts the fall. They nearly all, however, use some slightly gliding force at the same time; a single stroke of the wing, with forward intent, seeming enough to enable them to glide on for half a minute or more without stirring a plume. A circling eagle floats an inconceivable time without visible stroke: (fancy the pretty action of the inner wing, *backing* air instead of water, which gives exactly the breadth of circle he chooses). But for exhibition of the complete art of flight, a swallow on rough water is the master of masters. A sea-gull, with all its splendid power, generally has its work cut out for it, and is visibly fighting; but the swallow plays with wind and wave as a girl plays with her fan, and there are no words to say how many things it does with its wings in any ten seconds, and does consummately. The mystery of its dart remains always inexplicable to me; no eye can trace the bending of bow that sends that living arrow.

But the main structure of the noble weapon we may with little pains understand.

72. In the sections a and b of Fig. 5, I have only repre-

* See App. p. 112, § 145.

sented the quills of the outer part of the wing. The relation of these, and of the inner quills, to the bird's body may be very simply shown.

Fig. 6 is a rude sketch, typically representing the wing of any bird, but actually founded chiefly on the sea-gull's.

FIG. 6.



It is broadly composed of two fans, A and B. The outermost fan, A, is carried by the bird's hand; of which I rudely sketch the contour of the bones at *a*. The innermost fan, B, is carried by the bird's forearm, from wrist to elbow, *b*.

The strong humerus, *c*, corresponding to our arm from shoulder to elbow, has command of the whole instrument. No feathers are attached to this bone; but covering and protecting ones are set in the skin of it, completely filling, when the active wing is open, the space between it and the body. But the plumes of the two great fans, *A* and *B*, are set into the bones; in Fig. 8, farther on, are shown the projecting knobs on the main arm bone, set for the reception of the quills, which make it look like the club of Hercules. The connection of the still more powerful quills of the outer fan with the bones of the hand is quite beyond all my poor anatomical perceptions, and, happily for me, also beyond needs of artistic investigation.

73. The feathers of the fan *A* are called the primaries. Those of the fan *B*, secondaries. Effective actions of flight, whether for support or forward motion, are, I believe, all executed with the primaries, every one of which may be briefly described as the strongest cimeter that can be made of quill substance; flexible within limits, and elastic at its edges—carried by an elastic central shaft—twisted like a windmill sail—striking with the flat, and recovering with the edge.

The secondary feathers are more rounded at the ends, and frequently notched; their curvature is reversed to that of the primaries; they are arranged, when expanded, somewhat in the shape of a shallow cup, with the hollow of it downwards, holding the air therefore, and aiding in all the pause and buoyancy of flight, but little in the activity of it. Essentially they are the brooding and covering feathers of the wing; exquisitely beautiful—as far as I have yet seen, *most* beautiful—in the bird whose brooding is of most use to us; and which has become the image of all tenderness. “How often would I have gathered thy children . . . and ye would not.”

74. Over these two chief masses of the plume are set others which partly complete their power, partly adorn and protect them; but of these I can take no notice at present.

All that I want you to understand is the action of the two main masses, as the wing is opened and closed.

Fig. 7 roughly represents the upper surface of the main feathers of the wing closed. The secondaries are folded over the primaries; and the primaries shut up close, with their outer edges parallel, or nearly so. Fig. 8 roughly shows the outline of the bones, in this position, of one of the larger pigeons.*

75. Then Fig. 9 is (always sketched in the roughest way) the outer, Fig. 10 the inner, surface of a sea-gull's wing in this position. Next, Fig. 11 shows the tops of the four lowest feathers in Fig. 9, in mere outline; a separate (pulled

FIG 7.



off, so that they can be set side by side), B shut up close in the folded wing, c, opened in the spread wing.

76. And now, if you will yourselves watch a few birds in flight, or opening and closing their wings to prune them, you will soon know as much as is needful for our art purposes; and, which is far more desirable, feel how very little we know, to any purpose, of even the familiar creatures that are our companions.

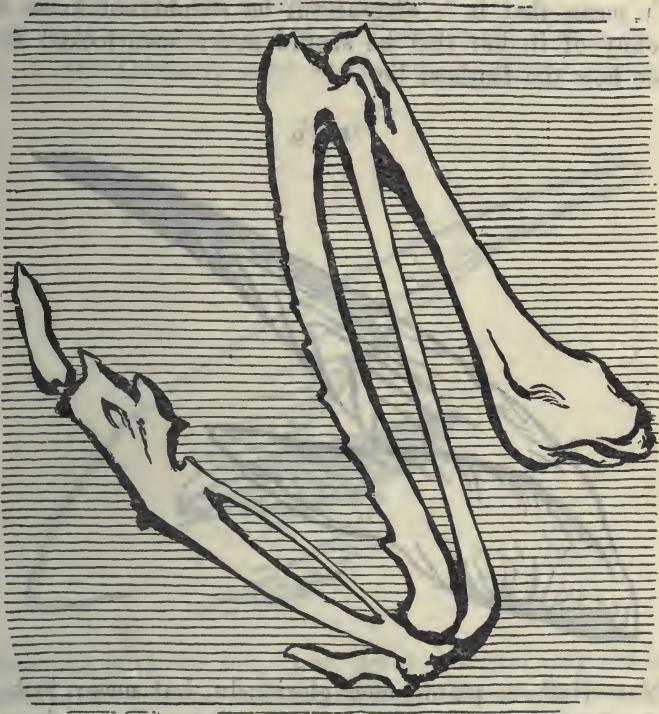
Even what we have seen to-day† is more than appears

* I find even this mere outline of anatomical structure so interfere with the temper in which I wish my readers to think, that I shall withdraw it in my complete edition.

† Large and somewhat carefully painted diagrams were shown at the lecture, which I cannot engrave but for my complete edition.

to have been noticed by the most careful painters of the great schools; and you will continually fancy that I am inconsistent with myself in pressing you to learn, better than they, the anatomy of birds, while I violently and constantly urge you to refuse the knowledge of the anatomy of men. But

FIG. 8.



you will find, as my system develops itself, that it is absolutely consistent throughout. I don't mean, by telling you not to study human anatomy, that you are not to know how many fingers and toes you have, nor how you can grasp and walk with them; and, similarly, when you look at a bird, I wish you to know how many claws and wing-feathers it has,

and how it grips and flies with them. Of the bones, in either, I shall show you little; and of the muscles, nothing but what can be seen in the living creature, nor, often, even so much.

77. And accordingly, when I now show you this sketch of my favorite Holbein, and tell you that it is entirely disgraceful he should not know what a wing was, better,—I don't mean that it is disgraceful he should not know the anatomy of it, but that he should never have looked at it to see how the feathers lie.

FIG. 9.



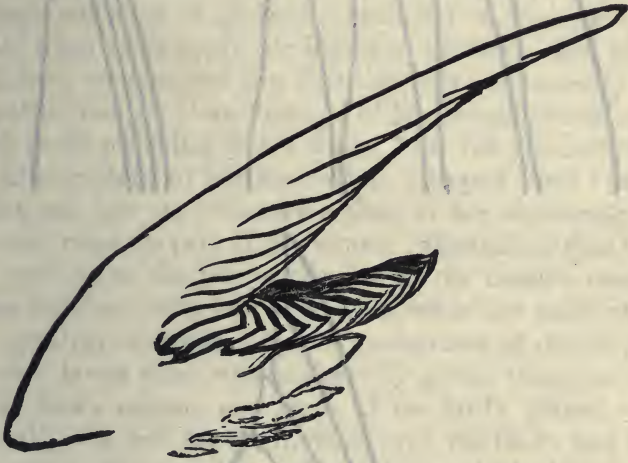
Now Holbein paints men gloriously, but never looks at birds; Gibbons, the wood-cutter, carves birds, but can't men;—of the two faults the last is the worst; but the right is in looking at the whole of nature in due comparison, and with universal candor and tenderness.

78. At the whole of nature, I say, not at *super-nature*—at what you suppose to be above the visible nature about you. If you are not inclined to look at the wings of birds, which God has given you to handle and to see, much less are you to

contemplate, or draw imaginations of, the wings of angels, which you can't see. Know your own world first—not denying any other, but being quite sure that the place in which you are now put is the place with which you are now concerned; and that it will be wiser in you to think the gods themselves may appear in the form of a dove, or a swallow, than that, by false theft from the form of dove or swallow, you can represent the aspect of gods.

79. One sweet instance of such simple conception, in the end of the *Odyssey*, must surely recur to your minds in

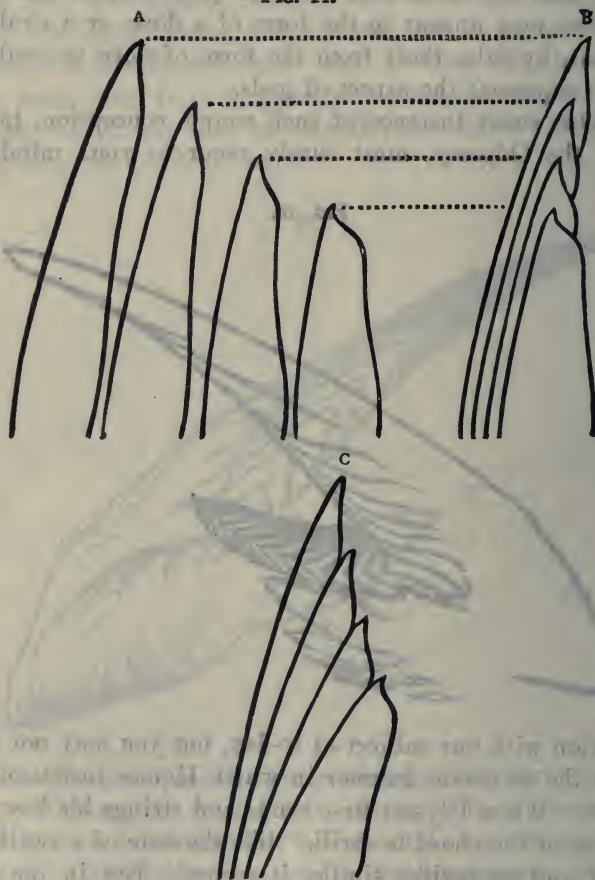
FIG. 10.



connection with our subject of to-day, but you may not have noticed the recurrent manner in which Homer insists on the thought. When Ulysses first bends and strings his bow, the vibration of the chord is shrill, "like the note of a swallow." A poor and unwarlike simile, it seems! But in the next book, when Ulysses stands with his bow lifted, and Telemachus has brought the lances, and laid them at his feet, and Athena comes to his side to encourage him,—do you recollect the gist of her speech? "You fought," she says, "nine years for the sake of Helen, and for another's house:—now,

returned, after all those wanderings, and under your own roof, for it, and its treasures, will you not fight, then?" And she herself flies up to the house-roof, and thence, *in the*

FIG. II.



form of the swallow, guides the arrows of vengeance for the violation of the sanctities of home.

“80. To-day, then, I believe verily for the first time, I have been able to put before you some means of guidance to under-

stand the beauty of the bird which lives with you in your own houses, and which purifies for you, from its insect pestilence, the air that you breathe. Thus the sweet domestic thing has done, for men, at least these four thousand years. She has been their companion, not of the home merely, but of the hearth, and the threshold; companion only endeared by departure, and showing better her loving-kindness by her faithful return. Type sometimes of the stranger, she has softened us to hospitality; type always of the suppliant, she has enchanted us to mercy; and in her feeble presence, the cowardice, or the wrath, of sacrilege has changed into the fidelities of sanctuary. Herald of our summer, she glances through our days of gladness; numberer of our years, she would teach us to apply our hearts to wisdom;—and yet, so little have we regarded her, that this very day, scarcely able to gather from all I can find told of her enough to explain so much as the unfolding of her wings, I can tell you nothing of her life—nothing of her journeying: I cannot learn how she builds, nor how she chooses the place of her wandering, nor how she traces the path of her return. Remaining thus blind and careless to the true ministries of the humble creature whom God has really sent to serve us, we in our pride, thinking ourselves surrounded by the pursuivants of the sky, can yet only invest them with majesty by giving them the calm of the bird's motion, and shade of the bird's plume:—and after all, it is well for us, if, when even for God's best mercies, and in His temples marble-built, we think that, “with angels and archangels, and all the company of Heaven, we laud and magnify His glorious name”—well for us, if our attempt be not only an insult, and His ears open rather to the inarticulate and unintended praise, of “the Swallow, twittering from her straw-built shed.”

LECTURE III.

THE DABCHICKS.

81. I BELIEVE that somewhere I have already observed, but permit myself, for immediate use, to repeat what I cannot but think the sagacious observation,—that the arrangement of any sort of animals must be, to say the least, imperfect, if it be founded only on the characters of their feet. And, of all creatures, one would think birds were those which, continually dispensing with the use of their feet, would require for their classification some attention also to be paid to their bodies and wings,—not to say their heads and tails. Nevertheless, the ornithological arrangement at present in vogue may suffice for most scientific persons; but in grouping birds, so that the groups may be understood and remembered by children, I must try to make them a little more generally descriptive.

82. In talking of parrots, for instance, it is only a small part of the creature's nature which is told by its scientific name of 'Scansor,' or 'Climber.' That it only clutches with its claws, and does not snatch or strike with them;—that it helps itself about with its beak, on branches, or bars of cage, in an absurd manner, as if partly imagining itself hung up in a larder, are by no means the most vital matters about the bird. Whereas, that its beak is always extremely short, and is bent down so roundly that the angriest parrot cannot peck, but only *bite*, if you give it a chance; that it *can* bite, pinch, or otherwise apply the mechanism of a pair of nut-crackers from the back of its head, with effect; that it has a little black tongue capable of much talk; above all, that it is mostly gay in plumage, often to vulgarity, and always to pertness;—

all these characters should surely be represented to the apprehensive juvenile mind, in sum; and not merely the bird's climbing qualities.

83. Again, that the race of birds called in Latin 'Rasores' *do*, in the search for their food, usually scratch, and kick out their legs behind, living for the most part in gravelly or littery places, of which the hidden treasures are only to be discovered in that manner, seems to me no supremely interesting custom of the animal's life, but only a *manner* of its household, or threshold, economy. But that the tribe, on the whole, is unambitiously domestic, and never predatory; that they fly little and low, eat much of what they can pick up without trouble—and are *themselves* always excellent eating;—yet so exemplary in their own domestic cares and courtesies that one is ashamed to eat them except in eggs;—that their plumage is for the most part warm brown, delicately and even bewitchingly spotty;—and that, in the goodliest species, the spots become variegated, and inlaid as in a Byzantine pavement, deepening to imperial purple and azure, and lightening into luster of innumerable eyes;—all this, I hold, very clearly and positively, should be explained to children as a part of science, quite as exact, and infinitely more gracious, than that which reckons up the whole tribe of loving and luminous creatures under the feebly descriptive term of 'Scratchers.'

I will venture therefore to recommend my younger readers, in classing birds, to think of them literally from top to toe—from toe to top I should say,—foot, body, and head, studying, with the body, the wings that bear it; and with the head, what brains it can bring to bear on practical matters, and what sense on sentimental. But indeed, primarily, you have to consider whether the bird altogether may not be little more than a fat, cheerful little stomach, in a spotted waistcoat, and with legs to it. That is the main definition of a great many birds—meant to eat all day, chiefly, grubs, or grain—not at all, unless under wintry and calamitous conditions, meant to fast painfully, or be in concern about their food. Faultless

in digestion—dinner lasting all day long, with the delight of social intercourse—various chirp and chatter. Flying or fluttering in a practical, not stately, manner: hopping and creeping intelligently. Sociable to man extremely, building and nestling and rustling about him,—prying and speculating, curiously watchful of him at his work, if likely to be profitable to themselves, or even sometimes in mere pitying sympathy, and wonder how such a wingless and beakless creature can do *anything*.*

84. The balance of this kind of bird on its legs is a very important part of its—diagnosis; (we must have a fine word now and then!) Its action on the wing, is mere flutter or flirt, in and out of the hedge, or over it; but its manner of perch, or literally ‘bien-séance,’ is admirable matter of interest. So also in the birds which are on the water what these are on land; picking up anything anywhere; lazy and fortunate, mostly, themselves; fat, floating, daintiest darlings;—*their* balance on the water, also, and under it, in ‘ducking,’ a most essential part of their business and being.

85. Then, directly opposed to these, in both kinds, you have the birds which must fast long, and fly far, and watch or fight for their food. Not stomachic in profile; far from cheerful in disposition; more or less lonely in habit; or, if gregarious, out of the way of men. The balance of these on the wing, is no less essential a part of their picturing, than that of the buntings, robins, and ducks on the foot, or breast: and therefore, especially the position of the head in flying.

86. Accordingly, for complete ornithology, *every* bird must be drawn, as every flower for good botany, both in profile, and looking down upon it: but for the perchers, the standing profile is the most essential; and for the falcons and gulls, the flying *plan*,—the outline of the bird, as it would be seen looking down on it, when its wings were full-spread.

Then, in connection with these general outlines, we want systematic plan and profile of the foot and head; but since we

* Compare ‘Paradise of Birds,’ (song to the young Roc, page 67,) and see close of lecture for notes on that book,

can't have everything at once, let us say the plan of the foot, and profile of the head, quite accurately given; and for every bird consistently, and to scale.

Profile and plan in outline; then, at least the *head* in light and shade, from life, so as to give the expression of the eye. Fallacious, this latter, often, as an indication of character; but deeply significant of habit and power: thus the projecting, full, bead, which enables the smaller birds to see the smallest insect or grain with good in it; gives them much of their bright and often arch expression; while the flattened iris under the beetling brow of the falcons,—projecting, not in frown, but as roof, to shade the eye from interfering skylight,—gives them their apparently threatening and ominous gaze; the iris itself often wide and pale, showing as a lurid saturnine ring under the shadow of the brow plumes.

87. I speak of things that are to be: very assuredly they will be done, some day—not far off, by painters educated as gentlemen, in the strictest sense—working for love and truth, and not for lust and gold. Much has already been done by good and earnest draughtsmen, who yet had not received the higher painter's education, which would have enabled them to see the bird in the greater lights and laws of its form. It is only here and there, by Dürer, Holbein, Carpaccio, or other such men, that we get a living bird rightly drawn; * but we may be greatly thankful for the unspared labor, and attentive skill, with which many illustrations of ornithology have been produced within the last seventy or eighty years. Far beyond rivalry among them, stands Le Vaillant's monograph, or dualgraph, on the Birds of Paradise, and Jays: its plates, exquisitely engraved, and colored with unwearying care by hand, are insuperable in plume-texture, hue, and action,—spoiled in effect, unhappily, by the vulgar boughs for sustentation. Next, ranks the recently issued history of the birds of Lombardy; the lithographs by Herr Oscar Dressler, superb, but the coloring (chromo-lithotint) poor: and then,

* The Macaw in Sir Joshua's portrait of the Countess of Derby is a grand example.

the self-taught, but in some qualities greatly to be respected, art of Mr. Gould. Of which, I would fain have spoken with gratitude and admiration in his lifetime; had not I known, that the qualified expressions necessary for true estimate of his published plates, would have caused him more pain, than any general praise could have counteracted or soothed. Without special criticism, and rejoicing in all the pleasure which any of my young pupils may take in his drawing,—only guarding them, once for all, against the error of supposing it exemplary as art,—I use his plates henceforward for general reference; finding also that, following Mr. Gould's practical and natural arrangement, I can at once throw together in groups, easily comprehensible by British children, all they are ever likely to see of British or Britain-visitant birds: which I find fall, with frank casting, into these following divisions, not in any important matters varying from the usual ones, and therefore less offensive, I hope, to the normal zoologist than my heresies in botany; while yet they enable me to make what I have to say about our native birds more simply presentable to young minds.*

88. 1. The HAWKS come first, of course, massed under the single Latin term 'Falco,' and next them,

2. The OWLS second, also of course,—unmistakable, these two tribes, in all types of form, and ways of living.

3. The SWALLOWS I put next these, being connected with the owls by the Goatsucker, and with the falcons by their flight.

4. The PIES next, whose name has a curious double meaning, derived partly from the notion of their being painted or speckled birds; and partly from their being, beyond all others, pecking, or pickax-beaked, birds. They include, therefore, the Crows, Jays, and Woodpeckers; historically and practically a most important order of creatures to man. Next which, I take the great company of the smaller birds of the dry land, under these following more arbitrary heads.

* See the notes on classification, in the Appendix to the volume; published, together with the Preface, simultaneously with this number.

5. The **SONGSTERS**. The Thrush, Lark, Blackbird, and Nightingale, and one or two choristers more. These are connected with the pheasants in their speckledness, and with the pies in pecking; while the nightingale leads down to the smaller groups of familiar birds.

6. The **ROBINS**, going on into the minor warblers, and the Wrens; the essential character of a Robin being that it should have some front red in its dress somewhere; and the Cross-bills being included in the class, partly because they have red in their dress, and partly because I don't know where else to put them.

7. The **CREEPERS** and **TITS**—separated chiefly on the ground of their minuteness, and subtle little tricks and graces of movement.

8. The **SPARROWS**, going on into Buntings and Finches.

9. The **PHEASANTS** (substituting this specific name for that of Scratchers).

10. The **HERONS**; for the most part wading and fishing creatures, but leading up to the Stork, and including any long-legged birds that run well, such as the Plovers.

11. The **DABCHICKS**—the subject of our present chapter.

12. The **SWANS** and **GEESE**.

13. The **DUCKS**.

14. The **GULLS**.

Of these, I take the Dabchicks first, for three sufficient reasons;—that they give us least trouble,—that they best show what I mean by broad principles of grouping,—and that they are the effective clasp, if not center, of all the series; since they are the true link between land and water birds. We will look at one or two of their leading examples, before saying more of their position in bird-society. I shall give for the heading of each article, the name which I propose for the bird in English children's schools—*Dame*-schools if possible; a perfectly simple Latin one, and a familiar English one. The varieties of existing nomenclature will be given in the Appendix, so far as I think them necessary to be known or remembered.

I.

MERULA FONTIUM. TORRENT-OUZEL.

89. There are very few good popular words which do not unite two or more ideas, being founded on one, and catching up others as they go along. Thus I find 'dabchick' to be a corruption of 'dip-chick,' meaning birds that only dip, and do not dive, or even duck, for any length of time: but in its broader and customary use it takes up the idea of dabbling; and, as a class-name, stands for 'dabbling-chick,' meaning a bird of small size, that neither wades, nor dives, nor runs, nor swims, nor flies, in a consistent manner; but humorously dabbles, or dips, or flutters, or trips, or plashes, or paddles, and is always doing all manner of odd and delightful things: being also very good-humored, and in consequence, though graceful, inclined to plumpness; * and though it never waddles, sometimes, for a minute or two, 'toddles,' and now and then looks more like a ball than a bird. For the most part, being clever, they are also brave, and would be as tame as any other chickens, if we would let them. They are mostly shore birds, living at the edge of irregularly broken water, either streams or sea; and the representative of the whole group with which we will begin is the mysterious little water-ouzel, or 'oiselle,' properly the water-blackbird,—Buffon's 'merle d'eau'—for ouzel is the classic and poetic word for the blackbird, or ouzel-cock, "so black of hue," in 'Midsummer Night's Dream.' Johnson gives it from the Saxon 'osle'; but in Chaucer it must be understood simply as the feminine of oiseau. The bird in question might, however, be more properly called, as Bewick calls it, 'water pyot,' or water magpie, for only its back and wings are black,—its head brown, and breast snow white.

90. And now I must, once for all, get over a difficulty in the description of birds' costume. I can always describe the neck-feathers, as such, when birds have any neck to speak of;

* Or in French, 'embonpoint.'

but when, as the majority of dabchicks, they have not any,—instead of talking of ‘throat-feathers’ and ‘stomach-feathers,’ which both seem to me rather ugly words, I shall call the breast feathers the ‘chemisette,’ and all below them the ‘bodice.’

I am now able, without incivility, to distinguish the two families of Water-ouzel. Both have white chemisettes, but the common water-ouzel (*Cinclus aquaticus* of Gould) has a white bodice, and the other a black one, the bird being called therefore, in ugly Greek, ‘*Melanogaster*,’ ‘black-stomached.’ The black bodice is Norwegian fashion—the white, English; and I find that in Switzerland there is an intermediate Robin-ouzel, with a red bodice: but the ornithologists are at variance as to his ‘specific’ existence. The chemisette is always white.

91. However dressed, and wherever born, the Ouzel is essentially a mountain-torrent bird, and, Bewick says, may be seen perched on a stone in the midst of a stream, in a continual *dipping* motion, or short curtsey often repeated, while it is watching for its food, which consists of small fishes and insects,—water insects, that is to say, caught mostly at the bottom; many-legged and shrimpy things, according to Gould’s plate. The popular tradition that it can walk under the water has been denied by scientific people; but there is no doubt whatever of the fact,—see the authentic evidence of it in the delightful little monograph of the bird published by the Carlisle Naturalist’s Society; but how the thing is done nobody but the ouzel knows. Its strong little feet, indeed, have plenty of grip in them, but cannot lay hold of smooth stones, and Mr. Gould himself does not solve the problem. “Some assert that it is done by clinging to the pebbles with its strong claws; others, by considerable exertion and a rapid movement of the wings. Its silky plumage is impervious to wet; and hence when the bird returns to the surface, the pearly drops which roll off into the stream are the only evidence of its recent submersion. It is, indeed, very interesting to observe *this pretty bird walk down a stone, quietly descend into the water, rise again perhaps at a dis-*

tance of several yards down the stream, and 'fly' * back to the place it had just left, to perform the same maneuver the next minute, the silence of the interval broken by its cheerful warbling song."

92. In which, you see, we have the reason for its being called 'water-blackbird,' being, I think, the only one of the dabchicks that really sings. Some of the others, (sand-pipers) pipe; and others, the stints, say 'stint' in a charming manner; but none of them *sing* except the oiselle. Very singularly, the black-bodied one seems to like living near manufactories. "The specimen in the Norwich Museum," says Mr. Gould, "is the one mentioned by Mr. Lubbock, in 1845, as 'lately' shot at Hellesdon Mills; and two others are stated by the same author to have been seen at different times by trustworthy observers at Marlingford and Saxthorpe. Of more recent occurrence I may mention a male in my own collection, which was brought to me in the flesh, having been shot in November, 1855, whilst hovering over the river between the foundry bridge and the ferry. It is not a little singular that a bird so accustomed to the clear running streams of the north, and the quiet haunts of the 'silent angler,' should be found, as in this case, almost within the walls of the city, sporting over a river turbid and discolored from the neighboring factories, and with the busy noise of traffic on every side. About the same time that this bird appeared near the city, three others were observed on more than one occasion on the Earlham river, by Mr. Fountaine, of Easton, who is well acquainted with our British birds; but these suddenly disappeared, and were not seen again."

And all will disappear, and never be seen again, but in skeleton, ill-covered with camphorated rags of skin, under the present scientific dispensation; unless some kind-hearted northern squire will let them have the run and the dip of his brooks; and teach the village children to let them alone if they like to wade down to the village.

* "Wing its way" in the ornithological language. I shall take leave usually to substitute the vulgar word 'fly,' for this poetical phrase.

I am sixty-two, and have passed as much time out of those years by torrent sides as most people. But I have never seen a water-ouzel alive.

II.

ALLEGRETTA NYMPHÆA. LILY-OUZEL.

93. We have got so far, by help of our first example, in the etymology of our entire class, as to rest in the easily memorable root 'dab,' short for dabble, as the foundation of comprehensive nomenclature. But the earlier (if not Aryan!) root 'dip,' must be taken good heed to, also, because, as we further study the customs of aquatic chickens, we shall find that they really mass themselves under the three great heads of 'Duckers,' birds that duck their heads only, and stick up their tails in the air;—'Dippers,' birds that take real dips under, but not far down, in shallow water mostly, for things at the bottom, or else to get out of harm's way, staying down about as long as we could ourselves, if we were used to it;—and 'Divers,' who plunge like stones when they choose,—can go nobody knows how deep in the deep sea,—and swim under the water just as comfortably as upon it, and as fast, if not faster.

But although this is clearly the practical and poetical division, we can't make it a scientific one; for the dippers and dabblers are so like each other that we must take them together; and so also the duckers and divers are inseparable in some of their forms: so that, for convenience of classing, we must keep to the still more general rank I have given—dabchick, duck, and gull,—the last being essentially the aerial sea-bird, which *lives* on the wing.

94. But there is yet one more 'mode of motion' to be thought of, in the class we are now examining. Several of them ought really to be described, not as dipchicks, but as *trip-chicks*; being, as far as I can make out, little in the

habit of going under water; but much in the habit of walking or tripping daintily over it, on such raft or float as they may find constructed for them by water-lily or other buoyant leaves. Of these "come and trip it as you come" chicks,—(my emendation of Milton is surely more reasonable than the emendations of commentators as a body, for we do not, any of us, like to see our mistresses "trip it as they go")—there are, I find, pictured by Mr. Gould, three 'species,' called by him, *Porzana Minuta*, Olivaceous Crake; *Porzana Pygmæa*, Baillon's Crake; and *Porzana Maruetta*, Spotted Crake.

Now, in the first place, I find 'Porzana' to be indeed Italian for 'water-hen,' but I can't find its derivation; and in the second place, these little birds are neither water-hens nor moor-hens, nor water-cocks nor moor-cocks; neither can I find, either in Gould, Yarrell, or Bewick, the slightest notice of their voices!—though it is only in implied depreciation of their quality, that we have any business to call them 'Crakes,' 'Croaks,' or 'Creaks.' In the third place, 'Olivaceous' is not a translation of 'Minuta,' nor 'Baillon's' of 'Pygmæa,' nor 'spotted' of 'Maruetta'; which last is another of the words that mean nothing in any language that I know of, though the French have adopted it as 'Marouette.' And in the fourth place, I can't make out any difference, either in text or picture, between Mr. Baillon's Crake, and the 'minute' one, except that the minute one is the bigger, and has fewer white marks in the center of the back.

95. For our purposes, therefore, I mean to call all the three varieties neither Crake nor Porzan, but 'Allegretta,' which will at once remind us of their motion; the larger one, nine inches long, I find called always Spotted Crake, so that shall be 'Allegretta Maculata,' Spotty Allegret; and the two little ones shall be, one, the Tiny Allegret, and the other the Starry Allegret (*Allegretta Minuta*, and *Allegretta Stellaris*); all the three varieties being generally thought of by the plain English name I have given at the head of this section, 'Lily-Ouzel' (see, in § 7, page 5, the explanation of my system of

dual epithet, and its limitations. I note, briefly, what may be properly considered distinctive in the three kinds.

II.A. ALLEGRETTA NYMPHÆA, MACULATA. SPOTTED ALLEGRET.

96. Water-Crake or 'Skitty' of Bewick,—French, 'Poule d'eau Marouette,' (we may perhaps take Marouette as euphonious for Maculata, but I wish I knew what it meant);—though so light of foot, flies heavily; and, when compelled to take wing, merely passes over the tops of the reeds to some place of security a short distance off. (Gould.) The body is "in all these Rails *compressed*" (Yarrell,—he means laterally thin), which enables them to make their way through dense herbage with facility. I can't find anything clear about its country, except that it 'occasionally visits' Sweden in summer, and Smyrna in winter, and that it has been found in Corfu, Sicily, Crete,—Whittlesea Mere,—and Yarley Fen;—in marshes always, wherever it is; (nothing said of its behavior on ice,) and not generally found farther north than Cumberland. Its food is rather nasty—water-slugs and the like,—but it is itself as fat as an ortolan, "almost melts in the *hand*." (Gould.) Its own color, brown spotted with white; "the spots on the wing coverts surrounded with black, which gives them a studded or pearly appearance." (Bewick,—he means by 'pearly,' rounded or projecting.) Hence my specific epithet. Its young are of the liveliest black, "little balls of black glistening down," beautifully put by Mr. Gould among the white water Crowfoot (*Ranunculus Aquatilis*), looking like little ducklings in mourning. "Its nest is made of rushes and other buoyant materials matted together, so as to float on, and rise or fall with, the ebbing or flowing of the water like a boat; and to prevent its being carried away, it is moored or fastened to a reed." (Bewick.)

II.B. ALLEGRETTA NYMPHÆA, STELLARIS. STARRY ALLEGRET.

97. Called 'Stellaris' by Temminck.—I do not find why,

but it is by much the brightest in color of the three, and may be thought of as the star of them. Gould says it is the least, also, and calls it the 'Pigmy'; but we can't keep that name without confusing it with the 'Minuta.' 'Baillon's Crake' seems the most commonly accepted title,—as the worst possible. Both this, and the more quietly toned Tiny, in Mr. Gould's delightful plates of them, have softly brown backs, exquisitely ermined by black markings at the root of each feather, following into series of small waves, like little breakers on sand. They have lovely gray chemisettes, striped gray bodices, and green bills and feet; a little orange stain at the root of the green bill, and the bright red iris of the eye have wonderful effect in warming the color of the whole bird: and with beautiful fancy Mr. Gould has put the *Stellaris* among yellow water-lilies to set off its gray; and a yellow butterfly with blue and red spots, and black-speckled wings (*Papilio Machaon*), to harmonize both. It is just as if the flower were gradually turning into the bird. Examples of the *Starry Allegret* have been 'obtained'—in the British Islands. It is said to be numerous, unobtained, in India, China, Japan, Persia, Greece, North Africa, Italy, and France. I have never heard of anybody's seeing it, however.

II. C. ALLEGRETTA NYMPHÆA, MINUTA. TINY ALLEGRET.

98. 'Tiny Allegret,'—Yarrell's 'Little Crake,' (but see names in Appendix). It is a little more rosy than '*Stellaris*' in the gray of its neck, passing into brown; and Mr. Gould has put it with a pink water plant, which harmonizes with it to the bird's advantage; while the tiny creature stands on the bent leaf of a reed, and scarcely bends it more! "It runs with rapidity over broken reeds, and moves gracefully, raising and displaying its tail at every step." It has so very small a tail to display, however, that I should hardly think the display was worth while. "It is very cunning, and especially noticeable for the subtlety with which it wears the dog of the sportsman by executing a thousand evolutions

with surprising celerity; whence comes the trivial name of 'kill-dog' bestowed upon it in some localities. Pursued to extremity, it casts itself into the water, swims with ease, and dives at the moment its enemy is about to seize it; or it conceals itself in a tuft of reeds or a bush, and by this means often escapes with impunity. It loves to breed among the reeds, and in long and thick grass, frequently in small companies of its own species, or of the *Stellaris*. The female lays her eggs on an inartificially constructed platform of decayed leaves or stalks of marsh plants, slightly elevated above the water." How elevated, I cannot find proper account,—that is to say, whether it is hung to the stems of growing reeds, or built on hillocks of soil, but the bird is always liable to have its nest overflowed by floods. The full-grown bird is dressed in an exquisite perfection of barred bodice, spotted chemisette, and waved feathers edged with gray on the back.

99. The reader will please recollect these three Alleghrets as the second group of the dab- or dabble-chicks; and, while the water-ouzel is a mountain and torrent bird, these inhabit exclusively flat lands and calm water, belonging properly to temperate, inclining to warm, climates, and able to gladden for us—as their name now given implies—many scenes and places otherwise little enlivened; and to make the very gnats of them profitable to us, were we wise enough. Dainty and delightful creatures in all their ways,—voice only dubitable, but I hope not a shriek or a squeak;—and there seems to be no reason whatever why half our fen lands should not be turned into beds of white water lilies and golden ducks, with jetty ducklings, to the great comfort of English souls.*

* Compare Bishop Stanley's account of the larger tropical 'Jacana,' p. 311. "One species is often tamed, and from its being a resolute enemy to birds of prey, the inhabitants of the countries where it is found" (which be they?) "rear it as a protector for their fowls, as it not only feeds with them, but accompanies them into the fields, and brings them back in the evening!"

III.

TREPIDA STAGNARUM. LITTLE GREBE.

100. The two birds—Torrent-ouzel, and Lily-ouzel,—which we have been just describing, agree, you will observe, in delicate and singular use of their feet in the water; the torrent-ouzel holding itself mysteriously at the bottom; and the lily-ouzel, less mysteriously, but as skillfully, on the top (for I forgot to note, respecting this raft-walking, that the bird, however light, must be always careful not to tread on the edges of leaves, but in the middle, or, rather, as nearly as may be where they are set on the stalk; it would go in at once if it trod on the edges). But both the birds have the foot which is really characteristic of land, not water-birds; and especially of those land species that run well. Of the real action of the toes, either in running, or hopping, nothing is told us by the anatomists—(compare lecture on Robin, § 26); but I hope before long to get at some of the facts respecting the greater flexibility of the gripping and climbing feet, and elasticity of running ones; and to draw up something like a properly graduated scale of the length of the toes in proportion to that of the body.

And, for one question, relative to this—the balance of a bird *standing*, not gripping—is to be thought of. Taking a typical profile of bird-form in its abstract, with beak, belly, and foot, horizontal (Fig. 12), the security of the standing, (supposing atomic weight equal through the bird's body, and the *will*, in the

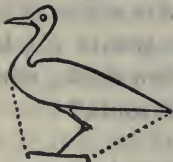


FIG. 12.

the ankle, of iron,) is the same as of an inverted cone, between the dotted lines from the extremities of the foot to those of the body; and, of course, with a little grip of the foot or hind claw, the bird can be safe in almost any position it likes. Nevertheless, when the feet are as small in proportion as the Torrent-ouzel's, I greatly doubt the possibility of such a

balance as Bewick has given it (Fig. 13 *a*). Gould's of the black-bodied Ouzel (Fig. 13 *b*) is, I imagine, right. Bewick was infallible in plume texture, and expression either of the features of animals, or of any action that had meaning in it; but he was singularly careless of indifferent points in geometry or perspective; and even loses character in his water-birds, by making them always swim on the top of the water.

101. But, whatever their balance of body, or use of foot, the two birds just examined are, as I said, essentially connected with the running land birds, or broadly, the Plovers; and with the Sand-runners, or (from their cry) Sandpipers, which Mr. Gould evidently associates mentally with the



FIG. 13 *a*.

Plovers, in his description of the plumage of the Dunlin; while he gives to them in his plates of that bird—the little Stint, and common Sandpiper—most subtle action with their fine feet,—thread-fine, almost, in the toes; requiring us, it seems to me, to consider them as entirely land-birds, however fond of the wave margins. But the next real water-ouzel we come to, belongs to a group with feet like little horse-chestnut leaves; each toe having its separate lobes of web. Why separated, I cannot yet make out, but the bird swims, or even dives, on occasion, with dexterity and force. These lobe-footed birds consist first of the Grebes, which are connected with fresh-water ducks; and, secondly, of the Phalaropes,

which are a sort of sea-gulls. No bird which is not properly web-footed has any business to think itself either true duck or true gull; but as, both in size and habit of life, the larger grebes and phalaropes are entirely aquatic and marine, I shall take out of them into my class of dabchicks, only those which are literally dabblers in habit, and chickens in size. And of the Grebes, therefore, only the one commonly known as the Dabchick, the 'Little Grebe,' 'Colymbus Minutus' (Minute Diver), of Linnæus. A summary word or two, first, respecting the Grebe family, will be useful.

102. Grebe, properly, I suppose, Grèbe, from the French, is not in Johnson, nor do any of my books tell me what it



FIG. 13 b.

means. I retain it, however, as being short, not ugly, and well established in two languages. We may think of it as formed from gré, and meaning 'a nice bird.' The specialities of the whole class, easily remembered, are, first, that they have chestnut-leaf feet; secondly, that their legs are serrated behind with a double row of notches—(why?); thirdly, that they have no tails; fourthly, that they have, most of them, very fine and very comic crests, tufts, tippetts, and other variously applied appendages to their heads and chins, so that some are called 'crested,' some 'eared,' some 'tippetted,' and so on; but the least of them, our proper Dabchick, displays no absurdity of this sort, and I have the less scruple in

distinguishing it from others. I find, further, in Stanley's classes, the Grebes placed among the short-winged birds, and made to include all the divers; but he does not say how short their wings are; and his grouping them with guillemots and puffins is entirely absurd, all their ways and looks, and abodes, being those of ducks. We can say no more of them as a family, accordingly, until we know what a duck is;—and I go on to the little pet of them, whose ways are more entirely its own.

103. Strangely, the most interesting fact (if *fact* it be) that it builds a floating nest, gains scarcely more than chance notice from its historians. Here is Mr. Gould's account of it: "The materials composing this raft or nest are weeds and aquatic plants carefully heaped together in a rounded form; it is very large at the base, and is so constantly added to, that a considerable portion of it becomes submerged; at the same time it is sufficiently buoyant to admit of its saucer-like hollow top being always above the surface. In this wet depression five or six eggs are laid. The bird, always most alert, is still more so now, and scarcely ever admits of a near examination of the nest-making, or of a view of the eggs. In favorable situations, however, and with the aid of a telescope, the process may be watched; and it is not a little interesting to notice with what remarkable quickness the dabchick scratches the weeds over her eggs with her feet, when she perceives herself observed, so as not to lead even to the suspicion that any were deposited on the ill-shapen floating mass. This work of an instant displays as much skill in deception as can well be imagined."

104. It is still left to question, first, what is meant by a wet depression?—does the bird actually sit in the water, and are the eggs under it? and, if not, how is the water kept out? Secondly, is the floating nest anchored, and how? Looking to other ornithologists for solution of these particulars, I find nobody else say anything about a floating nest at all. Bewick describes it as being of a large size, and composed of a very great quantity of grass and water plants, at least a foot in

thickness, and so placed in the water that the female hatches her eggs amidst the continual wet in which they were first laid. Yarrell says only that it is a large flat nest made of aquatic plants; while Morris finally complicates the whole business by telling us that the nest is placed often as much as twenty or thirty yards from the water, that it is composed of short pieces of roots, reeds, rushes, and flags, and that when dry the whole naturally becomes very brittle.*

105. While, out of my fifteen volumes of ornithology, I can obtain only this very vague account of the prettiest bird, next to the kingfisher, that haunts our English rivers, I have no doubt the most precise and accurate accounts are obtainable of the shapes of her bones and the sinuosities of her larynx; but about these I am low-minded enough not to feel the slightest curiosity. I return to Mr. Gould, therefore, to gather some pleasanter particulars; first, namely, that she has a winter and summer dress,—in winter olive gray and white, but in summer, (changing at marriage time) deep olive black, with dark chestnut chemisette. Infant dabchicks have “delicate rose-colored bills, harlequin-like markings, and rosy-white aprons.” The harlequin-like markings I should call, rather, agate-like, especially on the head, where they are black and white, like an onyx. The bodies look more like a little walnut-shell, or nutmeg with wings to it, or things that are to be wings, some day.

106. Even when full-grown, the birds never fly much,—never more, says Morris, “than six or ten feet above the water, and for the most part trailing their legs in it; but either on the water or under it, every movement is characterized by the most consummate dexterity, and facile agility. The most expert waterman that sculls his skiff on the Thames or Isis, is but an humble and unskillful imitator of the dabchick. In moving straightforward (under water?), the wings are used to aid its progress, as if in the air, and in

* I hear, from a friend in whose statements I have absolute confidence, that he has found the eggs of the water-hen laid on a dead sycamore leaf by the side of a shallow stream, one of the many brooks near Uxbridge.

turning it has an easy gliding motion, feet and wings being used, as occasion requires, sometimes on one side and sometimes on the other. It walks but indifferently, as may readily be imagined from the position of the legs, so very far back. It is pleasant to watch the parent bird feeding her young: down she dives with a quick turn, and presently rises again with, five times out of six, a minnow, or other little fish, glittering like silver in her bill. The young rush towards the spot where the mother has come up, but she does not drop the fish into the water for them to receive until she has well shaken it about and killed it, so that it may not escape, when for the last time in its own element. I have seen a young one which had just seized, out of its turn I have no doubt, the captured prey, chased away by her, and pursued in apparent anger, as if for punishment, the following one being willingly given the next fish without any demur."

107. Mr. Gould seems to think that the dabchick likes insects and fish spawn better than fish, or at least more prudently dines upon them. "That fish are taken we have positive evidence from examples having been repeatedly picked up dead by the fishermen of the Thames, with a bull-head or miller's thumb in their throats, and by which they had evidently been choked in the act of swallowing them. That it is especially fond of insects is shown by the great activity it displays, when in captivity, in capturing house-flies and other diptera. Those who have visited Paris will probably have seen the grebes in the window of the restaurateur in the Rue de Rivoli. For years have a pair of these birds been living, apparently in the greatest enjoyment, within the glass window, attracting the admiration of all the passers-by. The extreme agility with which they sailed round their little prison, or scrambled over the half-submerged piece of rock for a fly, was very remarkable. That no bird can be more easily kept in a state of confinement is certain."

108. This question about its food is closely connected with that of its diving. So far as I understand Mr. Morris, it dives only when disturbed, and to escape,—remaining under

water, however, if need be, an almost incredible time, and swimming underneath it to great distances. Here we have, if we would only think of it, the same question as that about the water-ouzel, how it *keeps down*; and we must now note a few general points about diving birds altogether.

It is easy to understand how the properly so-called divers can plunge with impetus to great depths, or keep themselves at the bottom by continued strokes of the webbed feet; but neither how the ouzel walks at the bottom, if it be specifically lighter than the water, nor how a bird can swim horizontally under the surface; at least it is not enough explained that the action must be always that of oblique diving, the bird regulating the stroke according to the upward pressure of the water at different depths.

109. But there are many other points needing elucidation. It is said (and beautifully insisted on, by Michelet,) that great spaces in the bones of birds that pass most of their lives in flight are filled with air: presumably the bones of the divers are made comparatively solid, or it is even conceivable—if conceptions or suppositions were of any use,—that the deep divers may take in water, to help themselves to sink. The enormous depths at which they have been caught, according to report, cannot be reached by any mere effort of strength, if the body remained as buoyant as it evidently is on the surface. The strength of the wing must, however, be enormous, for the great northern diver is described as swimming under water “as it were with the velocity of an arrow in the air” (Yarrell, vol. iii., page 431); or to keep to more measured fact, Sir William Jardine says, “I have pursued this bird in a Newhaven fishing-boat with four sturdy rowers, and notwithstanding it was kept almost constantly under water by firing as soon as it appeared, the boat could not succeed in making one yard upon it” (*ibid.*, p. 432).

110. But this is followed by the amazing statement of Mr. Robert Dunn, p. 433, that in the act of diving it does not appear to make the least exertion, but sinks gradually under the surface, without throwing itself forward, the head being

the last part that disappears. I am not fond of the word 'impossible,' but I think I am safe in saying that according to the laws of nature no buoyant body can sink merely by an act of volition; and that it must pull itself down by some hitherto unconceived action of the feet, which in this bird are immensely broad and strong, and so flat that it cannot walk with them, any more than we could with two flat boards a yard square tied to our feet; but, when it is caught on land, shoves its body along upon the ground, like a seal, by jerks. All these diving motions are executed in a more delicate but quite as wonderful way by the dabchick,—more wonderful indeed it may be said, because it has only the divided or chestnut-leaf-like foot, to strike with. We shall understand it perhaps a little better after tracing, in a future talk, the history of its relations among the smaller sea-gulls; meantime, in quitting the little dainty creature, I must plead for a daintier Latin name than it has now—'Podiceps.' No one seems to have the least idea what that means; and 'Colymbus,' diver, must be kept for the great Northern Diver and his deep-sea relatives, far removed from our little living ripple-line of the pools. I can't think of any one pretty enough; but for the present 'Trepida' may serve; and perhaps be applied, not improperly, to all the Grebes, with reference to their subtle and instant escape from any sudden danger. (See Stanley, p. 419.) "It requires all the address of a keen sportsman to get within shot," and when he does, the bird may still be too shrewd for him. "I fired at the distance of thirty yards; my gun went quick as lightning, but the grebe went quicker, and scrambling over, out of sight, came up again in a few seconds perfectly unhurt."

I think, therefore, that unless I receive some better suggestion, 'Trepida Stagnarum' may be the sufficiently intelligible Latin renaming of our easily startled favorite.

IV.

TITANIA ARCTICA. ARCTIC FAIRY.

111. I must first get quit of the confusion of names for this bird. Linnæus, in the *Fauna Suecica*, p. 64, calls it 'Tringa Lobata,' but afterwards 'Northern Tringa'; and his editor, Gmelin, 'Dark Tringa.' Other people agree to call it a 'phalarope,' but some of them 'northern' phalarope, some, the 'dark' phalarope; some, the 'ashy' phalarope, some, the 'disposed to be ashy' phalarope; some, the 'red-necked' phalarope; and some, 'Mr. Williams's' phalarope; finally, Cuvier calls it a 'Lobipes,' and Mr. Gould, in English, 'red-necked phalarope.' Few people are likely to know what 'Phalarope' means,* and I believe nobody knows what 'Tringa' means; and as, also, nobody ever sees it, the little bird being obliged to live in Orkney, Greenland, Norway, and Lapland, out of human creatures' way, I shall myself call it the Arctic Fairy. It would come south if we would let it, but of course Mr. Bond says, "The first specimen I ever had was shot by a friend of mine in September, 1842, near Southend, Essex, where he saw the phalarope swimming on the water, like a little duck, about a mile from land; not knowing what it was, he shot it, and kindly brought it to me." Another was shot while running between the metals of the Great Eastern Railway, near the Stratford station, early in June, 1852; and on the Norfolk coast, four others have been killed during the last fifteen years; and the birds' visits, thus, satisfactorily, put a stop to. I can therefore study it only in Mr. Gould's drawing, on consulting which, I find the bird to be simply a sea dabchick,—brown stripes on the back, and all; but the webs of the feet a little finer, and in its habits it is more like the Lily-ouzel, according to the following report of Mr. St. John: "The red-necked phalarope is certainly the

* The terminal 'pe' is short for *pus*, (*pous!*) and 'phalero,' from *phalera*, fringes—"Fringe-foot" (Morris).

most beautiful little wader of my acquaintance. There were a pair of them, male and female, feeding near the loch, in a little pool which was covered with weeds of different kinds. Nothing could be more graceful than the movements of these two little birds, as they swam about in search of insects, etc. Sometimes *they ran lightly on the broad leaves of the water-lily which served them for a raft*, and entirely kept them out of the water. Though not exactly web-footed, the phalarope swims with the greatest ease. The attachment of these two birds to each other seemed very great: whenever in their search for food they wandered so far apart as to be hidden by the intervening weeds, the male bird stopped feeding suddenly, and, looking round, uttered a low and musical call of inquiry, which was immediately answered by the female in a different note, but perfectly expressive of her answer, which one might suppose to be to the purport that she was at hand and quite safe; on hearing her, the male immediately recommenced feeding, but at the same time making his way towards her; she also flew to meet him; they then joined company for a moment or two, and, after a few little notes of endearment, turned off again in different directions. This scene was repeated a dozen times while I was watching them. They seemed to have not the slightest fear of me, for frequently they came to within a yard of where I was sitting, and after looking up they continued catching the small water-insects, etc., on the weeds, without minding my presence in the least." What reward the birds got for this gentle behavior, we learn from the sentence following after the next two lines, containing the extremely valuable contribution to their natural history, that "on dissecting the female we found two eggs in her."

112. All other accounts concur in expressing (with as much admiration as is possible to naturalists) the kindly and frank disposition of this bird; which for the rest is almost a central type of all bird power with elf gifts added: it flies like a lark, trips on water-lily leaves like a fairy, swims like a duck, and roves like a sea-gull, having been seen sixty miles

from land: and, finally, though living chiefly in Lapland and Iceland, and other such northern countries, it has been seen serenely swimming and catching flies in the hot water of the geysers, in which a man could not bear his hand.

And no less harmoniously than in report of the extreme tameness, grace, and affectionateness of this bird do sportsmen agree also in the treatment and appreciation of these qualities. Thus says Mr. Salmon: "Although we shot two pairs, those that were swimming about did not take the least notice of the report of the gun, and they seemed to be much attached to each other; for when one of them flew to a short distance, the other directly followed; and while I held a wounded female in my hand, its mate came and fluttered before my face." (Compare the scene between Irene and Hector, at page 393 of the May number of *Aunt Judy's Magazine*.) And, again, says Mr. Wolley: "The bird is extremely tame, swimming about my india-rubber boat so near that I could almost catch it in my hand; I have seen it even, when far from its nest, struck at many times with an oar before it flew away." In its domestic habits also the creature seems as exemplary as, in its social habits, it is frank; for on the approach of danger to her nestlings, the hen uses all the careful subtleties of the most cunning land birds, "spreading her wings, and counterfeiting lameness, for the purpose of deluding the intruder; and after leading the enemy from her young, she takes wing and flies to a great height, at the same time displaying a peculiar action of the wings; then descending with great velocity, and making simultaneously a noise with her wings. On her return to her young, she uses a particular cry for the purpose of gathering them together. As soon as she has collected them, she covers them with her wings, like the domestic hen."

113. I cannot quite make out the limits of the fairy's migrations; but it is said by Morris to 'occur' in France, Holland, Germany, Italy, and Switzerland. I find that one was what sportsmen call 'procured' near York, in full summer dress; and another killed at Rottingdean, swimming in

a pond in the middle of the village, in the company of some ducks. At Scarborough, Louth, and Shoreham, it has also been captured or shot, and has been 'found' building nests in Sutherland: and, on the whole, it seems that here is a sort of petrel-partridge, and duckling-dove, and diving-lark, with every possible grace and faculty that bird can have, in body and soul; ready, at least in summer, to swim on our village ponds, or, wait at our railway stations, and make the wild north-eastern coasts of Scotland gay with its dancing flocks upon the foam; were it not that the idle cockneys, and pot-headed squires fresh out of Parliament, stand as it were on guard all round the island, spluttering small-shot at it, striking at it with oars, cutting it open to find how many eggs there are inside, and, in fine, sending it for refuge into the hot water of Hecla, and any manner of stormy solitude that it can still find for itself and its amber nestlings. I have never seen one, nor I suppose ever shall see, but hear of some of my friends sunning themselves at midnight about the North Cape, of whom, if any one will bring me a couple of Arctic fairies in a basket, I think I can pledge our own Squire's and Squire's lady's faith, for the pair's getting some peace, if they choose to take it, and as many water-lily leaves as they can trip upon, on the tarns of Monk-Coniston.

IV.B. TITANIA INCONSTANS. | CHANGEFUL FAIRY.

Phalaropus Fulicarius. (Coot-like Phalarope—Gould.)

114. I think the epithet 'changeful' prettier, and, until we know what a coot is like, more descriptive, than 'coot-like'; the bird having red plumage in summer, and gray in winter, while the coot is always black. It is a little less pretty and less amiable than its sister fairy; otherwise scarcely to be thought of but as a variety, both of them being distinguished from the coot, not only by color, but by their smaller size;—(they eight inches long, it sixteen)—and by the slender beaks, the coot having a thick one, half-way to a puffin's.

And here, once for all,—for I see I have taken no note yet of the beaks or bills of my dabchicks,—I will at once arrange a formula of the order of questions which it will be proper to ask, and get answered, concerning any bird, in the same order always, so that we shall never miss anything that we ought to think of. And I find these questions will naturally and easily fall into the following twelve :

1. Country, and scope of migration.
2. Food.
3. Form and flight.
4. Foot.
5. Beak and eye.
6. Voice and ear.
7. Temper.
8. Nest.
9. Eggs.
10. Brood.
11. Feathers.
12. Uses in the world.

It may be thought that I have forced—and not fallen into—my number 12, by packing the faculties of sight and hearing into by-corners. But the expression of a bird's head depends on the relation of eye to beak, as the getting of its food depends on their practical alliance of power; and the question, for instance, whether peacocks and parrots have musical ears, seems to me not properly debatable unless with due respect to the quality of their voices. It is curious, considering how much, one way or another, we are amused or pleased by the chatter and song of birds, that you will scarcely find in any ornithic manual more than a sentence, if so much, about their hearing; and I have not myself, at this moment, the least idea where a nightingale's ears are! But see Appendix, p. 122.

I retain, therefore, my dodecahedric form of catechism as sufficiently clear; and without binding myself to follow the order of it in strictness, if there be motive for discursive remark, it will certainly prevent my leaving any bird insuffi-

ciently distinguished, and enable me to arrange the collected statements about it in the most easily compared order.

115. We will try it at once on this second variety of the Titania, of which I find nothing of much interest in my books, and have nothing discursive myself to say.

1. Country. Arctic mostly; seen off Greenland, in lat. 68° , swimming among icebergs three or four miles from shore. Abundant in Siberia, and as far south as the Caspian. Migratory in Europe as far as Italy, yet always rare. (Do a few only, more intelligently curious than the rest, or for the sake of their health, travel?)

2. Food. Small thin-skinned crustacea, and aquatic surface-insects.

3. Form and flight. Stout, for a sea-bird; and they don't care to fly, preferring to *swim* out of danger. Body 7 to 8 inches long; wings, from carpal joint to end, $4\frac{3}{4}$,—say 5. These quarters of inches, are absurd pretenses to generalize what varies in every bird. 8 inches long, by 10 across the wings open, is near enough. In future, the brief notification 8×10 , 5×7 , or the like, will enough express a bird's inches, unless it possess decorative appendage of tail, which must be noted separately.

4. Foot. Chestnut-leaved in front toes, the lobes slightly serrated on the edges. Hind toe without membrane. Color of foot, always black.

5. Beak. Long, slender, straight. (How long? Drawn as about a fifth of the bird's length—say an inch, or a little over.) Upper mandible slightly curved down at the point. In *Titania arctica*, the beak is longer and more slender.

6. Voice. A sharp, short cry, not conceived by me enough to spell any likeness of it.

7. Temper. Gentle, passing into stupid, (it seems to me); one, in meditative travel, lets itself be knocked down by a gardener with his spade.

8. Nest. Little said of it, the bird breeding chiefly in the North. Among marshes, it is of weeds and grass; but among icebergs, of what?

9. Eggs. Pear-shape; narrow ends together in nest; never more than four.

10. Brood. No account of.

11. Feathers. Mostly gray, passing into brown in summer, varied with white on margin. Reddish chestnut or bay bodice—well oiled or varnished.

12. Uses. Fortunately, at present, unknown.

V.

RALLUS AQUATICUS. WATER-RAIL.

116. Thus far, we have got for representatives of our dabchick group, eight species of little birds—namely, two Torrent-ouzels, three Lily-ouzels, one Grebe, and two Titantias. And these we associate, observe, not for any specialty of feature in them, but for common character, habit, and size; so that, if perchance a child playing by any stream, or on the sea-sands, perceives a companionable bird dabbling in an equally childish and pleasant manner, he may not have to look through half a dozen volumes of ornithology to find it; but may be pretty sure it has been one of these eight. And having once fastened the characters of these well in his mind, he may with ease remember that the little grebe is the least of a family of chestnut-leaf-footed, and sharp-billed creatures, which yet in size, color, and diving power, go necessarily among Ducks, and cannot be classed with Dabblers; though it must be always as distinctly kept in mind that a duck *proper* has a flat beak, and a fully webbed foot.

Again, he may recollect that with these leaf-footed ducks of the calm and fresh waters, must be associated the leaf-footed or fringe-footed ducks of the sea;—‘phalaropes,’ which by their short wings connect themselves with many clumsy marine creatures, on their way to become seals instead of birds; and that I have kept the two little Titantias out of this class, not merely for their niceness, but because they are not short-winged in any vulgar degree, but seem to have wings

about as long as a sandpiper's;—and indeed I had put the purple sandpiper, *Arquatella maritima*, with them, in my own folio; only as the *Arquatella*'s feet are not chestnutty, she had better go with her own kind in our notes on them.

117. But there are yet two birds, which I think well to put with our eight dabchicks, though they are much larger than any of them,—partly because of their disposition, and partly because of their plumage,—the water-rail, and water-hen. Modern science, with instinctive horror of all that is pretty to see, or easy to remember, entirely rejects the plumage, as any element or noticeable condition of bird-kinds; nor have I ever yet tried to make it one myself; yet there are certain qualities of downiness in ducks, fluffiness in owls, spottiness in thrushes, patchiness in pies, bronzed or rusty luster in cocks, and pearly iridescence in doves, which I believe may be aptly brought into connection with other defining characters; and when we find an entirely similar disposition of plumage, and nearly the same form, in two birds, I do not think that *mere* difference in size should far separate them.

Bewick, accordingly, calls the water-rail the 'Brook-ouzel,' and puts it between the little crake and the water-ouzel; but he does not say a word of its living by brooks,—only 'in low wet places.' Buffon, however, takes it with the land-rail; Gould and Yarrell put it between the little crake and water-hen. Gould's description of it is by no means clear to me:—he first says it is, in action, as much "like a rat as a bird;" then that it "bounds like a ball," (before the nose of the spaniel); and lastly, in the next sentence, speaks of it as "this *lath-like* bird"! It is as large as a bantam, but can run, like the *Allegretta*, on floating leaves; itself, weighing about four ounces and a half (Bewick), and rarely uses the wing, flying very slowly. I imagine the '*lath-like*' must mean, like the more frequent epithet '*compressed*,' that the bird's body is vertically thin, so as to go easily between close reeds.

118. We will try our twelve questions again.

1. Country. Equally numerous in every part of Europe, in Africa, India, China, and Japan; yet hardly anybody

seems to have seen it. Living, however, "near the perennial fountains" (wherever those may be;—it sounds like the garden of Eden!) "during the greater part of the winter, the birds pass Malta in spring and autumn, and have been seen fifty leagues at sea off the coast of Portugal" (Buffon); but where coming from, or going to, is not told. Tunis is the most southerly place named by Yarrell.

2. Food. Anything small enough to be swallowed, that lives in mud or water.

3. Form and flight. I am puzzled, as aforesaid, between its likeness to a ball, and a lath. Flies heavily and unwillingly, hanging its legs down.

4. Foot. Long-toed and flexile.

5. Beak. Sharp and strong, some inch and a half long, showing distinctly the cimeter-curve of a gull's, near the point.

6. Voice. No account of.

7. Temper. Quite easily tamable, though naturally shy. Feeds out of the hand in a day or two, if fed regularly in confinement.

8. Nest. "Slight, of leaves and strips of flags" (Gould); "of sedge and grass, rarely found," (Yarrell). Size not told.

9. Eggs. Eight or nine! cream-white, with rosy yolk!! rather larger than a blackbird's!!!

10. Brood. Velvet black, with white bills; hunting with the utmost activity from the minute they are hatched.

11. Feathers. Brown on the back, a beautiful warm ash gray on the breast, and under the wings transverse stripes of very dark gray and white. The disposition of pattern is almost exactly the same as in the *Allegretta*.

12. Uses. By many thought delicious eating. (Bewick.) The fact is, or seems to me, that this entire group of marsh birds is meant to become to us the domestic poultry of marshy land; and I imagine that by proper irrigation and care, many districts of otherwise useless bog and sand, might be made more profitable to us than many fishing-grounds.

VI.

PULLA AQUATICA. WATER-HEN.

(*Gallinula Chloropus*.—Pennant, Bewick, Gould, and Yarrell.)

119. 'Green-footed little cock, or hen,' that is to say, in English; only observe, if you call the Fringe-foot a Phalarope, you ought in consistency to call the Green-foot a Chlo-rope. Their feet are not only notable for greenness, but for size: they are very ugly, having the awkward and ill-used look of the feet of Scratchers, while a trace of beginning membrane connects them with the fringe-feet.

Their proper name would be Marsh-cock, which would enough distinguish them from the true Moor-cock or Black-cock. 'Moat-cock' would be prettier, and characteristic; for in the old English days they used to live much in the moats of manor-houses; mine is the name nearest to the familiar one; only note there is no proper feminine of 'pullus,' and I use the adjective 'pulla' to express the dark color.

It is a dark-brown bird, according to the colored pictures—iron *gray*, Buffon says, with white stripes of little order on the bodice, clumsy feet and bill, but makes up for all ungainliness by its gentle and intelligent mind; and seems meant for a useful possession to mankind all over the world, for it lives in Siberia and New Zealand; in Senegal and Jamaica; in Scotland, Switzerland, and Prussia; in Corfu, Crete, and Trebizond; in Canada, and at the Cape. I find no account of its migrations, and one would think that a bird which usually flies "dip, dip, dipping with its toes, and leaving a track along the water like that of a stone at 'ducks and drakes'" (Yarrell), would not willingly adventure itself on the Atlantic. It must have a kind of human facility in adapting itself to climate, as it has human domesticity of temper, with curious fineness of sagacity and sympathies in taste. A family of them, petted by a clergyman's wife, were

constantly adding materials to their nest, and “made real havoc in the flower-garden,—for though straw and leaves are their chief ingredients, they seem to have an eye for beauty, and the old hen has been seen surrounded with a brilliant wreath of scarlet anemones.” Thus Bishop Stanley, whose account of the bird is full of interesting particulars. This æsthetic water-hen, with her husband, lived at Cheadle, in Staffordshire, in the rectory moat, for several seasons, “always however leaving it in the spring,” (for Scotland, supposably?): being constantly fed, the pair became quite tame, built their nest in a thorn-bush covered with ivy which had fallen into the water; and “when the young are a few days old, the old ones bring them up close to the drawing-room window, where they are regularly fed with wheat; and, as the lady of the house pays them the greatest attention, they have learned to look up to her as their natural protectress and friend; so much so, that one bird in particular, which was much persecuted by the rest, would, when attacked, fly to her for refuge; and whenever she calls, the whole flock, as tame as barn-door fowls, quit the water, and assemble round her, to the number of seventeen. (November, 1833.)

120. “They have also made other friends in the dogs belonging to the family, approaching them without fear, though hurrying off with great alarm on the appearance of a strange dog.

“The position of the water, together with the familiarity of these birds, has afforded many interesting particulars respecting their habits.

“They have three broods in a season—the first early in April; and they begin to lay again when the first hatch is about a fortnight old. They lay eight or nine eggs, and sit about three weeks,—the cock alternately with the hen. The nest in the thorn-bush is placed usually so high above the surface of the water, they cannot climb into it again; but, as a substitute, within an hour after they leave the nest, the cock bird builds a larger and more roomy nest for them, with sedges, at the water’s edge, which they can enter or retire

from at pleasure. For about a month they are fed by the old birds, but soon become very active in taking flies and water-insects. Immediately on the second hatch coming out, the young ones of the first hatch assist the old ones in feeding and hovering over them, leading them out in detached parties, and making additional nests for them, similar to their own, on the brink of the moat.

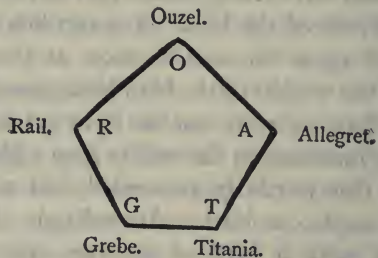
“But it is not only in their instinctive attachments and habits that they merit notice; the following anecdote proves that they are gifted with a sense of observation approaching to something very like reasoning faculties.

“At a gentleman’s house in Staffordshire, the pheasants are fed out of one of those boxes described in page 287, the lid of which rises with the pressure of the pheasant standing on the rail in front of the box. A water-hen observing this, went and stood upon the rail as soon as the pheasant had quitted it; but the weight of the bird being insufficient to raise the lid of the box, so as to enable it to get at the corn, the water-hen kept jumping on the rail to give additional impetus to its weight: this partially succeeded, but not to the satisfaction of the sagacious bird. Accordingly it went off, and soon returning with a bird of its own species, the united weight of the two had the desired effect, and the successful pair enjoyed the benefit of their ingenuity.

“We can vouch for the truth of this singular instance of penetration, on the authority of the owner of the place where it occurred, and who witnessed the fact.”

121. But although in these sagacities, and teachablenesses, the bird has much in common with land poultry, it seems not a link between these and water-fowl; but to be properly placed by the ornithologists between the rail and the coot: this latter being the largest of the fringe-foots, singularly dark in color, and called ‘fulica’ (sooty), or, with insistence, ‘fulica atra’ (black sooty), or even ‘fulica aterrima’ (blackest sooty). ‘Coot’ is said by Johnson to be Dutch; and that it became ‘cotée’ in French; but I cannot find cotée in my French dictionary. In the meantime, putting the coot and water-

hen aside for future better knowledge, we may be content with the pentagonal group of our dabchicks—passing at each angle into another tribe, thus,—(if people must classify, they at least should also *map*). Take the Ouzel, Allegret, Grebe, Fairy, and Rail, and, only giving the Fairy her Latin name, write their fourpenny-worth of initial letters (groat) round a pentagon set on its base, putting the Ouzel at the top angle,—so. Then, the Ouzels pass up into Blackbirds, the Rails to the left into Woodcocks, the Allegrets to the right into Plovers, the Grebes, down left, into Ducks, and the Titanias, down right, into Gulls. And *there's* a bit of pentagonal Darwinism for you, if you like it, and learn it, which will be really good for something in the end, or the five ends.



122. And for the bliss of classification pure, with no ends of any sort or any number, referring my reader to the works of ornithologists in general, and for what small portion of them he may afterwards care to consult, to my Appendix, I will end this lecture, and this volume, with the refreshment for us of a piece of perfect English and exquisite wit, falling into verse,—the Chorus of the Birds, in Mr. Courthope's Paradise of them,—a book lovely, and often faultless, in most of its execution, but little skilled or attractive in plan, and too thoughtful to be understood without such notes as a good author will not write on his own work; partly because he has not time, and partly because he always feels that if people won't look for his meaning, they should not be told it. My own special function, on the contrary, is, and always has

been, that of the Interpreter only, in the 'Pilgrim's Progress;' and I trust that Mr. Courthope will therefore forgive my arranging his long cadence of continuous line so as to come symmetrically into my own page, (thus also enforcing, for the inattentive, the rhymes which he is too easily proud to insist on,) and my division of the whole chorus into equal strophe and antistrophe of six lines each, in which, counting from the last line of the stanza, the reader can easily catch the word to which my note refers.

123. WE wish to declare,
 How the birds of the air
 All high institutions designed,
 And, holding in awe
 Art, Science, and Law,
 6 Delivered the same to mankind.

 To begin with; of old
 Man went naked, and cold,
 Whenever it pelted or froze,
 Till *we* showed him how feathers
 Were proof against weathers,
 12 With that, *he* bethought him of hose.

 And next, it was plain,
 That he, in the rain,
 Was forced to sit dripping and blind,
 While the Reed-warbler swung
 In a nest, with her young
 18 Deep sheltered, and warm, from the wind.

Line 9. PELTED, said of *hail*, not rain. Felt by nakedness, in a more severe manner than mere rain.

11. 'WEATHERS,' *i.e.*, both weathers—hail and cold: the *armor* of the feathers against hail; the down of them against cold. See account of Feather-mail in 'Laws of Fésolé,' chap. vi., p. 53, with the first and fifth plates, and figure 15.

15. BLIND. By the beating of the rain in his face. In *hail*, there is real danger and bruising, if the hail be worth calling so, for the whole body; while in rain, if *it* be rain also worth calling rain, the great plague is the beating and drenching in the face.

16. SWUNG. Opposed to 'sit' in previous line. The human creature, though it sate steady on this unshakable earth, had no house over its head. The bird, that lived on the tremblingest and weakest of bending

- So our homes in the boughs
 Made *him* think of the House;
 And the Swallow, to help him invent,
 Revealed the best way
 To economize clay,
 24 And bricks to combine with cement.
- The knowledge withal
 Of the Carpenter's awl,
 Is drawn from the Nuthatch's bill;
 And the Sand-Martin's pains
 In the hazel-clad lanes
 30 Instructed the Mason to drill.
- Is there *one* of the Arts,
 More dear to men's hearts?
 To the bird's inspiration they owe it;
 For the Nightingale first
 Sweet music rehearsed,
 36 Prima-Donna, Composer, and Poet.
- The Owl's dark retreats
 Showed sages the sweets
 Of brooding, to spin, or unravel
 Fine webs in one's brain,
 Philosophical—vain;
 42 The Swallows,—the pleasures of travel.

things, had her *nest* on it, in which even her infinitely tender brood were *deep* sheltered and warm, from the *wind*. It is impossible to find a lovelier instance of pure poetical antithesis.

20. HOUSE. Again antithetic to the perfect word 'Home' in the line before. A house is exactly, and only, half-way to a 'home.' Man had not yet got so far as even that! and had lost, the chorus satirically imply, even the power of getting the other half, ever, since his "*She gave me of the tree.*"

24. BRICKS. The first bad inversion permitted, for "to combine bricks with cement." In my Swallow lecture I had no time to go into the question of her building materials; the point is, however, touched upon in the Appendix (pp. 110, 112, and note).

30. 'DRILL,' for 'quarry out,' 'tunnel,' etc., the best general term available.

36. COMPOSER of the music; POET of the meaning.

Compare, and think over, the Bullfinch's nest, etc., § 48 to 61 of 'Eagle's Nest.'

- Who chirped in such strain
 Of Greece, Italy, Spain
 And Egypt, that men, when they heard,
 Were mad to fly forth,
 From their nests in the North,
 48 And follow—the tail of the Bird.
- Besides, it is true,
 To *our* wisdom is due
 The knowledge of Sciences all;
 And chiefly, those rare
 Metaphysics of Air
 54 Men 'Meteorology' call,
- And men, in their words,
 Acknowledge the Birds'
 Erudition in weather and star;
 For they say, "'Twill be dry,—
 The swallow is high,"
 60 Or, "Rain, for the Chough is afar."

In modern music the *meaning* is, I believe, by the reputed masters omitted.

39. TO SPIN, or *unravel*. Synthesis and analysis, in the vulgar Greek slang.

46. MAD. Compare Byron of the English in *his* day. "A parcel of staring boobies who go about gaping and wishing to be at once cheap and magnificent. A man is a fool now, who travels in France or Italy, till that tribe of wretches be swept home again. In two or three years, the first rush will be over, and the Continent will be roomy and agreeable." (Life, vol. ii., p. 319.) For sketches of the English of seventeen years later, at the same *spots* (Wengern Alp and Interlachen), see, if you *can* see, in any library, public or private, at Geneva, Topffer's 'Excursions dans les Alpes, 1832.' Douzième, Treizième, and Quatorzième Journée.

48. THE TAIL. Mr. Courthope does not condescend to italicize his pun; but a swallow-tailed and adder-tongued pun like this must be paused upon. Compare Mr. Murray's Tale of the Town of Lucca, to be seen between the arrival of one train and the departure of the next,—nothing there but twelve churches and a cathedral,—mostly of the tenth to thirteenth century.

60. AFAR. I did not know of this weather sign; nor, I suppose, did the Duke of Hamilton's keeper, who shot the last pair of Choughs on Arran in 1863. ('Birds of the West of Scotland,' p. 165.) I trust the climate has wept for them; certainly our Couiston clouds grow heavier, in these last years.

'Twas the Rooks who taught men
 Vast pamphlets to pen
 Upon social compact and law,
 And Parliaments hold,
 As themselves did of old,
 66 Exclaiming 'Hear, Hear,' for 'Caw, Caw.'

And whence arose Love?
 Go, ask of the Dove,
 Or behold how the Titmouse, unresting,
 Still early and late
 Ever sings by his mate,
 72 To lighten her labors of nesting.

Their bonds never gall,
 Though the leaves shoot, and fall,
 And the seasons roll round in their course,
 For their marriage, each year,
 Grows more lovely and dear;
 78 And they know not decrees of Divorce.

63. SOCIAL. Rightly sung by the Birds in three syllables; but the lagging of the previous line (probably intentional, but not pleasant,) makes the lightness of this one a little dangerous for a clumsy reader. The 'i-al' of 'social' does not fill the line as two full short syllables, else the preceding word should have been written 'on,' not 'upon.' The five syllables, rightly given, just take the time of two iambs; but there *are* readers rude enough to accent the 'on' of upon, and take 'social' for two short syllables.

64. HOLD. Short for 'to hold'—but it is a licentious construction, so also, in next line, 'themselves' for 'they themselves.' The stanza is on the whole the worst in the poem, its irony and essential force being much dimmed by obscure expression, and even slightly staggering continuity of thought. The Rooks may be properly supposed to have taught men to dispute, but not to write. The Swallow teaches building, literally, and the Owl moping, literally; but the Rook does not teach pamphleteering literally. And the 'of old' is redundant, for rhyme's sake, since Rooks hold parliaments now as much as ever they did.

76. EACH YEAR. I doubt the fact; and too sadly suspect that birds take different mates. What a question to have to ask at this time of day and year!

82. RIVERS. Read slowly. The 'customs' are rivers that 'go on forever' flowing from the fount of the soul. The Heart drinks of them, as of waterbrooks.

- That these things are truth
 We have learned from our youth,
 For our hearts to our customs incline,
 As the rivers that roll
 From the fount of our soul,
 84 Immortal, unchanging, divine.
- Man, simple and old,
 In his ages of gold,
 Derived from our teaching true light,
 And deemed it his praise
 In his ancestors' ways
 90 To govern his footsteps aright.
- But the fountain of woes,
 Philosophy, rose;
 And, what between reason and whim,
 He has splintered our rules
 Into sections and schools,
 96 So the world is made bitter, for *him*.
- But the birds, since on earth
 They discovered the worth
 Of their souls, and resolved with a vow
 No custom to change,
 For a new, or a strange,
 102 Have attained unto Paradise, *now*.

124. I could willingly enlarge on these last two stanzas, but think my duty will be better done to the poet if I quote, for conclusion, two lighter pieces of his verse, which will require no comment, and are closer to our present purpose. The first,—the lament of the French Cook in purgatory,—has, for once, a note by the author, giving M. Soyer's author-

92. PHILOSOPHY. The author should at least have given a note or two to explain the sense in which he uses words so wide as this. The philosophy which begins in pride, and concludes in malice, is indeed *a* fountain—though not *the* fountain—of woes, to mankind. But true philosophy such as Fénelon's or Sir Thomas More's, is a well of peace.

98. WORTH. Again, it is not clearly told us what the author means by the worth of a bird's soul, nor how the birds learned it. The reader is left to discern, and collect for himself—with patience such as not one in a thousand now-a-days possesses, the opposition between the "fount of our soul" (line 83) and fountain of philosophy.

ity for the items of the great dish,—“symbol of philanthropy, served at York during the great commemorative banquet after the first exhibition.” The commemorative soul of the tormented Chef—always making a dish like it, of which nobody ever eats—sings thus:—

“Do you veesh

To hear before you taste, of de hundred-guinea deesh ?
 Has it not been sung by every knife and fork,
 ‘L’extravagance culinaire à l’Alderman,’ at York ?
 Vy, ven I came here, eighteen Octobers seence,
 I dis deesh was making for your Royal Prence,
 Ven half de leeving world, cooking all de others,
 Swore an oath hereafter, to be men and brothers.
 All de leetle Songsters in de voods dat build,
 Hopped into the kitchen asking to be kill’d ;
 All who in de open furrows find de seeds,
 Or de mountain berries, all de farmyard breeds,—
 Ha—I see de knife, vile de deesh it shapens,
 Vith les petits noix, of four-and-twenty capons,
 Dere vere dindons, fatted poulets, fowls in plenty,
 Five times nine of partridges, and of pheasants twenty ;
 Ten grouse, that should have had as many covers,
 All in dis one deesh, with six preety plovers,
 Forty woodcocks, plump, and heavy in the scales,
 Pigeons dree good dozens, six-and-dirty quails,
 Ortulans, ma foi, and a century of snipes,
 But de preetiest of dem all was twice tree dozen pipes
 Of de melodious larks, vich each did clap the ving,
 And veeshed de pie vas open, dat dey all might sing !”

125. There are stiff bits of prosody in these verses,—one or two, indeed, quite unmanageable,—but we must remember that French meter will not read into ours. The last piece I will give flows very differently. It is in express imitation of Scott—but no nobler model could be chosen ; and how much better for minor poets sometimes to write in another’s manner, than always to imitate their own.

This chant is sung by the soul of the Francesca of the Bird-ordained purgatory ; whose torment is to be dressed only in falling snow, each flake striking cold to her heart as it falls,

—but such lace investiture costing, not a cruel price per yard
in souls of women, nor a mortal price in souls of birds.

Hēr 'snow-mantled shadow' sings:

“Alas, my heart! No grief so great
As thinking on a happy state
In misery. Ah, dear is power
To female hearts! Oh, blissful hour
When Blanche and Flavia, joined with me,
Tri-feminine Directory,
Dispensed in latitudes below
The laws of flounce and furbelow;
And held on bird and beast debate,¹
What lives should die to serve our state!
We changed our statutes with the moon,
And oft in January or June,
At deep midnight, we would prescribe
Some furry kind, or feathered tribe.
At morn, we sent the mandate forth;
Then rose the hunters of the North:
And all the trappers of the West
Bowed at our feminine behest.
Died every seal that dared to rise
To his round air-hole in the ice;
Died each Siberian fox and hare
And ermine trapt in snow-built snare.
For us the English fowler set
The ambush of his whirling net;
And by green Rother's reedy side
The blue kingfisher flashed and died.
His life for us the seamew gave
High upon Orkney's lonely wave;
Nor was our queenly power unknown
In Iceland or by Amazon;
For where the brown duck stripped her breast
For her dear eggs and windy nest,
Three times her bitter spoil was won
For woman; and when all was done,
She called her snow-white piteous drake,
Who plucked his bosom for our sake.”

126. “See ‘Hartwig’s Polar World’ for the manner of
taking Eiderdown.”—Once more, we have thus much of au-
thor’s note, but edition and page not specified, which, how-

ever, I am fortunately able to supply. Mr. Hartwig's miscellany being a favorite—what can I call it, sand-hill?—of my own, out of which every now and then, in a rasorial manner, I can scratch some savory or useful contents;—one or two, it may be remembered, I collected for the behoof of the Bishop of Manchester, on this very subject, (*Contemporary Review*, Feb. 1880); and some of Mr. Hartwig's half-sandy, half-soppy, political opinions, are offered to the consideration of the British workman in the last extant number of 'Fors.' Touching eider ducks, I find in his fifth chapter—on Iceland—he quotes the following account, by Mr. Shepherd, of the shore of the island of 'Isafjardarjup'—a word which seems to contain in itself an introduction to Icelandic literature:—

127. "The ducks and their nests were everywhere, in a manner that was quite alarming. Great brown ducks sat upon their nests in masses, and at every step started up from under our feet. It was with difficulty that we avoided treading on some of the nests. The island being but three-quarters of a mile in width, the opposite shore was soon reached. On the coast was a wall built of large stones, just above the high-water level, about three feet in height, and of considerable thickness. At the bottom, on both sides of it, alternate stones had been left out, so as to form a series of square compartments for the ducks to make their nests in. Almost every compartment was occupied; and, as we walked along the shore, a long line of ducks flew out one after another. The surface of the water also was perfectly white with drakes, who welcomed their brown wives with loud and clamorous cooing. When we arrived at the farmhouse, we were cordially welcomed by its mistress. The house itself was a great marvel. The earthen wall that surrounded it and the window embrasures were occupied by ducks. On the ground, the house was fringed with ducks. On the turf-slopes of the roof we could see ducks; and a duck sat in the scraper.

"A grassy bank close by had been cut into square patches like a chess-board, (a square of turf of about eighteen inches being removed, and a hollow made,) and all were filled with

ducks. A windmill was infested, and so were all the out-houses, mounds, rocks, and crevices. The ducks were everywhere. Many of them were so tame that we could stroke them on their nests; and the good lady told us that there was scarcely a duck on the island which would not allow her to take its eggs without flight or fear."

128. But upon the back of the canvas, as it were, of this pleasant picture—on the back of the leaf, in his book, p. 65,—this description being given in p. 66,—Doctor Hartwig tells us, in his own peculiar soppy and sandy way—half tearful, half Dryasdusty, (or may not we say—it sounds more Icelandic—'Dry-as-sawdusty,') these less cheerful facts. "The eiderdown is easily collected, as the birds are quite tame. The female having laid five or six pale greenish-olive eggs, in a nest thickly lined with her beautiful down, the collectors, after carefully removing the bird, rob the nest of its contents; after which they replace her. She then begins to lay afresh—though this time only three or four eggs,—and again has recourse to the down on her body. But her greedy persecutors once more rifle her nest, and oblige her to line it for the third time. Now, however, her own stock of down is exhausted, and with a plaintive voice she calls her mate to her assistance, who willingly plucks the soft feathers from his breast to supply the deficiency. If the cruel robbery be again repeated, which in former times was frequently the case, the poor eider-duck abandons the spot, never to return, and seeks for a new home where she may indulge her maternal instinct undisturbed by the avarice of man."

129. Now, as I have above told you, these two statements are given on the two sides of the same leaf; and the reader must make what he may of them. Setting the best of my own poor wits at them, it seems to me that the merciless abstraction of down is indeed the usual custom of the inhabitants and visitors; but that the 'good lady,' referred to by Mr. Shepherd, manages things differently; and in consequence we are presently farther told of her, (bottom of p. 65,) that "when she first became possessor of the island, the produce

of down from the ducks was not more than fifteen pounds weight in the year; but under her careful nurture of twenty years it had risen to nearly one hundred pounds annually. It requires about one pound and a half to make a coverlet for a single bed, and the down is worth from twelve to fifteen shillings per pound. Most of the eggs are taken and pickled for winter consumption, one or two only being left to hatch."

But here, again, pulverulent Dr. Hartwig leaves us untold who 'consumes' all these pickled eggs of the cooing and downy-breasted creatures; (you observe, in passing, that an eider-duck coos instead of quacking, and must be a sort of Sea-Dove,) or what addition their price makes to the good old lady's feather-nesting income of, as I calculate it, sixty to seventy-five pounds a year,—all her twenty years of skill and humanity and moderate plucking having got no farther than that. And not feeling myself able, on these imperfect data, to offer any recommendations to the Icelandic government touching the duck trade, I must end my present chapter with a rough generalization of results. For a beginning of which, the time having too clearly and sadly come for me, as I have said in my preface, to knit up, as far as I may, the loose threads and straws of my raveled life's work, I reprint in this place the second paragraph of the chapter on Vital Beauty in the second volume of 'Modern Painters,' premising, however, some few necessary words.

130. I intended never to have reprinted the second volume of 'Modern Painters'; first, because it is written in affected imitation of Hooker, and not in my own proper style; and, secondly, yet chiefly, because I did not think the analytic study of which it mainly consists, in the least likely to be intelligible to the general student, or, therefore, profitable to him. But I find now that the 'general student' has plunged himself into such abysses, not of analytic, but of dissolytic,—dialytic—or even diarrhœic—lies, belonging to the sooty and sensual elements of his London and Paris life, that, however imperfectly or dimly done, the higher analysis of that early work of mine ought at least to be put within his reach; and

the fact, somehow, enforced upon him, that there were people before *he* lived, who knew what 'æsthesis' meant, though they did not think that pigs' flavoring of pigs'-wash was ennobled by giving it that Greek name: and that there were also people before his time who knew what vital beauty meant, though they did not seek it either in the model-room, or the Parc aux Cerfs.

Therefore, I will republish (D.V.) the analytic parts of the second volume of 'Modern Painters' as they were written, but with perhaps an additional note or two, and the omission of the passages concerning Evangelical or other religious matters, in which I have found out my mistakes.

131. To be able to hunt for these mistakes, and crow over them, in the original volume, will always give that volume its orthodox value in sale catalogues, so that I shall swindle nobody who has already bought the book by bringing down its price upon them. Nor will the new edition be a cheap one—even if I ever get it out, which is by no means certain. Here, however, at once, is the paragraph above referred to, quite one of the most important in the book. The reader should know, preparatorily, that for what is now called 'æsthesis,' I always used, and still use, the English word 'sensation'—as, for instance, the sensation of cold or heat, and of their differences;—of the flavor of mutton and beef, and their differences;—of a peacock's and a lark's cry, and their differences;—of the redness in a blush, and in rouge, and their differences;—of the whiteness in snow, and in almond-paste, and their differences;—of the blackness and brightness of night and day, or of smoke and gaslight, and their differences, etc., etc. But for the Perception of Beauty, I always used Plato's word, which is the proper word in Greek, and the only possible *single* word that can be used in any other language by any man who understands the subject,—'Theoria,'—the Germans only having a term parallel to it, 'Anschauung,' assumed to be its equivalent in p. 22 of the old edition of 'Modern Painters,' but which is not its real equivalent, for *Anschauung* does not (I believe) *include* bodily sensation, whereas Plato's

Theoria does, so far as is necessary; and mine, somewhat more than Plato's. "The first perfection," (then I say, in this so long in coming paragraph) of the theoretic faculty, "is the kindness and unselfish fullness of heart, which receives the utmost amount of pleasure from the happiness of all things. Of which in high degree the heart of man is incapable; neither what intense enjoyment the angels may have in all that they see of things that move and live, and in the part they take in the shedding of God's kindness upon them, can we know or conceive: only in proportion as we draw near to God, and are made in measure like unto Him, can we increase this our possession of charity, of which the entire essence is in God only. But even the ordinary exercise of this faculty implies a condition of the whole moral being in some measure right and healthy, and to the entire exercise of it there is necessary the entire perfection of the Christian character; for he who loves not God, nor his brother, cannot love the grass beneath his feet, and the creatures which live not for his uses, filling those spaces in the universe which he needs not; while, on the other hand, none can love God, nor his human brother, without loving all things which his Father loves; nor without looking upon them, every one, as in that respect his brethren also, and perhaps worthier than he, if, in the under concords they have to fill, their part be touched more truly. It is good to read of that kindness and humbleness of S. Francis of Assisi, who never spoke to bird or cicala, nor even to wolf and beast of prey, but as his brother; and so we find are moved the minds of all good and mighty men, as in the lesson that we have from the mariner of Coleridge, and yet more truly and rightly taught in the Hartleap Well:—

'Never to blend our pleasure, or our pride,
With sorrow of the meanest thing that feels.'

And again in the White Doe of Rylstone, with the added teaching, that anguish of our own

'Is tempered and allayed by sympathies,
Aloft ascending, and descending deep,
Even to the inferior kinds;'

so that I know not of anything more destructive of the whole theoretic faculty, not to say of the Christian character and human intellect, than those accursed sports, in which man makes of himself, cat, tiger, serpent, chætodon, and alligator in one; and gathers into one continuance of cruelty, for his amusement, all the devices that brutes sparingly, and at intervals, use against each other for their necessities.”

132. So much I had perceived, and said, you observe, good reader, concerning S. Francis of Assisi, and his sermons, when I was only five-and-twenty,—little thinking at that day how, Evangelical-bred as I was, I should ever come to write a lecture for the first School of Art in Oxford in the Sacristan’s cell at Assisi,* or ever—among such poor treasures as I have of friends’ reliquaries—I should fondly keep a little ‘pinch’ of his cloak.

Rough cloak of hair, it is, still at Assisi; concerning which, and the general use of camels’ hair, or sackcloth, or briars and thorns, in the Middle Ages, together with seal-skins (not badgers’), and rams’ skins dyed gules, by the Jews, and the Crusaders, as compared with the use of the two furs, Ermine and Vair, and their final result in the operations of the Hudson’s Bay Company, much casual notice will be found in my former work. And now, this is the sum of it all, so far as I can shortly write it.

There is no possibility of explaining the system of life in this world, on any principle of *conqueringly* Divine benevolence. That piece of bold impiety, if it be so, I have always asserted in my well-considered books,—I considering it, on the contrary, the only really pious thing to say, namely, that the world is under a curse, which we may, if we will, gradually remove, by doing as we are bid, and believing what we are told; and when we are told, for instance, in the best book we have about our own old history, that “unto Adam also, and to his wife, did the Lord God make coats of skins, and clothed them,” we are to accept it as the best thing to be done under the circumstances, and to wear, if we can get them,

* See ‘Ariadne Florentina,’ chap. v., § 164; compare ‘Fors,’ Letter V.

wolf skin, or cow skin, or beaver's, or ermine's; but not therefore to confuse God with the Hudson's Bay Company, nor to hunt foxes for their brushes instead of their skins, or think the poor little black tails of a Siberian weasel on a judge's shoulders may constitute him therefore a Minos in matters of retributive justice, or an Æacus in distributive, who can at once determine how many millions a Railroad Company are to make the public pay for not granting them their exclusive business by telegraph.

133. And every hour of my life, since that paragraph of 'Modern Painters' was written, has increased, I disdain to say my *feeling*, but say, with fearless decision, my *knowledge*, of the bitterness of the curse, which the habits of hunting and 'la chasse' have brought upon the so-called upper classes of England and France; until, from knights and gentlemen, they have sunk into jockeys, speculators, usurers, butchers by battue; and, the English especially, now, as a political body, into what I have called them in the opening chapter of 'The Bible of Amiens,'—"the scurviest louts that ever fouled God's earth with their carcasses."

The language appears to be violent. It is simply brief, and accurate. But I never meant it to remain without justification, and I will give the justification here at once.

Take your Johnson, and look out the adjective Scurvy, in its higher or figurative sense.

You find the first quotation he gives is from 'Measure for Measure,' spoken of the Duke, in monk's disguise:

"I know him for a man divine and holy;
Not scurvy, nor a temporary meddler."

In which passage, Shakspeare, who never uses words in vain, nor with a grain less than their full weight, opposes the divineness of men, or their walking with God, to the scurviness of men, or their wallowing with swine; and again, he opposes the holiness of men,—in the sense of "Holy—harmless, undefiled," and more than that, helpful or healthful in

action—to the harmful and filthy action of temporary meddlers, such as the hanging of seventeen priests before breakfast, and our profitable military successes, in such a prolonged piece of ‘temporary meddling’ as the Crimean war.

134. But, secondly, if you look down Johnson’s column, you will find his last quotation is not in the higher or figurative, but the lower and literal sense, from Swift, to the effect that “it would be convenient to prevent the excess of drink, with that scurvy custom of taking tobacco.” And you will also find, if you ever have the sense or courage to look the facts of modern history in the face, that those two itches, for the pot and the pipe, have been the roots of every other demoralization of the filthiest and literally ‘scurviest’ sort among *all* classes;—the dirty pack of cards; the church pavement *running* with human saliva,—(I have seen the spittings in ponds half an inch deep, in the choir of Rouen cathedral); and the entirely infernal atmosphere of the common cafés and gambling-houses of European festivity, infecting every condition of what they call ‘æsthesis,’ left in the bodies of men, until they cannot be happy with the pines and pansies of the Alps, until they have mixed tobacco smoke with the scent of them; and the whole concluding in the endurance—or even enjoyment—of the most squalid conditions of filth in our capital cities, that have ever been yet recorded, among the disgraces of mankind.

135. But, thirdly, Johnson’s central quotation is again from ‘Measure for Measure’ :—

“He spoke *scurvy* and *provoking* terms against your honor.”

The debates in the English House of Commons, for the last half-century, having consisted virtually of nothing else!

I next take the word ‘lout,’ of which Johnson gives two derivations for our choice: it is either the past participle of ‘to lower, or make low;’ a lowed person, (as our House of Lords under the direction of railway companies and public-house keepers); or else—and more strictly I believe in etymology—a form of the German ‘leute,’ ‘common people.’

In either case, its proper classical English sense is given by Johnson as "a mean, awkward fellow; a bumpkin, a clown."

Now I surely cannot refer to any general representation of British society more acceptable to, and acknowledged by, that society, than the finished and admirably composed drawings of Du Maurier in *Punch* which have become every week more and more consistent, keen, and comprehensive, during the issues of the last two years.

I take three of them, as quite trustworthy pictures, and the best our present arts of delineation could produce, of the three *Etats*, or representative orders, of the British nation of our day.

Of the Working class, take the type given in Lady Clara Robinson's garden tea party, p. 174, vol. 79.

Of the Mercantile class, Mr. Smith, in his drawing-room after dinner, p. 222, vol. 80.

And of the Noblesse, the first five gentlemen on the right (spectator's right) of the line, in the ball at Stilton House, (July 3d, 1880).

136. Of the manner or state of lout, to which our manufacturing prosperity has reduced its artisan, as represented in the first of these frescoes, I do not think it needful to speak here; neither of the level of sublime temperament and unselfish heroism to which the dangers of commercial enterprise have exalted Mr. Smith. But the five consecutive heads in the third fresco are a very notable piece of English history, representing the polished and more or less lustrous type of lout; which is indeed a kind of rolled shingle of former English noblesse capable of nothing now in the way of resistance to Atlantic liberalism, except of getting itself swept up into ugly harbor bars, and troublesome shoals in the tideway.

And observe also, that of the three types of lout, whose combined chorus and tripudiation leads the present British Constitution its devil's dance, this last and smoothest type is also the dullest. Your operative lout cannot indeed hold his cup of coffee with a grace, or possess himself of a biscuit

from Lady Clara's salver without embarrassment; but, in his own mill, he can at least make a needle without an eye, or a nail without a head, or a knife that won't cut, or something of that sort, with dexterity. Also, the middle class, or Smithian lout, at least manages his stockbroking or marketing with decision and cunning; knows something by eye or touch of his wares, and something of the characters of the men he has to deal with. But the Ducal or Marquisian lout has no knowledge of anything under the sun, except what sort of horse's quarters will carry his own, farther weighted with that smooth block or pebble of a pow; and no faculty under the sun of doing anything, except cutting down the trees his fathers planted for him, and selling the lands his fathers won.

137. That is indeed the final result of hunting and horse-racing on the British landlord. Of its result on the British soldier, perhaps the figures of Lord George Sackville at the battle of Minden, and of Lord Raglan at the battle of Alma, (who in the first part of the battle did not know where he was, and in the second plumed himself on being where he had no business to be,) are as illustrative as any I could name; but the darkest of all, to my own thinking, are the various personages, civil and military, who have conducted the Caffre war to its last successes, of blowing women and children to death with dynamite, and harrying the lands of entirely innocent peasantry, because they would not betray their defeated king.

138. Of the due and noble relations between man and his companion creatures, the horse, dog, and falcon, enough has been said in my former writings—unintelligible enough to a chivalry which passes six months of its annual life in Rotten Row, and spends the rents of its Cumberland Hills in building furnaces round Furness Abbey; but which careful students either of past knighthood, or of future Christianity, will find securely and always true. For the relations between man and his beast of burden, whether the burden be himself or his goods, become beautiful and honorable, just in the

degree that both creatures are useful to the rest of mankind, whether in war or peace. The Greeks gave the highest symbol of them in the bridling of Pegasus for Bellerophon by Athena; and from that myth you may go down to modern times—understanding, according to your own sense and dignity, what all prophecy, poetry, history, have told you—of the horse whose neck is clothed with thunder, or the ox who treadeth out the corn—of Joseph's chariot, or of Elijah's—of Achilles and Xanthus—Herminius and Black Auster—down to Scott and Brown Adam—or Dandie Dinmont and Duple. That pastoral one is, of all, the most enduring. I hear the proudest tribe of Arabia Felix is now reduced by poverty and civilization to sell its last well-bred horse; and that we send out our cavalry regiments to repetitions of the charge at Balaclava, without horses at all; those that they can pick up wherever they land being good enough for such military operations. But the cart-horse will remain, when the charger and hunter are no more; and with a wiser master.

“I'll buy him, for the dogs shall never
Set tooth upon a friend so true;
He'll not live long; but I forever
Shall know I gave the beast his due.

Ready as bird to meet the morn
Were all his efforts at the plow;
Then the mill-brook—with hay or corn,
Good creature! how he'd spatter through.

I left him in the shafts behind,
His fellows all unhook'd and gone;
He neigh'd, and deemed the thing unkind;
Then, starting, drew the load alone.

* * * *

Half choked with joy, with love, and pride,
He now with dainty clover fed him;
Now took a short, triumphant ride,
And then again got down, and led him.”

139. Where Paris has had to lead *her* horses, we know; and where London had better lead hers, than let her people

die of starvation. But I have not lost my hope that there are yet in England Bewicks and Bloomfields, who may teach their children—and earn for their cattle—better ways of fronting, and of waiting for, Death.

Nor are the uses of the inferior creatures to us less consistent with their happiness. To all that live, Death must come. The manner of it, and the time, are for the human Master of them, and of the earth, to determine—not to his pleasure, but to his duty and his need.

In sacrifice, or for his food, or for his clothing, it is lawful for him to slay animals; but not to delight in slaying any that are helpless. If he choose, for discipline and trial of courage, to leave the boar in Calydon, the wolf in Taurus, the tiger in Bengal, or the wild bull in Aragon, there is forest and mountain wide enough for them: but the inhabited world in sea and land should be one vast unwall'd park and treasure lake, in which its flocks of sheep, or deer, or fowl, or fish, should be tended and dealt with, as best may multiply the life of all Love's Meinie, in strength, and use, and peace.

APPENDIX.

140. THIS part of the book will, I hope, be continuous with the text of it, containing henceforward, in each number, the nomenclature hitherto used for the birds described in it, and the Author's reason for his choice or change of names. In the present number, it supplies also the nomenclature required for the two preceding ones, and thus finishes the first volume.

The names given first, in capitals, for each bird, are those which the Author will in future give it, and proposes for use in elementary teaching. They will consist only of a plain Latin specific name, with one, or at the most two, Latin epithets; and the simplest popular English name, if there be one; if not, the English name will usually be the direct translation of the Latin one.

Then in order will follow—

I. Linnæus's name, marked L.

II. Buffon's name, marked F, the F standing also for 'French' when any popular French name is given with Buffon's.

III. The German popular name, marked T (Teutonic), for I want the G for Mr. Gould; and this T will include authoritative German scientific names also.

IV. The Italian popular name, if one exists, to give the connection with old Latin, marked I.

V. Mr. Gould's name, G; Yarrell's, Y; Dressler's, D; and Gesner's, Ges, being added, if different.

VI. Bewick's, B.

VII. Shakspeare's and Chaucer's, if I know them; and general references, such as may be needful.

The Appendix will thus contain the names of all the birds

I am able to think or learn anything about, as I can set down what I think or learn; and with no other attempt at order than the slight grouping of convenience: but the numbers of the species examined will be consecutive, so that L. M. 25,—Love's Meinie, Number twenty-five,—or whatever the number may be, will at once identify any bird in the system of the St. George's schools.

The following note by the Author has in previous editions faced the first page of Lecture III., with the exception of the Nos. i.—vii., which are now added by the Editor for the sake of completeness.

Names of the birds noticed, according to the Author's system, with reference to the sections of the text and the Appendix in which the reader will find their more melodious scientific nomenclature:—

			Sect.	Sect.
I.	<i>Rutila Familiaris.</i>	Robin Redbreast	Text 1 seqq.	App. 141
II.	<i>Hirundo Domestica.</i>	House Swallow	" 41 seqq.	" 142
III.	<i>Hirundo Monastica.</i>	Martlet	" —	" 143
IV.	<i>Hirundo Riparia.</i>	Bank Martlet	" —	" 144
V.	<i>Hirundo Sagitta.</i>	Swift	" 64	" 145
VI.	<i>Hirundo Alpina.</i>	Alpine Swift	" —	" 146
VII.	<i>Noctua Europæa.</i>	Night-jar of Europe	" —	" 147
VIII.	<i>Merula Fontium</i>	Torrent Ouzel	" 89	" 148
IX.	<i>Allegretta Nymphæa.</i>	Lily Ouzel	" 93	" 149
IX.A.	<i>Allegretta Maculata.</i>	Spotted Allegret	" 96	" 149
IX.B.	<i>Allegretta Stellaris.</i>	Starry Allegret	" 97	" 149
IX.C.	<i>Allegretta Minuta</i>	Tiny Allegret	" 98	" 149
X.	<i>Trepida Stagnarum.</i>	Little Grebe	" 100	" 150
XI.	<i>Titania Arctica.</i>	Arctic Fairy	" 111	" 151
XI.A.	<i>Titania Inconstans.</i>	Changeful Fairy	" 114	" 151
XII.	<i>Rallus Aquaticus.</i>	Water Rail	" 116	" 152
XII.A.	<i>Pulla Aquatica.</i>	Water Hen	" 133	" 153

I.

141. RUTILA FAMILIARIS. ROBIN REDBREAST.

Motacilla Rubecula. L.

Rouge-Gorge. F.

Roth-breustlein. — Wald-roetele. — Winter-roetele. —

Roth-kehlschen. T.

Petti-rosso. I.

Erythacus Rubecula. G. Rubecula Erythacus. Ges.

Erythaca Rubecula. Y.

Rebecula Familiaris. D.

Ruddock. B.

Ruddock, in *Cymbeline*; *tame* Ruddocke, in *Assembly of Fowlês*; full robin-redebreast, in the *Court of Love*:

“The second lesson, Robin Redebreast sang.”

It is rightly classed by F. and Y. with the Warblers. Gould strangely puts it with his rock-birds, ‘saxicolinæ,’—in which, however, he also includes the sedge warbler.

The true Robin is properly a wood-bird; the Swedish blue-throated one lives in marshes and arable fields. I have never seen a robin in really wild mountain ground.

There is only one European species of the red-breasted Robin. Gould names two Japanese ones.

II.

142. HIRUNDO DOMESTICA. HOUSE SWALLOW.

Hirundo Rustica. L.

Hirondelle Domestique. F.

Schwalbe. T. Swala, Swedish, and Saxon, whence our Swallow: but compare *Lecture II.*, § 44.

Rondine Comune. I. (note *Rondine*, the Swallow; *Rondone*, the Swift).

Hirundo Rustica. G. and Y.

Chimney-Swallow. B.

III.

143. HIRUNDO MONASTICA. MARTLET.

Hirundo Urbica. L.

Hirondelle de Fenetre. F.

Kirch-schwalbe. (Church-Swallow.) T.

Balestruccio. I.

Chelidon Urbica. D. and G.

Hirundo Urbica. Martin. Y.

Martlet, Martinet, or Window-Swallow. Y.

I cannot get at the root of this word, 'Martlet,' which is the really classical and authoritative English one. I have called it *Monastica*, in translation of Shakspeare's "temple-haunting." The main idea about this bird, among people who have any ideas, seems to be that it haunts and builds among grander masses or clefts of wall than the common Swallow. Thus the Germans, besides Church-Swallow, call it wall,—rock,—roof,—or window, swallow, and *Mur-Spyren*, or *Munster Spyren*. (Wall-walker? *Minster-walker*?) But by the people who have no ideas, the names 'town' and 'country,' 'urbica' and 'rustica,' have been accepted as indicating the practical result, that a bird which likes walls will live in towns, and one which is content with eaves may remain in farms and villages, and under their straw-built sheds.

My name, *Monastica*, is farther justified by the Dominican severity of the bird's dress, dark gray-blue and white only; while the *Domestica* has a red cap and light brown bodice, and much longer tail. As far as I remember, the bird I know best is the *Monastica*. I have seen it in happiest flocks in all-monastic Abbeville, playing over the Somme in morning sunlight, dashing deep through the water at every stoop, like a harcast stone.

IV.

144. HIRUNDO RIPARIA. BANK MARTLET.

Hirundo Riparia. L.

Hirondelle de Rivage. F.

Rhein-schwalbe, (Rhine-Swallow,) — ufer-schwalbe, (Shore-Swallow,)—erd-schwalbe, (Earth-Swallow). T.

Topino. (The mouse-color.)—*Rondine de riva*. I.

Cotyle Riparia. G. Hirundo Riparia. Y.
Bank-Martin. B.

The Italian name, 'Topino,' is a good familiar one, the bird being scarcely larger than a mouse, and "the head, neck, breast, and back of a mouse-color." (B.) It is the smallest of the Swallow tribe, and shortest of wing; accordingly, I find Spallanzani's experiment on the rate of swallow-flight was, for greater certainty and severity, made with this apparently feeblest of its kind:—a marked Topino, brought from its nest at Pavia to Milan, (fifteen miles,) flew back to Pavia in thirteen minutes. I imagine a Swift would at least have doubled this rate of flight, and that we may safely take a hundred miles an hour as an average of swallow-speed. This, however, is less by three-fifths than Michelet's estimate. See above, Lecture II., § 48.

I have substituted 'bank' for 'sand' in the English name, since all the six quoted authorities give it this epithet in Latin or French, and Bewick in English. Also, it may be well thus to distinguish it from birds of the sea-shore.

v.

145. HIRUNDO SAGITTA. SWIFT.

Hirundo Apus. L.

Martinet Noir. F.

Geyr-schwalbe. (Vulture-Swallow.) T.

Rondone. (Plural, Rondini.) I.

Cypselus Apus. G. and Y.

Swift, Black Martin, or Deviling. B.

I think it will be often well to admit the license of using a substantive for epithet, (as one says rock-bird or sea-bird, and not 'rocky,' or 'marine,') in Latin as well as in English. We thus greatly increase our power, and assist the brevity of nomenclature; and we gain the convenience of using the

second term by itself, when we wish to do so, more naturally. Thus, one may shortly speak of 'The Sagitta' (when one is on a scientific point where 'Swift' would be indecorous!) more easily than one could speak of 'The Stridula,' or 'The Velox,' if we gave the bird either of those epithets. I think this of Sagitta is the most descriptive one could well find; only the reader is always to recollect that arrow-birds must be more heavy in the head or shaft than arrow-weapons, and fly more in the manner of rifle-shot than bow-shot. See Lecture II., §§ 46, 67, 71, in which last paragraph, however, I have to correct the careless statement, that in the sailing flight, without stroke, of the larger falcons, their weight ever acts like the *string* of a kite. Their weight acts simply as the *weight* of a kite acts, and no otherwise. (Compare § 65.) The impulsive force in sailing can be given only by the tail feathers, like that of a darting trout by the tail fin. I do not think any excuse necessary for my rejection of the name which seems most to have established itself lately, 'Cypselus Apus,' 'Footless Capsule.' It is not footless, and there is no sense in calling a bird a capsule because it lives in a hole, (which the Swift does not.) The Greeks had a double idea in the word, which it is not the least necessary to keep; and Aristotle's cypselus is not the swift, but the bank-martlet—"they bring up their young in cells made out of clay, *long* in the entrance." The swift being precisely the one of the Hirundines which does *not* make its nest of clay, but of miscellaneous straws, threads, and shreds of any adaptable rubbish, which it can snatch from the ground as it stoops on the wing,* or pilfer from any half-ruined nests of other birds.

* "I have in different times and places opened ten or twelve swifts' nests; in all of them I found the same materials, and these consisting of a great variety of substances—stalks of corn, dry grass, moss, hemp, bits of cord, threads of silk and linen, the tip of an ermine's tail, small shreds of gauze, of muslin and other light stuffs, the feathers of domestic birds, *charcoal*,—in short, whatever they can find in the sweepings of towns."—Buffon.

Belon asserts (Buffon does not venture to guarantee the assertion), that "they will descry a fly at the distance of a quarter of a league"!

‘Cotyle’ is only a synonym for Cypselus, enabling ornithologists to become farther unintelligible. We will be troubled no more either with cotyles or capsules, but recollect simply that Hirundo, *χελιδων*, swallow, schwalbe, and hiron-delle, are in each language the sufficing single words for the entire Hirundine race.

VI.

146. HIRUNDO ALPINA. ALPINE SWIFT.

Hirundo Melba. L.

Le grand Martinet a Ventre Blanc. F.

Cypselus Melba. G.

Cypselus Alpinus. Y.

Alpine Swift,—White-bellied Swift. Y.

Not in Bewick.

I cannot find its German name. The Italians compare it with the sea-swallow, which is a gull. What ‘Melba’ means, or ever meant, I have no conception.

The bird is the noblest of all the swallow tribe—nearly as large as a hawk, and lives high in air, nothing but rocks or cathedrals serving it for nest. In France, seen only near the Alps; in Spain, among the mountains of Aragon. “Almost every person who has had an opportunity of observing this bird speaks in terms of admiration of its vast powers of flight; it is not surprising, therefore, that an individual should now and then wing its way across the Channel to the British Islands, and roam over our meads and fields until it is shot.” (G.) It is, I believe, the swallow of the Bible,—abundant, though only a summer migrant, in the Holy Land. I have never seen it, that I know of, nor thought of it in the lecture on the Swallow; but give here the complete series of Hirundines, of which some notice may incidentally afterwards occur in the text.

VII.

147. NOCTUA EUROPÆA. NIGHT-JAR OF EUROPE.

Caprimulgus Europæus. L.

L'Engoulevent. F. (Crapaud-volant, popular.)

Geissmelcher.—Nacht-schade. T.

Covaterra. I.

Caprimulgus Europæus. G. and Y.

Night-jar. B.

Dorrahawk and Fern-owl, also given by Bewick, are the most beautiful English names for this bird; but as it is really neither a hawk nor an owl, though much mingled in its manners of both, I keep the usual one, Night-jar, euphonious for Night-Churr, from its continuous note like the sound of a spinning wheel. The idea of its sucking goats, or any other milky creature, has long been set at rest; and science, intolerant of legends in which there is any use or beauty, cannot be allowed to ratify in its dog or pig-Latin those which are eternally vulgar and profitless. I had first thought of calling it *Hirundo Nocturna*; but this would be too broad massing; for although the creature is more swallow than owl, living wholly on insects, it must be properly held as a distinct species from both. Owls cannot gape like constrictors; nor have swallows whiskers or beards, or combs to keep both in order with, on their middle toes. This bird's cat-like bristles at the base of the beak connect it with the bearded Toucans, and so also the toothed mandibles of the American cave-dwelling variety. I shall not want the word *Noctua* for the owls themselves, and it is a pretty and simple one for this tribe, enabling the local epithet 'European,' and other necessary ones, of varieties, to be retained for the second or specific term. *Nacht-schade*, *Night-loss*, the popular German name, perhaps really still refers to this supposed nocturnal thieving; or may have fallen euphonious from *Nacht-schwalbe*, which in some places abides.

'Crapaud-volant' is ugly, but descriptive, the brown speckling of the bird being indeed toadlike, though wonderful and beautiful. Bewick has put his utmost skill into it; and the cut, with the Bittern and White Owl, may perhaps stand otherwise unrivaled by any of his hand.

Gould's drawing of the bird on its ground nest, or ground contentedly taken for nest, among heath and scarlet-topped lichen, is among the most beautiful in his book; and there are four quite exquisite drawings by Mr. Ford, of African varieties, in Dr. Smith's zoology of South Africa. The one called by the doctor *Europæus* seems a grayer and more graceful bird than ours. *Natalensis* wears a most wonderful dark oak-leaf pattern of cloak. *Rufigena*, I suppose, blushes herself separate from *Ruficollis* of Gould? but these foreign varieties seem countless. I shall never have time to examine them, but thought it not well to end the titular list of the swallows without notice of the position of this great tribe.

VIII.

148. MERULA FONTIUM. TORRENT-OUZEL.

Sturnus Cinclus. L.

Merle d'Eau. F.

Bach-Amsel. T.

Merla Aquaiola. I.

Cinclus Aquaticus. G. and Y.

Water Ouzel. B.

Turdus Cinclus, Pennant; Common Dipper, Y.; Didapper, Doucker, Water Crow, Water Piot, B.; Cincle Plongeur, Temminck; Wasser Trostel, Swiss.

The scientific full arrangement, according to Yarrell, is thus:—

1. Order—INSESSORES.
2. Tribe—Dentirostres.
3. Genus—Merulidæ.
4. Species—*Cinclus*.
5. Individual—*Aquaticus*.

You will please observe that some of the scientific people call it a blackbird—some a thrush—some a starling—and the rest a Cincle, whatever that may be. It remains for them now only to show how the Cincle has been developed out of the Winkle, and the Winkle out of the Quangle-Wangle. You will note also that the Yorkshire and Durham mind is balanced between the two views of its being a crow or a magpie. I am content myself to be in harmony with France and Italy, in my 'Merula,' and with Germany in my *Torrent-Ouzel*. Their 'bach' (as in Staubbach, Giesbach, Reichenbach) being essentially a mountain waterfall; and their 'amsel,' as our Damsel, merely the Teutonic form of the Demoiselle or Domicilla—'House-Ouzel,' as it were, (said of a nice girl)—Domicilla again being, I think, merely the transposition of Ancilla Domini,—Behold, the handmaid of the Lord: (see frontispiece to third volume of 'Modern Painters') which, if young ladies in general were to embroider on their girdles—though their dresses, fitting at present 'as close as a glove' (see description of modern American ideal in 'A Fair Barbarian') do not usually require girdles either for their keys or their manners,—it would probably be thought irreverent by modern clergymen; but if the demoiselle were none the better for it, she *could* certainly be none the worse.

149. ALLEGRETTA NYMPHÆA. LILY-OUZEL.

Var. 1 (IX.A.)

ALLEGRETTA NYMPHÆA, MACULATA. SPOTTED ALLEGRET.

Rallus Porzana. L.

Poule d'Eau Maronette. F.

Winkernell. T.

Porzana. I.

Zapornia Porzana. G.

Crex Porzana. Y.

Ortygometra Porzana. Steph.

Gallinula Maculata et Punctata. Brehmen.

Spotted Crake. B.

The 'Winkernell' is I believe provincial (Alsace); so, Girardina, Milanese, and Girardine, Picard.—I can make nothing whatever of any of these names;—Porzana, Bolognese and Venetian, might perhaps mean Piggy-bird; and Ortygometra Porzana would then mean, in serious English, the 'Quail-sized Pig-bird.' I am sorry not to be able to do better as Interpreter for my scientific friends.

IX. B.

ALLEGRETTA NYMPHÆA, STELLARIS. STARRY ALLEGRET.

Not separated by Linnæus, or Buffon, or Bewick, nor by popular German or French names, from the Marouette.

Crex Baillonii, Baillon's Crake. Y.

Porzana Pygmæa. G.

Gallinula Stellaris. Temminck.

IX. C.

ALLEGRETTA NYMPHÆA, MINUTA. TINY ALLEGRET.

Porzana Minuta, Olivaceous Crake. G.

Crex Pusilla, Little Crake. Y.

Poule d'Eau Poussin. Temminck.

Little Gallinule. B.

It never occurred to me, when I was writing of classical landscape, that 'Poussin' to a French ear conveyed the idea of 'chicken,' or of the young of birds in general. (Is it from 'pousser,' as if they were a kind of budding of bird?) Everybody seems to agree in feeling that this is a kind of wren among the dabchicks. Bewick's name, 'Little Gallinule,' meaning of course, if he knew it, the twice-over little Gallina;—and here again the question occurs to me about its voice. Is it a twice-over little crow, called a 'creak,' or anything like the Rail's more provokingly continuous objurgation?—compare notes below on Rallus Aquaticus. I find,

with some alarm, in Buffon, that one with a longer tail, the Cau-rale or Tail-rail of Cayenne, is there called 'Little Peacock of the Roses;' but its cry is represented by the liquid syllables 'Piolo,' while the black-spotted one of the Society Islands—Magellan's 'Water-quail'—says 'Poo-a-nee,' and the Bidi-bidi of Jamaica says 'Bidi-bidi.'

X.

150. TREPIDA STAGNARUM. LITTLE GREBE.

Colymbus Minor. L.

Le Castagneux. F.

Deutchel. T.

Tropazarola? I.

Podiceps Minor. C.

Little Grebe. B.

The Yorkshire accents and changes of its name are given by Bewick: Dobchick—small doucker; Dipper, or Didapper.

In Barbadoes—Two-penny chick.

It seems to me curious that without knowing Buffon's name, which I have only looked up now, 'the Chestnutty,' given from the brown on its back, I should have, myself, always called its foot 'chestnutty,' from the shape of its lobes.

My 'Trepida' will do well enough, I think, for a Latin rendering of Grebe, and will include the whole group of them,—'stagnarum' remaining for this species only, and the others being called Tippeted Trepids, or Muffed Trepids, Eared Trepids or Majestic Trepids, as I find out what they wear, and how they behave. Grèbe is used by Buffon only for the larger ones, and Castagneux for the smaller, which is absurd enough, unless the smaller are also the browner.

But I find in Buffon some interesting particulars not given in my text—namely, that the whole group differs from common chicks, not only in the lobed feet, but in these being

set so far back, (becoming almost a fish's tail indeed, rather than a bird's legs,) that they are quite useless for walking, and could support the bird only on land if it stood upright: but that it "dashes through the waves" (i.e., the larger varieties through sea waves), and "runs on the surface"? (i.e., the smaller varieties on pools,) with surprising rapidity; its motions are said to be never quicker and brisker than when under water. It pursues the fish to a very great depth, and is often caught in fishermen's nets. It dives deeper than the scoter duck, which is taken only on beds of shell-fish left bare by the ebb-tide; while the Grebes are taken in the open sea, often at more than twenty feet depth.

XI.

151. *TITANIA ARCTICA*. ARCTIC FAIRY.

Tringa Fulicaria. L.

(No French name given in my edition of Buffon!)

No German, anywhere.

No Italian, anywhere.

But of suggestions by scientific authors, here are enough to choose from:—

Lobipes Hyperboreus, G. Lobipes Hyperborea, Selby.
 Phalaropus Hyperboreus, Penn. Phalarope Hyperbore,
 Temm. Phalaropus Fulicaria, Mont. Phalaropus Fuscus,
 Bewick. Phalaropus Rufescens, Briss. Red Coot-footed
Tringa, Edw. Red-necked Phalarope, Gould. Lobe-foot,
 Selby. Coot-foot, Fleming.

I am a little shocked at my own choice of name in this case, not quite pleasing my imagination with the idea of a Coot-footed Fairy. But since Athena herself thinks it no disgrace to take for disguise the likeness either of a sea-gull or a swallow, a sea-fairy may certainly be thought of as condescending to appear with a diving bird's foot; and the rather that, if one may judge by painters' efforts to give us sight of Fairyland, the general character of its

inhabitants is more that of earthly or marine goblins than aerial ones.

Now this is strange! At the last moment, I find this sentence in Gould's introduction: "The generic terms Phalaropus and Lobipes have been instituted for the *fairy-like* phalaropes."

XI.A.

TITANIA INCONSTANS. CHANGEFUL FAIRY.

Tringa Lobata. L.

Phalaropus Fulicarius (Gray Phalarope). G.

Phalaropus Lobatus. Latham.

"Phalarope with indented festoons," English trans. of Buffon.—It is of no use to ring the changes farther.

XII.

152. RALLUS AQUATICUS. WATER RAIL.

Rallus Aquaticus. L., G., Y.

Râle d'Eau. F.

Samet-Hennle—Velvet (silken?) hen. Ges.

Schwartz-Wasser-Hennle. T.?

Vagtel-Konge. Danish.

Porzana, or Forzana, at Venice.

Brook-Ouzel—Velvet Runner. B.

I take this group of foreign names from Buffon, but question the German one, which must belong to the Water Hen; for the Rail is not black, but prettily gray and spotted, and I think Buffon confuses the two birds, as several popular names do. Thus, the Velvet Hen also, I fancy, is the Water Hen; but Bewick's Velvet-Runner partly confirms it to the Rail. I find nothing about velvet said in describing the plumage.

I leave Linnæus's for our Latin name, under some protest. Rallus is a late Latin adjective, meaning 'thin,' and if under-

stood as 'Thin-bird,' or 'Lath-like' bird, would be reasonable; but if it stand, as it does practically, for Railing or Rattling bird, it is both bad Latin, and, as far as I can make out, calumnious of the usually quiet creature.

Note also, for a connected piece of scholarship, that our English verb to 'rail' does not properly mean to scold, or to abuse noisily; it is from 'railler,' and means to 'rally,' or jest at, which is often a much wickeder thing to do, if the matter be indeed no jest.

Note also of Samet or Samite, its derivation from late Greek *ἔξαμυρος*, silken stuff woven of six threads, of which I believe two were of gold. The French oriflamme was of crimson samite, and I don't see why the French shouldn't call this bird Poule de Soie, instead of by their present ugly name—more objectionable on all grounds, of sense, scholarship, and feeling, than the English one. But see the next species.

153. XII.A.

PULLA AQUATICA. WATER HEN.

There seems so much confusion in the minds, or at least the language, of ornithologists, between the Water Rail and Water Hen, that I give this latter bird under the number XII.A. rather than XIII., (which would, besides, be an unlucky number to end my Appendix with); and it would be very nice, if at all possible or proper, to keep these two larger dabchicks connected pleasantly in school-girl minds by their costumes, and call one 'Silken Runner,' and this,—which, as said above, Gesner seems to mean, Velvet Runner, or Velvet Hen.—Poule de Soie or Poule de Velours? I am getting a little confused myself, however, I find at last, between Poules, Poussins, Pullets, and Pullas; and must for the present leave the matter to the reader's choice and fancy, till I get some more birds looked at, and named:—only, for a pretty end of my Appendix, here are two bits of very

precious letters, sent me by friends who know birds better than most scientific people, but have been too busy—one in a 'Dorcas Society,' and the other in a children's hospital—to write books, and only now write these bits of letters on my special petition. The member of the Dorcas Society sends me this brief but final and satisfactory answer to my above question about birds' ears:—

“ We talk and think of birds as essentially musical and mimetic, or at least vocal and noisy creatures; and yet we seem to think that although they have an ear, they have no ears. Little or nothing is told us of the structure of a bird's ear. We are now too enlightened to believe in what we can't see; and ears that are never pricked, or cocked, or laid back,—that merely receive and learn, but don't express,—that are organs, not features, don't interest our philosophers now.

“ If you blow gently on the feathers of the side of a bird's head, a little above and behind the corner of the beak, a little below and behind the eye, the parted feathers will show the listening place; a little hole with convolutions of delicate skin turning inwards, very much like what your own ear would be if you had none,—I mean, if all of it that lies above the level of the head had been removed, leaving no trace. No one who looks at the little hole could fail to see that it is an ear, highly organized—an ear for music; at least, I found it so among the finches I have examined; I know not if a simpler structure is evident in the ear of a rook or a peacock.

“ The feathers are so planted round a bird's ears, that however ruffled or wet, they can't get in—and possibly they conduct sound. Birds have no need of ears with a movable cowl over them, to turn and twist for the catching of stray sounds, as foxes have, and hares, and other four-footed things; for a bird can turn his whole head so as to put his ear wherever he pleases in the twinkling of an eye; and he has too many resources, whatever bird he may be, of voice and gesture, to need any power of ear-cocking to welcome his friends, or ear-flattening to menace his foes.

“The long and the short of it is, that we may as well take the trouble first to look for, and then to look at, a bird’s ear—having first made the bird like us and trust us so much, that he won’t mind a human breath upon his cheek, but will let us see behind the veil, into the doorless corridor that lets music into the bird-soul.”

154. Next; the physician (over whom, to get the letter out of him, I had to use the authority of a more than ordinarily imperious patient) says,—

“Now for the grebes lowering themselves in water, (which Lucy said I was to tell you about). The way in which they manage it, I believe to be this. Most birds have under their skins great air-passages which open into the lungs, and which, when the bird is moving quickly, and consequently devouring a great deal of air, do, to a certain extent, the work of supplementary lungs. They also lessen the bird’s specific gravity, which must be of some help in flying. And in the gannet, which drops into the sea from a great height after fish, these air-bags lessen the shock on striking the water. Now the grebes (and all diving-birds) which can swim high up out of water when the air-cushions are full, and so feel very little the cold of the water beneath them, breathe out all spare air, and sink almost out of sight when they wish to be less conspicuous;—just as a balloon sinks when part of the gas is let out. And I have often watched the common divers and cormorants too, when frightened, swimming about with only head and neck out of water, and so looking more like snakes than birds.

“Then about the Dippers: they ‘fly’ to the bottom of a stream, using their wings, just as they would fly up into the air; and there is the same difficulty in flying to the bottom of the stream, and keeping there, as there would be in flying up into the air, and keeping there,—perhaps greater difficulty.

“They can never walk comfortably along the bottom of a river, as they could on the bank, though I know they are often talked of as doing it. They too, no doubt, empty their air-bags, to make going under water a little less difficult.”

155. This most valuable letter, for once, leaves me a minute or two, disposed to ask a question which would need the skinning of a bird in a diagram to answer—about the “air-passages, which are a kind of supplementary lungs.” Thinking better of it, and leaving the bird to breathe in its own way, I *do* wish we could get this Dipper question settled,—for here we are all at sea—or at least at brook, again, about it: and although in a book I ought to have examined before—Mr. Robert Gray’s ‘Birds of the West of Scotland,’ which contains a quantity of useful and amusing things, and some plates remarkable for the delicate and spirited action of birds in groups,—although, I say, this unusually well-gathered and well-written book has a nice little lithograph of two dippers, and says they are quite universally distributed in Scotland, and called ‘Water Crows,’ and in Gaelic ‘Gobha dubh nan allt,’ (which I’m sure must mean something nice, if one knew what,) and though it has a lively account of the bird’s ways out of the water—says not a word of its ways *in* it! except that “dippers everywhere delight in *deep* linns and brawling rapids, where their interesting motions never fail to attract the angler and bird-student;” and this of their voices: “In early spring, the male birds may be seen perched on some moss-covered stone, trilling their fine clear notes;” and again: “I have stood within a few yards of one at the close of a blustering winter’s day, and enjoyed its charming music unobserved. The performer was sitting on a stake jutting from a mill-pond in the midst of a cold and cheerless Forfarshire moor, yet he joyously warbled his evening hymn with a fullness which made me forget the surrounding sterility.”

Forget it not, thou, good reader; but rather remember it in your own hymns, and your own prayers, that still—in Bonnie Scotland, and Old England—the voices, almost lost, of Brook, and Breeze, and Bird, may, by Love’s help, be yet to their lovers audible. Ainsì soìt il.

BRANTWOOD, 8th July, 1881.

THE COMPLETE WORKS

OF

JOHN RUSKIN

VOLUME XVI



VAL D'ARNO

PROSERPINA

VAL D'ARNO:

TEN LECTURES ON THE TUSCAN ART

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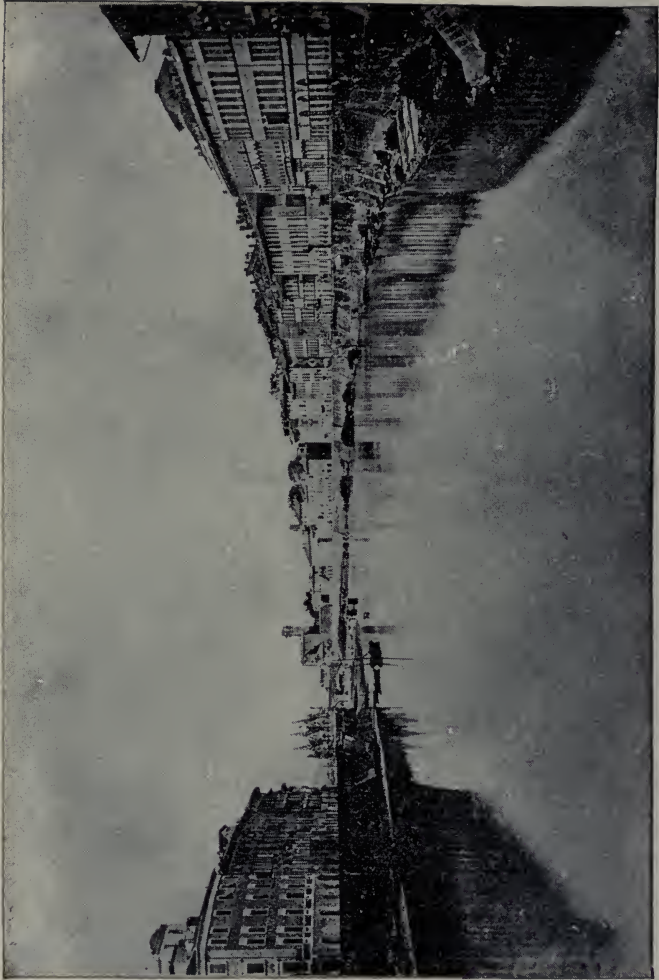
THE FLORENTINE YEAR OF VICTORIES.

GIVEN BEFORE THE UNIVERSITY OF OXFORD

IN MICHAELMAS TERM, 1873.

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THE ANCIENT SHORES OF ARNO.

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PLATE I.—THE PISAN LATONA.
Angle of Panel of the Adoration, in Niccola's Pulpit.

VAL D'ARNO.

LECTURE I.

NICHOLAS THE PISAN.

1. ON this day, of this month, the 20th of October, six hundred and twenty-three years ago, the merchants and tradesmen of Florence met before the church of Santa Croce; marched through the city to the palace of their Podesta; deposed their Podesta; set over themselves, in his place, a knight belonging to an inferior city; called him "Captain of the People;" appointed under him a Signory of twelve Ancients chosen from among themselves; hung a bell for him on the tower of the Lion, that he might ring it at need, and gave him the flag of Florence to bear, half white, and half red.

The first blow struck upon the bell in that tower of the Lion began the tolling for the passing away of the feudal system, and began the joy-peal, or carillon, for whatever deserves joy, in that of our modern liberties, whether of action or of trade.

2. Within the space of our Oxford term from that day, namely, on the 13th of December in the same year, 1250, died, at Ferentino, in Apulia, the second Frederick, Emperor of Germany; the second also of the two great lights which in his lifetime, according to Dante's astronomy, ruled the world,—whose light being quenched, "the land which was once the residence of courtesy and valour, became the haunt of all men who are ashamed to be near the good, or to speak to them."

"In sul paese chadice e po riga
solea valore e cortesia trovar si
prima che federigo havessi briga,
or puo sicuramente indi passarsi
per qualunque lasciassi per vergogna
di ragionar co buoni, e appressarsi."—PURG., Cant. 16.

3. The "Paese che Adice e Po riga" is of course Lombardy; and might have been enough distinguished by the name of its principal river. But Dante has an especial reason for naming the Adige. It is always by the valley of the Adige that the power of the German Cæsars descends on Italy; and that battlemented bridge, which doubtless many of you remember, thrown over the Adige at Verona, was so built that the German riders might have secure and constant access to the city. In which city they had their first stronghold in Italy, aided therein by the great family of the Montecchi, Montacutes, Mont-aigu-s, or Montagues; lords, so called, of the mountain peaks; in feud with the family of the Cappelletti,—hatted, or, more properly, scarlet-hatted, persons. And this accident of nomenclature, assisted by your present familiar knowledge of the real contests of the sharp mountains with the flat caps, or petasoi, of cloud, (locally giving Mont Pilate its title, "Pileatus,") may in many points curiously illustrate for you that contest of Frederick the Second with Innocent the Fourth, which in the good of it and the evil alike, represents to all time the war of the solid, rational, and earthly authority of the King, and State, with the more or less spectral, hooded, imaginative, and nubiform authority of the Pope, and Church.

4. It will be desirable also that you clearly learn the material relations, governing spiritual ones,—as of the Alps to their clouds, so of the plains to their rivers. And of these rivers, chiefly note the relation to each other, first, of the Adige and Po; then of the Arno and Tiber. For the Adige, representing among the rivers and fountains of waters the channel of Imperial, as the Tiber of the Papal power, and the strength of the Coronet being founded on the white peaks that look down upon Hapsburg and Hohenzollern, as that of the Scarlet Cap in the marsh of the Campagna, "quo tenuis in sicco aqua destituisset," the study of the policies and arts of the cities founded in the two great valleys of Lombardy and Tuscany, so far as they were affected by their bias to the Emperor, or the Church, will arrange itself in your minds at

once in a symmetry as clear as it will be, in our future work, secure and suggestive.

5. "Tenuis, in sicco." How literally the words apply, as to the native streams, so to the early states or establishments of the great cities of the world. And you will find that the policy of the Coronet, with its tower-building; the policy of the Hood, with its dome-building; and the policy of the bare brow, with its cot-building,—the three main associations of human energy to which we owe the architecture of our earth, (in contradistinction to the dens and caves of it,)—are curiously and eternally governed by mental laws, corresponding to the physical ones which are ordained for the rocks, the clouds, and the streams.

The tower, which many of you so well remember the daily sight of, in your youth, above the "winding shore" of Thames,—the tower upon the hill of London; the dome which still rises above its foul and terrestrial clouds; and the walls of this city itself, which has been "alma," nourishing in gentleness, to the youth of England, because defended from external hostility by the difficultly fordable streams of its plain, may perhaps, in a few years more, be swept away as heaps of useless stone; but the rocks, and clouds, and rivers of our country will yet, one day, restore to it the glory of law, of religion, and of life.

6. I am about to ask you to read the hieroglyphs upon the architecture of a dead nation, in character greatly resembling our own,—in laws and in commerce greatly influencing our own;—in arts, still, from her grave, tutress of the present world. I know that it will be expected of me to explain the merits of her arts, without reference to the wisdom of her laws; and to describe the results of both, without investigating the feelings which regulated either. I cannot do this; but I will at once end these necessarily vague, and perhaps premature, generalizations; and only ask you to study some portions of the life and work of two men, father and son, citizens of the city in which the energies of this great people were at first concentrated; and to deduce from that study the conclu-

sions, or follow out the inquiries, which it may naturally suggest.

7. It is the modern fashion to despise Vasari. He is indeed despicable, whether as historian or critic,—not least in his admiration of Michael Angelo; nevertheless, he records the traditions and opinions of his day; and these you must accurately know, before you can wisely correct. I will take leave, therefore, to begin to-day with a sentence from Vasari, which many of you have often heard quoted, but of which, perhaps, few have enough observed the value.

“Niccola Pisano finding himself under certain Greek sculptors who were carving the figures and other intaglio ornaments of the cathedral of Pisa, and of the temple of St. John, and there being, among many spoils of marbles, brought by the Pisan fleet,* some ancient tombs, there was one among the others most fair, on which was sculptured the hunting of Meleager.” †

Get the meaning and contents of this passage well into your minds. In the gist of it, it is true, and very notable.

8. You are in mid thirteenth century; 1200–1300. The Greek nation has been dead in heart upwards of a thousand years; its religion dead, for six hundred. But through the wreck of its faith, and death in its heart, the skill of its hands, and the cunning of its design, instinctively linger. In the centuries of Christian power, the Christians are still unable to build but under Greek masters, and by pillage of Greek shrines; and their best workman is only an apprentice to the ‘Græculi esurientes’ who are carving the temple of St. John.

9. Think of it. Here has the New Testament been declared for 1200 years. No spirit of wisdom, as yet, has been given to its workmen, except that which has descended from

* “Armata.” The proper word for a land army is “esercito.”

† Vol. i., p. 60, of Mrs. Foster’s English translation, to which I shall always refer, in order that English students may compare the context if they wish. But the pieces of English which I give are my own direct translation, varying, it will be found, often, from Mrs. Foster’s, in minute, but not unimportant, particulars.

the Mars Hill on which St. Paul stood contemptuous in pity. No Bezaleel arises, to build new tabernacles, unless he has been taught by Daedalus.

10. It is necessary, therefore, for you first to know precisely the manner of these Greek masters in their decayed power; the manner which Vasari calls, only a sentence before, "That old Greek manner, blundering, disproportioned,"—Goffa, e sproporzionata.

"Goffa," the very word which Michael Angelo uses of Perugino. Behold, the Christians despising the Dunce Greeks, as the Infidel modernists despise the Dunce Christians." *

11. I sketched for you, when I was last at Pisa, a few arches of the apse of the duomo, and a small portion of the sculpture of the font of the temple of St. John. I have placed them in your rudimentary series, as examples of "quella vecchia maniera Greca, goffa e sproporzionata." My own judgment respecting them is,—and it is a judgment founded on knowledge which you may, if you choose, share with me, after working with me,—that no architecture on this grand scale, so delicately skilful in execution, or so daintily disposed in proportion, exists elsewhere in the world.

12. Is Vasari entirely wrong then?

No, only half wrong, but very fatally half wrong. There are Greeks, and Greeks.

This head with the inlaid dark iris in its eyes, from the font of St. John, is as pure as the sculpture of early Greece, a hundred years before Phidias; and it is so delicate, that having drawn with equal care this and the best work of the Lombardi at Venice (in the church of the Miracoli), I found this to possess the more subtle qualities of design. And yet, in the cloisters of St. John Lateran at Rome, you have Greek work, if not contemporary with this at Pisa, yet occupying a parallel place in the history of architecture, which is abortive, and monstrous beyond the power of any words to describe. Vasari knew no difference between these two kinds of Greek work.

* Compare "Ariadne Florentina," § 46.

Nor do your modern architects. To discern the difference between the sculpture of the font of Pisa, and the spandrils of the Lateran cloister, requires thorough training of the hand in the finest methods of draughtsmanship; and, secondly, trained habit of reading the mythology and ethics of design. I simply assure you of the fact at present; and if you work, you may have sight and sense of it.

13. There are Greeks, and Greeks, then, in the twelfth century, differing as much from each other as vice, in all ages, must differ from virtue. But in Vasari's sight they are alike; in ours, they must be so, as far as regards our present purpose. As men of a school, they are to be summed under the general name of 'Byzantines;' their work all alike showing specific characters of attenuate, rigid, and in many respects offensively unbeautiful, design, to which Vasari's epithets of "goffa, e sproporzionata" are naturally applied by all persons trained only in modern principles. Under masters, then, of this Byzantine race, Niccola is working at Pisa.

14. Among the spoils brought by her fleets from Greece, is a sarcophagus, with Meleager's hunt on it, wrought "con bellissima maniera," says Vasari.

You may see that sarcophagus—any of you who go to Pisa;—touch it, for it is on a level with your hand; study it, as Niccola studied it, to your mind's content. Within ten yards of it, stand equally accessible pieces of Niccola's own work and of his son's. Within fifty yards of it, stands the Byzantine font of the chapel of St. John. Spend but the good hours of a single day quietly by these three pieces of marble, and you may learn more than in general any of you bring home from an entire tour in Italy. But how many of you ever yet went into that temple of St. John, knowing what to look for; or spent as much time in the Campo Santo of Pisa, as you do in Mr. Ryman's shop on a rainy day?

15. The sarcophagus is not, however, (with Vasari's pardon) in 'bellissima maniera' by any means. But it is in the classical Greek manner instead of the Byzantine Greek manner. You have to learn the difference between these.

Now I have explained to you sufficiently, in "Aratra Pentelici," what the classical Greek manner is. The manner and matter of it being easily summed—as those of natural and unaffected life;—nude life when nudity is right and pure; not otherwise. To Niccola, the difference between this natural Greek school, and the Byzantine, was as the difference between the bull of Thurium and of Delhi, (see Plate 19 of "Aratra Pentelici").

Instantly he followed the natural fact, and became the Father of Sculpture to Italy.

16. Are we, then, also to be strong by following the natural fact?

Yes, assuredly. That is the beginning and end of all my teaching to you. But the noble natural fact, not the ignoble. You are to study men; not lice nor entozoa. And you are to study the souls of men in their bodies, not their bodies only. Mulready's drawings from the nude are more degraded and bestial than the worst grotesques of the Byzantine or even the Indian image makers. And your modern mob of English and American tourists, following a lamplighter through the Vatican to have pink light thrown for them on the Apollo Belvidere, are farther from capacity of understanding Greek art, than the parish charity boy, making a ghost out of a turnip, with a candle inside.

17. Niccola followed the facts, then. He is the Master of Naturalism in Italy. And I have drawn for you his lioness and cubs, to fix that in your minds. And beside it, I put the Lion of St. Mark's, that you may see exactly the kind of change he made. The Lion of St. Mark's (all but his wings, which have been made and fastened on in the fifteenth century), is in the central Byzantine manner; a fine decorative piece of work, descending in true genealogy from the Lion of Nemea, and the crested skin of him that clothes the head of the Heracles of Camarina. It has all the richness of Greek Daedal work,—nay, it has fire and life beyond much Greek Daedal work; but in so far as it is non-natural, symbolic, decorative, and not like an actual lion, it would be felt by Niccola Pisano

to be imperfect. And instead of this decorative evangelical preacher of a lion, with staring eyes, and its paw on a gospel, he carves you a quite brutal and maternal lioness, with affectionate eyes, and paw set on her cub.

18. Fix that in your minds, then. Niccola Pisano is the Master of Naturalism in Italy,—therefore elsewhere; of Naturalism, and all that follows. Generally of truth, common-sense, simplicity, vitality,—and of all these, with consummate power. A man to be enquired about, is not he? and will it not make a difference to you whether you look, when you travel in Italy, in his rough early marbles for this fountain of life, or only glance at them because your Murray's Guide tells you,—and think them “odd old things”?

19. We must look for a moment more at one odd old thing—the sarcophagus which was his tutor. Upon it is carved the hunting of Meleager; and it was made, or by tradition received as, the tomb of the mother of the Countess Matilda. I must not let you pass by it without noticing two curious coincidences in these particulars. First, in the Greek subject which is given Niccola to read.

The boar, remember, is Diana's enemy. It is sent upon the fields of Calydon in punishment of the refusal of the Calydonians to sacrifice to her. ‘You have refused *me*,’ she said; ‘you will not have Artemis Laphria, Forager Diana, to range in your fields. You shall have the Forager Swine, instead.’

Meleager and Atalanta are Diana's servants,—servants of all order, purity, due sequence of season, and time. The orbed architecture of Tuscany, with its sculptures of the succession of the labouring months, as compared with the rude vaults and monstrous imaginations of the past, was again the victory of Meleager.

20. Secondly, take what value there is in the tradition that this sarcophagus was made the tomb of the mother of the Countess Matilda. If you look to the fourteenth chapter of the third volume of “Modern Painters,” you will find the mythic character of the Countess Matilda, as Dante employed

it, explained at some length. She is the representative of Natural Science as opposed to Theological.

21. Chance coincidences merely, these; but full of teaching for us, looking back upon the past. To Niccola, the piece of marble was, primarily, and perhaps exclusively, an example of free chiselling, and humanity of treatment. What else it was to him,—what the spirits of Atalanta and Matilda could bestow on him, depended on what he was himself. Of which Vasari tells you nothing. Not whether he was gentleman or clown—rich or poor—soldier or sailor. Was he never, then, in those fleets that brought the marbles back from the ravaged Isles of Greece? was he at first only a labourer's boy among the scaffoldings of the Pisan apse,—his apron loaded with dust—and no man praising him for his speech? Rough he was, assuredly; probably poor; fierce and energetic, beyond even the strain of Pisa,—just and kind, beyond the custom of his age, knowing the Judgment and Love of God: and a workman, with all his soul and strength, all his days.

22. You hear the fame of him as of a sculptor only. It is right that you should; for every great architect must be a sculptor, and be renowned, as such, more than by his building. But Niccola Pisano had even more influence on Italy as a builder than as a carver.

For Italy, at this moment, wanted builders more than carvers; and a change was passing through her life, of which external edifice was a necessary sign. I complained of you just now that you never looked at the Byzantine font in the temple St. John. The sacristan generally will not let you. He takes you to a particular spot on the floor, and sings a musical chord. The chord returns in prolonged echo from the chapel roof, as if the building were all one sonorous marble bell.

Which indeed it is; and travellers are always greatly amused at being allowed to ring this bell; but it never occurs to them to ask how it came to be ringable:—how that tintinnabulate roof differs from the dome of the Pantheon, expands into the dome of Florence, or declines into the whispering gallery of St. Paul's.

23. When you have had full satisfaction of the tintinnabulate roof, you are led by the sacristan and Murray to Niccola Pisano's pulpit; which, if you have spare time to examine it, you find to have six sides, to be decorated with tablets of sculpture, like the sides of the sarcophagus, and to be sustained on seven pillars, three of which are themselves carried on the backs of as many animals.

All this arrangement had been contrived before Niccola's time, and executed again and again. But behold! between the capitals of the pillars and the sculptured tablets there are interposed five cusped arches, the hollow beneath the pulpit showing dark through their foils. You have seen such cusped arches before, you think?

Yes, gentlemen, *you* have; but the Pisans had *not*. And that intermediate layer of the pulpit means—the change, in a word, for all Europe, from the Parthenon to Amiens Cathedral. For Italy it means the rise of her Gothic dynasty; it mean the duomo of Milan instead of the temple of Paestum.

24. I say the duomo of Milan, only to put the change well before your eyes, because you all know that building so well. The duomo of Milan is of entirely bad and barbarous Gothic, but the passion of pinnacle and fret is in it, visibly to you, more than in other buildings. It will therefore serve to show best what fulness of change this pulpit of Niccola Pisano signifies.

In *it* there is no passion of pinnacle nor of fret. You see the edges of it, instead of being bossed, or knopped, or crocketed, are mouldings of severest line. No vaulting, no clustered shafts, no traceries, no fantasies, no perpendicular flights of aspiration. Steady pillars, each of one polished block; useful capitals, one trefoiled arch between them; your panel above it; thereon your story of the founder of Christianity. The whole standing upon beasts, they being indeed the foundation of us, (which Niccola knew far better than Mr. Darwin); Eagle to carry your Gospel message—Dove you think it ought to be? Eagle, says Niccola, and not as symbol of St. John Evangelist only, but behold! with prey between its claws. For the Gospel, it is Niccola's opinion, is not altogether a message that

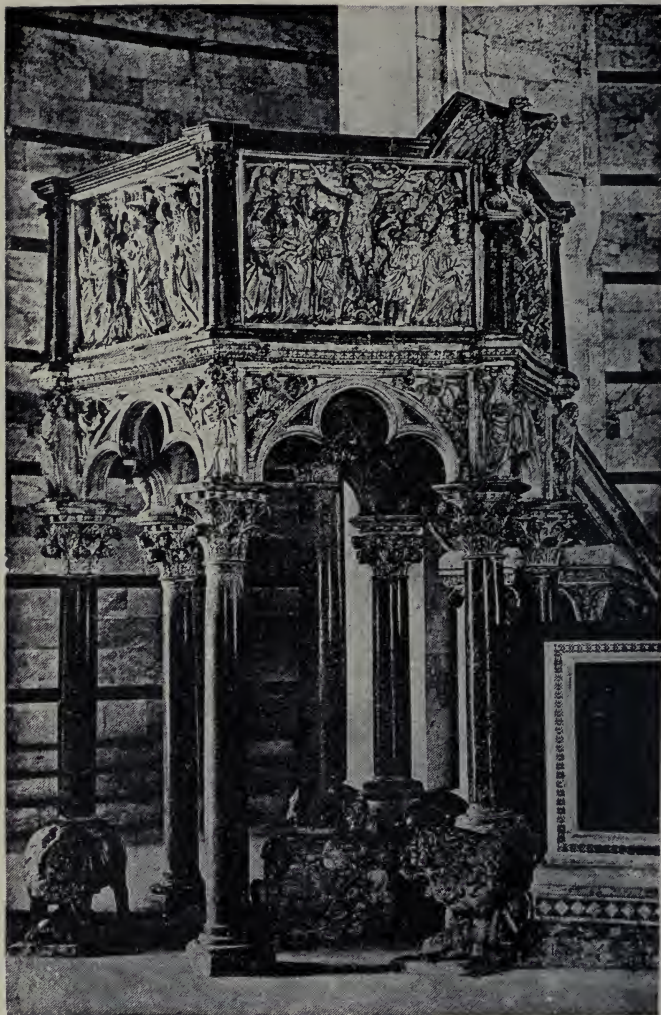


PLATE II.—NICCOLA PISANO'S PULPIT.

you may do whatever you like, and go straight to heaven. Finally a slab of marble, cut hollow a little to bear your book; space enough for you to speak from at ease,—and here is your first architecture of Gothic Christianity!

25. Indignant thunder of dissent from German doctors,—clamour from French savants. ‘What! and our Treves, and our Strasburg, and our Poitiers, and our Chartres! And you call *this* thing the first architecture of Christianity!’ Yes, my French and German friends, very fine the buildings you have mentioned are; and I am bold to say I love them far better than you do, for you will run a railroad through any of them any day that you can turn a penny by it. I thank you also, Germans, in the name of our Lady of Strasburg, for your bullets and fire; and I thank you, Frenchmen, in the name of our Lady of Rouen, for your new haberdashers’ shops in the Gothic town;—meanwhile have patience with me a little, and let me go on.

26. No passion of fretwork, or pinnacle whatever, I said, is in this Pisan pulpit. The trefoiled arch itself, pleasant as it is, seems forced a little; out of perfect harmony with the rest (see Plate II.). Unnatural, perhaps, to Niccola?

Altogether unnatural to him, it is; such a thing never would have come into his head, unless some one had shown it him. Once got into his head, he puts it to good use; perhaps even he will let this somebody else put pinnacles and crockets into his head, or at least, into his son’s, in a little while. Pinnacles,—crockets,—it may be, even traceries. The ground-tier of the baptistery is round-arched, and has no pinnacles; but look at its first story. The clerestory of the Duomo of Pisa has no traceries, but look at the cloister of its Campo Santo.

27. I pause at the words;—for they introduce a new group of thoughts, which presently we must trace farther.

The Holy Field;—field of burial. The “cave of Machpelah which is before Mamre,” of the Pisans. “There they buried Abraham, and Sarah his wife; there they buried Isaac, and Rebekah his wife; and there I buried Leah.”

How do you think such a field becomes holy,—how separated, as the resting-place of loving kindred, from that other field of blood, bought to bury *strangers* in?

When you have finally succeeded, by your gospel of mammon, in making all the men of your own nation not only strangers to each other, but enemies; and when your every churchyard becomes therefore a field of the stranger, the kneeling hamlet will vainly drink the chalice of God in the midst of them. The field will be unholy. No cloisters of noble history can ever be built round such an one.

28. But the very earth of this at Pisa was holy, as you know. That “armata” of the Tuscan city brought home not only marble and ivory, for treasure; but earth,—a fleet’s burden,—from the place where there was healing of soul’s leprosy: and their field became a place of holy tombs, prepared for its office with earth from the land made holy by one tomb; which all the knighthood of Christendom had been pouring out its life to win.

29. I told you just now that this sculpture of Niccola’s was the beginning of Christian architecture. How do you judge that Christian architecture in the deepest meaning of it to differ from all other?

All other noble architecture is for the glory of living gods and men; but this is for the glory of death, in God and man. Cathedral, cloister, or tomb,—shrine for the body of Christ, or for the bodies of the saints. All alike signifying death to this world;—life, other than of this world.

Observe, I am not saying how far this feeling, be it faith, or be it imagination, is true or false;—I only desire you to note that the power of all Christian work begins in the niche of the catacomb and depth of the sarcophagus, and is to the end definable as architecture of the tomb.

30. Not altogether, and under every condition, sanctioned in doing such honour to the dead by the Master of it. Not every grave is by His command to be worshipped. Graves there may be—too little guarded, yet dishonourable;—“*ye* are as graves that appear not, and the men that walk over them

are not aware of them." And graves too much guarded, yet dishonourable, "which indeed appear beautiful outwardly, but are within full of all uncleanness." Or graves, themselves honourable, yet which it may be, in us, a crime to adorn. "For they indeed killed them, and ye build their sepulchres."

Questions, these, collateral; or to be examined in due time; for the present it is enough for us to know that all Christian architecture, as such, has been hitherto essentially of tombs.

It has been thought, gentlemen, that there is a fine Gothic revival in your streets of Oxford, because you have a Gothic door to your County Bank:

Remember, at all events, it was other kind of buried treasure, and bearing other interest, which Niccola Pisano's Gothic was set to guard.

LECTURE II.

JOHN THE PISAN.

31. I CLOSED my last lecture with the statement, on which I desired to give you time for reflection, that Christian architecture was, in its chief energy, the adornment of tombs,—having the passionate function of doing honour to the dead.

But there is an ethic, or simply didactic and instructive architecture, the decoration of which you will find to be normally representative of the virtues which are common alike to Christian and Greek. And there is a natural tendency to adopt such decoration, and the modes of design fitted for it, in civil buildings.*

32. *Civil* or *civic*, I say, as opposed to military. But again observe, there are two kinds of military building. One, the robber's castle, or stronghold, out of which he issues to pillage; the other, the honest man's castle, or stronghold, into which he retreats from pillage. They are much like each other in external forms;—but Injustice, or Unrighteousness, sits in the gate of the one, veiled with forest branches, (see Giotto's painting of him); and Justice or Righteousness *enters* by the gate of the other, over strewn forest branches. Now, for example of this second kind of military architecture, look at Carlyle's account of Henry the Fowler,† and of his building military towns, or burgs, to protect his peasantry. In such function you have the first and proper idea of a walled town,—a place into which the pacific country people can retire for safety, as the Athenians in the Spartan war. Your fortress of this kind is a religi

* "These several rooms were indicated by symbol and device: Victory for the soldier, Hope for the exile, the Muses for the poets, Mercury for the artists, Paradise for the preacher."—(Sagacius Gazata, of the Palace of Candace. I translate only Sismondi's quotation.)

† "Frederick," vol. i.

ous and civil fortress, or burg, defended by burgers, trained to defensive war. Keep always this idea of the proper nature of a fortified city:—Its walls mean protection,—its gates hospitality and triumph. In the language familiar to you, spoken of the chief of cities: “Its walls are to be Salvation, and its gates to be Praise.” And recollect always the inscription over the north gate of Siena: “Cor magis tibi Sena pandit.”—“More than her gates, Siena opens her heart to you.”

33. When next you enter London by any of the great lines, I should like you to consider, as you approach the city, what the feelings of the heart of London are likely to be on your approach, and at what part of the railroad station an inscription, explaining such state of her heart, might be most fitly inscribed. Or you would still better understand the difference between ancient and modern principles of architecture by taking a cab to the Elephant and Castle, and thence walking to London Bridge by what is in fact the great southern entrance of London. The only gate receiving you is, however, the arch thrown over the road to carry the South-Eastern Railway itself; and the only exhibition either of Salvation or Praise is in the cheap clothes' shops on each side; and especially in one colossal haberdasher's shop, over which you may see the British flag waving (in imitation of Windsor Castle) when the master of the shop is at home.

34. Next to protection from external hostility, the two necessities in a city are of food and water supply;—the latter essentially constant. You can store food and forage, but water must flow freely. Hence the Fountain and the Mercato become the centres of civil architecture.

Premising thus much, I will ask you to look once more at this cloister of the Campo Santo of Pisa.

35. On first entering the place, its quiet, its solemnity, the perspective of its aisles, and the conspicuous grace and precision of its traceries, combine to give you the sensation of having entered a true Gothic cloister. And if you walk round it hastily, and, glancing only at a fresco or two, and the confused tombs erected against them, return to the uncloistered

sunlight of the piazza, you may quite easily carry away with you, and ever afterwards retain, the notion that the Campo Santo of Pisa is the same kind of thing as the cloister of Westminster Abbey.

36. I will beg you to look at the building, thus photographed, more attentively. The "long-drawn aisle" is here, indeed,—but where is the "fretted vault"?

A timber roof, simple as that of a country barn, and of which only the horizontal beams catch the eye, connects an entirely plain outside wall with an interior one, pierced by round-headed openings; in which are inserted pieces of complex tracery, as foreign in conception to the rest of the work as if the Pisan armata had gone up the Rhine instead of to Crete, pillaged South Germany, and cut these pieces of tracery out of the windows of some church in an advanced stage of fantastic design at Nuremberg or Frankfort.

37. If you begin to question, hereupon, who was the Italian robber, whether of marble or thought, and look to your Vasari, you find the building attributed to John the Pisan;*—and you suppose the son to have been so pleased by his father's adoption of Gothic forms that he must needs borrow them, in this manner, ready made, from the Germans, and thrust them into his round arches, or wherever else they would go.

We will look at something more of his work, however, before drawing such conclusion.

38. In the centres of the great squares of Siena and Perugia, rose, obedient to engineers' art, two perennial fountains. Without engineers' art, the glens which cleave the sand-rock of Siena flow with living water; and still, if there be a hell for the forger in Italy, he remembers therein the sweet grotto and green wave of Fonte Branda. But on the very summit of the two hills, crested by their great civic fortresses, and in the centres of their circuit of walls, rose the two guided wells;

* The present tracerics are of fifteenth century work, founded on Giovanni's design.

each in basin of goodly marble, sculptured—at Perugia, by John of Pisa, at Siena, by James of Quercia.

39. It is one of the bitterest regrets of my life (and I have many which some men would find difficult to bear,) that I never saw, except when I was a youth, and then with sealed eyes, Jacopo della Quercia's fountain.* The Siense, a little while since, tore it down, and put up a model of it by a modern carver. In like manner, perhaps, you will some day knock the Elgin marbles to pieces, and commission an Academician to put up new ones,—the Siense doing worse than that (as if the Athenians were *themselves* to break their Phidias' work).

But the fountain of John of Pisa, though much injured, and glued together with asphalt, is still in its place.

40. I will now read to you what Vasari first says of him, and it. (I. 67.) “Nicholas had, among other sons, one called John, who, because he always followed his father, and, under his discipline, intended (bent himself to, with a will,) sculpture and architecture, in a few years became not only equal to his father, but in some things superior to him; wherefore Nicholas, being now old, retired himself into Pisa, and living quietly there, left the government of everything to his son. Accordingly, when Pope Urban IV. died in Perugia, sending was made for John, who, going there, made the tomb of that Pope of marble, the which, together with that of Pope Martin IV., was afterwards thrown down, when the Perugians enlarged their vescovado; so that only a few relics are seen sprinkled about the church. And the Perugians, having at the same time brought from the mountain of Pacciano, two miles distant from the city, through canals of lead, a most abundant water, by means of the invention and industry of a friar of the order of St. Silvester, it was given to John the Pisan to make all the ornaments of this fountain, as well of bronze as of marble. On which he set hand to it and made

* I observe that Charles Dickens had the fortune denied to me. “The market-place, or great Piazza, is a large square, with a great broken-nosed fountain in it.” (“Picturcs from Italy.”)

there three orders of vases, two of marble and one of bronze. The first is put upon twelve degrees of twelve-faced steps; the second is upon some columns which put it upon a level with the first one;”—(that is, in the middle of it,) “and the third, which is of bronze, rests upon three figures which have in the middle of them some griffins, of bronze too, which pour water out on every side.”

41. Many things we have to note in this passage, but first I will show you the best picture I can of the thing itself.

The best I can; the thing itself being half destroyed, and what remains so beautiful that no one can now quite rightly draw it; but Mr. Arthur Severn, (the son of Keats's Mr. Severn,) was with me, looking reverently at those remains, last summer, and has made, with help from the sun, this sketch for you (Plate III.); entirely true and effective as far as his time allowed.

Half destroyed, or more, I said it was,—Time doing grievous work on it, and men worse. You heard Vasari saying of it, that it stood on twelve degrees of twelve-faced steps. These—worn, doubtless, into little more than a rugged slope—have been replaced by the moderns with four circular steps, and an iron railing;* the bas-reliefs have been carried off from the panels of the second vase, and its fair marble lips choked with asphalt:—of what remains, you have here a rough but true image.

In which you see there is not a trace of Gothic feeling or design of any sort. No crockets, no pinnacles, no foils, no vaultings, no grotesques in sculpture. Panels between pillars, panels carried on pillars, sculptures in those panels like the Metopes of the Parthenon; a Greek vase in the middle, and griffins in the middle of that. Here is your font, not at all of Saint John, but of profane and civil-engineering John. This is *his* manner of baptism of the town of Perugia.

42. Thus early, it seems, the antagonism of profane Greek

* In Mr. Severn's sketch, the form of the original foundation is approximately restored.

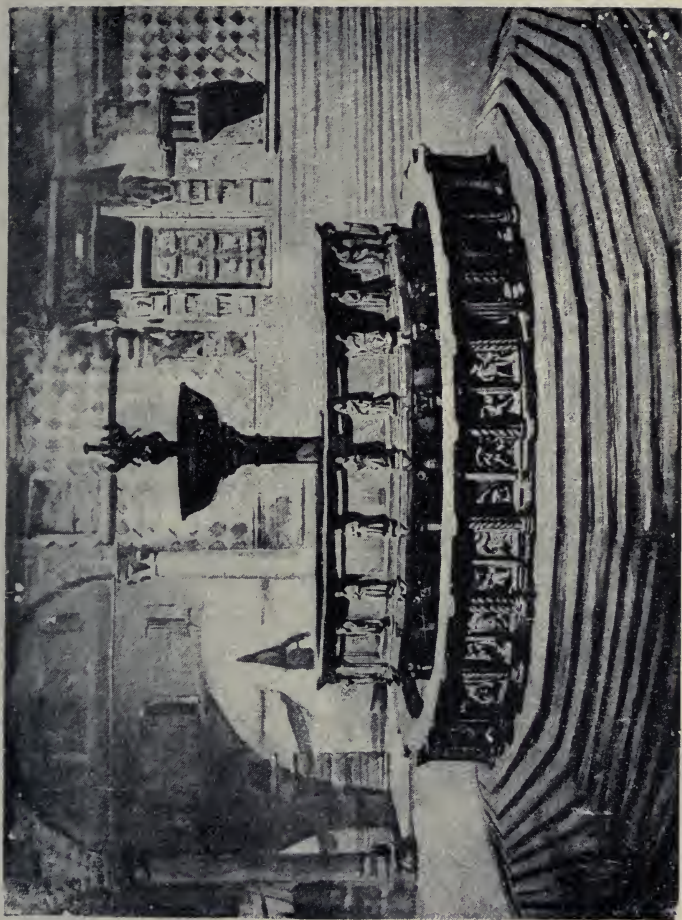


PLATE III.—THE FOUNTAIN OF PERUGIA.

to ecclesiastical Gothic declares itself. It seems as if in Perugia, as in London, you had the fountains in Trafalgar Square against Queen Elinor's Cross; or the viaduct and railway station contending with the Gothic chapel, which the master of the large manufactory close by has erected, because he thinks pinnacles and crockets have a pious influence; and will prevent his workmen from asking for shorter hours, or more wages.

43. It *seems* only; the antagonism is quite of another kind,—or, rather, of many other kinds. But note at once how complete it is—how utterly this Greek fountain of Perugia, and the round arches of Pisa, are opposed to the school of design which gave the trefoils to Niccola's pulpit, and the traceries to Giovanni's Campo Santo.

The antagonism, I say, is of another kind than ours; but deep and wide; and to explain it, I must pass for a time to apparently irrelevant topics.

You were surprised, I hope, (if you were attentive enough to catch the points in what I just now read from Vasari,) at my venturing to bring before you, just after I had been using violent language against the Sieneese for breaking up the work of Quercia, that incidental sentence giving account of the much more disrespectful destruction, by the Perugians, of the tombs of Pope Urban IV., and Martin IV.

Sending was made for John, you see, first, when Pope Urban IV. died in Perugia—whose tomb was to be carved by John; the Greek fountain being a secondary business. But the tomb was so well destroyed, afterwards, that only a few relics remained scattered here and there.

The tomb, I have not the least doubt, was Gothic;—and the breaking of it to pieces was not in order to restore it afterwards, that a living architect might get the job of restoration. Here is a stone out of one of Giovanni Pisano's loveliest Gothic buildings, which I myself saw with my own eyes dashed out, that a modern builder might be paid for putting in another. But Pope Urban's tomb was not destroyed to such end. There was no qualm of the belly, driving the hammer,

—qualm of the conscience probably ; at all events, a deeper or loftier antagonism than one on points of taste, or economy.

44. You observed that I described this Greek profane manner of design as properly belonging to *civil* buildings, as opposed not only to ecclesiastical buildings, but to military ones. Justice, or Righteousness, and Veracity, are the characters of Greek art. These *may* be opposed to religion, when religion becomes fantastic ; but they *must* be opposed to war, when war becomes unjust. And if, perchance, fantastic religion and unjust war happen to go hand in hand, your Greek artist is likely to use his hammer against them spitefully enough.

45. His hammer, or his Greek fire. Hear now this example of the engineering ingenuities of our Pisan papa, in his younger days.

“The Florentines having begun, in Niccola’s time, to throw down many towers, which had been built in a barbarous manner through the whole city ; either that the people might be less hurt, by their means, in the fights that often took place between the Guelphs and Ghibellines, or else that there might be greater security for the State, it appeared to them that it would be very difficult to ruin the Tower of the Death-watch, which was in the place of St. John, because it had its walls built with such a grip in them that the stones could not be stirred with the pickaxe, and also because it was of the loftiest ; whereupon Nicholas, causing the tower to be cut, at the foot of it, all the length of one of its sides ; and closing up the cut, as he made it, with short (wooden) under-props, about a yard long, and setting fire to them, when the props were burned, the tower fell, and broke itself nearly all to pieces : which was held a thing so ingenious and so useful for such affairs, that it has since passed into a custom, so that when it is needful, in this easiest manner, any edifice may be thrown down.”

46. ‘When it is needful.’ Yes ; but when is that ? If instead of the towers of the Death-watch in the city, one could ruin the towers of the Death-watch of evil pride and evil treasure in men’s hearts, there would be need enough for such

work both in Florence and London. But the walls of those spiritual towers have still stronger ‘grip’ in them, and are fireproof with a vengeance.

“Le mure me parean che ferro fosse,
 . . . e el mi dixè, il fuoco eterno
 Chentro laffoca, le dimostra rosse.”

But the towers in Florence, shattered to fragments by this ingenious engineer, and the tombs in Perugia, which his son will carve, only that they also may be so well destroyed that only a few relics remain, scattered up and down the church,—are these, also, only the iron towers, and the red-hot tombs, of the city of Dis?

Let us see.

47. In order to understand the relation of the tradesmen and working men, including eminently the artist, to the general life of the thirteenth century, I must lay before you the clearest elementary charts I can of the course which the fates of Italy were now appointing for her.

My first chart must be geographical. I want you to have a clearly dissected and closely fitted notion of the natural boundaries of her states, and their relations to surrounding ones.

Lay hold first, firmly, of your conception of the valleys of the Po and the Arno, running counter to each other—opening east and opening west,—Venice at the end of the one, Pisa at the end of the other.

48. These two valleys—the hearts of Lombardy and Etruria—virtually contain the life of Italy. They are entirely different in character: Lombardy, essentially luxurious and worldly, at this time rude in art, but active; Etruria, religious, intensely imaginative, and inheriting refined forms of art from before the days of Porsenna.

49. South of these, in mid-Italy, you have Romagna,—the valley of the Tiber. In that valley, decayed Rome, with her lust of empire inextinguishable;—no inheritance of imaginative art, nor power of it; dragging her own ruins hourly into

more fantastic ruin, and defiling her faith hourly with more fantastic guilt.

South of Romagna, you have the kingdoms of Calabria and Sicily,—Magna Graecia, and Syracuse, in decay;—strange spiritual fire from the Saracenic east still lighting the volcanic land, itself laid all in ashes.

50. Conceive Italy then always in these four masses: Lombardy, Etruria, Romagna, Calabria.

Now she has three great external powers to deal with: the western, France—the northern, Germany—the eastern, Arabia. On her right the Frank; on her left the Saracen; above her, the Teuton. And roughly, the French are a religious chivalry; the Germans a profane chivalry; the Saracens an infidel chivalry. What is best of each is benefiting Italy; what is worst, afflicting her. And in the time we are occupied with, all are afflicting her.

What Charlemagne, Barbarossa, or Saladin did to teach her, you can trace only by carefullest thought. But in this thirteenth century all these three powers are adverse to her, as to each other. Map the methods of their adversity thus:—

51. Germany, (profane chivalry,) is vitally adverse to the Popes; endeavouring to establish imperial and knightly power against theirs. It is fiercely, but frankly, covetous of Italian territory, seizes all it can of Lombardy and Calabria, and with any help procurable either from robber Christians or robber Saracens, strives, in an awkward manner, and by open force, to make itself master of Rome, and all Italy.

52. France, all surge and foam of pious chivalry, lifts herself in fitful rage of devotion, of avarice, and of pride. She is the natural ally of the church; makes her own monks the proudest of the Popes; raises Avignon into another Rome; prays and pillages insatiably; pipes pastoral songs of innocence, and invents grotesque variations of crime; gives grace to the rudeness of England and venom to the cunning of Italy. She is a chimera among nations, and one knows not whether to admire most the valour of Guiscard, the virtue of St. Louis, or the villany of his brother.

53. The Eastern powers—Greek, Israelite, Saracen—are at once the enemies of the Western, their prey, and their tutors.

They bring them methods of ornament and of merchandise, and stimulate in them the worst conditions of pugnacity, bigotry, and rapine. That is the broad geographical and political relation of races. Next, you must consider the conditions of their time.

54. I told you, in my second lecture on Engraving, that before the twelfth century the nations were too savage to be Christian, and after the fifteenth too carnal to be Christian.

The delicacy of sensation and refinements of imagination necessary to understand Christianity belong to the mid period when men risen from a life of brutal hardship are not yet fallen to one of brutal luxury. You can neither comprehend the character of Christ while you are chopping flints for tools, and gnawing raw bones for food; nor when you have ceased to do anything with either tools or hands, and dine on gilded capons. In Dante's lines, beginning

“ I saw Bellincion Berti walk abroad
In leathern girdle, with a clasp of bone,”

you have the expression of his sense of the increasing luxury of the age, already sapping its faith. But when Bellincion Berti walked abroad in skins not yet made into leather, and with the bones of his dinner in a heap at his door, instead of being cut into girdle clasps, he was just as far from capacity of being a Christian.

55. The following passage, from Carlyle's "Chartism," expresses better than any one else has done, or is likely to do it, the nature of this Christian era, (extending from the twelfth to the sixteenth century,) in England,—the like being entirely true of it elsewhere :—

“ In those past silent centuries, among those silent classes, much had been going on. Not only had red deer in the New and other forests been got preserved and shot; and treacher-

ies* of Simon de Montfort, wars of Red and White Roses, battles of Crecy, battles of Bosworth, and many other battles, been got transacted and adjusted; but England wholly, not without sore toil and aching bones to the millions of sires and the millions of sons of eighteen generations, had been got drained and tilled, covered with yellow harvests, beautiful and rich in possessions. The mud-wooden Caesters and Chesters had become steepled, tile-roofed, compact towns. Sheffield had taken to the manufacture of Sheffield whittles. Worstead could from wool spin yarn, and knit or weave the same into stockings or breeches for men. England had property valuable to the auctioneer; but the accumulate manufacturing, commercial, economic skill which lay impalpably warehoused in English hands and heads, what auctioneer could estimate?

“Hardly an Englishman to be met with but could do something; some cunninger thing than break his fellow-creature’s head with battle-axes. The seven incorporated trades, with their million guild-brethren, with their hammers, their shuttles, and tools, what an army,—fit to conquer that land of England, as we say, and hold it conquered! Nay, strangest of all, the English people had acquired the faculty and habit of thinking,—even of believing; individual conscience had unfolded itself among them;—Conscience, and Intelligence its handmaid.† Ideas of innumerable kinds were circulating among these men; witness one Shakspeare, a wool-comber, poacher or whatever else, at Stratford, in Warwickshire, who happened to write books!—the finest human figure, as I apprehend, that Nature has hitherto seen fit to make of our widely Teutonic clay. Saxon, Norman, Celt, or Sarmat, I find no human soul so beautiful, these fifteen hun-

* Perhaps not altogether so, any more than Oliver’s! dear papa Carlyle. We may have to read *him* also, otherwise than the British populace have yet read, some day.

† Observe Carlyle’s order of sequence. Perceptive Reason is the Handmaid of Conscience, not Conscience hers. If you resolve to do right, you will soon do wisely; but resolve only to do wisely, and you will never do right.

dred known years;—our supreme modern European man. Him England had contrived to realize: were there not ideas?

“Ideas poetic and also Puritanic, that had to seek utterance in the notablest way! England had got her Shakespeare, but was now about to get her Milton and Oliver Cromwell. This too, we will call a new expansion, hard as it might be to articulate and adjust; this, that a man could actually have a conscience for his own behoof, and not for his priest’s only; that his priest, be he who he might, would henceforth have to take that fact along with him.”

56. You observe, in this passage, account is given you of two things—(A) of the development of a powerful class of tradesmen and artists; and (B) of the development of an individual conscience.

In the savage times you had simply the hunter, digger, and robber; now you have also the manufacturer and salesman. The ideas of ingenuity with the hand, of fairness in exchange, have occurred to us. We can do something now with our fingers, as well as with our fists; and if we want our neighbours’ goods, we will not simply carry them off, as of old, but offer him some of ours in exchange.

57. Again; whereas before we were content to let our priests do for us all they could, by gesticulating, dressing, sacrificing, or beating of drums and blowing of trumpets; and also direct our steps in the way of life, without any doubt on our part of their own perfect acquaintance with it,—we have now got to do something for ourselves—to think something for ourselves; and thus have arrived in straits of conscience which, so long as we endeavour to steer through them honestly, will be to us indeed a quite secure way of life, and of all living wisdom.

58. Now the centre of this new freedom of thought is in Germany; and the power of it is shown first, as I told you in my opening lecture, in the great struggle of Frederick II. with Rome. And German freedom of thought had certainly made some progress, when it had managed to reduce the

Pope to disguise himself as a soldier, ride out of Rome by moonlight, and gallop his thirty-four miles to the seaside before summer dawn. Here, clearly, is quite a new state of things for the Holy Father of Christendom to consider, during such wholesome horse-exercise.

59. Again; the refinements of new art are represented by France—centrally by St. Louis with his Sainte Chapelle. Happily, I am able to lay on your table to-day—having placed it three years ago in your educational series—a leaf of a Psalter, executed for St. Louis himself. He and his artists are scarcely out of their savage life yet, and have no notion of adorning the Psalms better than by pictures of long-necked cranes, long-eared rabbits, long-tailed lions, and red and white goblins putting their tongues out.* But in refinement of touch, in beauty of colour, in the human faculties of order and grace, they are long since, evidently, past the flint and bone stage,—refined enough, now,—subtle enough, now, to learn anything that is pretty and fine, whether in theology or any other matter.

60. Lastly, the new principle of Exchange is represented by Lombardy and Venice, to such purpose that your Merchant and Jew of Venice, and your Lombard of Lombard Street, retain some considerable influence on your minds, even to this day.

And in the exact midst of all such transition, behold, Etruria with her Pisans—her Florentines,—receiving, resisting, and reigning over all: pillaging the Saracens of their marbles—binding the French bishops in silver chains;—shattering the towers of German tyranny into small pieces,—building with strange jewellery the belfry tower for newly-conceived Christianity;—and in sacred picture, and sacred song, reaching the height, among nations, most passionate, and most pure.

I must close my lecture without indulging myself yet, by

* I cannot go to the expense of engraving this most subtle example; but Plate IV. shows the average conditions of temper and imagination in religious ornamental work of the time.



PLATE IV.—NORMAN IMAGERY.

addition of detail; requesting you, before we next meet, to fix these general outlines in your minds, so that, without disturbing their distinctness, I may trace in the sequel the relations of Italian Art to these political and religious powers; and determine with what force of passionate sympathy, or fidelity of resigned obedience, the Pisan artists, father and son, executed the indignation of Florence and fulfilled the piety of Orvieto.

[The following text is extremely faint and largely illegible, appearing to be bleed-through from the reverse side of the page. It contains several lines of text, including what appears to be a signature or name at the bottom.]

LECTURE III.

SHIELD AND APRON.

61. I LAID before you, in my last lecture, first lines of the chart of Italian history in the thirteenth century, which I hope gradually to fill with colour, and enrich, to such degree as may be sufficient for all comfortable use. But I indicated, as the more special subject of our immediate study, the nascent power of liberal thought, and liberal art, over dead tradition and rude workmanship.

To-day I must ask you to examine in greater detail the exact relation of this liberal art to the illiberal elements which surrounded it.

62. You do not often hear me use that word "Liberal" in any favourable sense. I do so now, because I use it also in a very narrow and exact sense. I mean that the thirteenth century is, in Italy's year of life, her 17th of March. In the light of it, she assumes her toga virilis; and it is sacred to her god Liber.

63. To her god *Liber*,—observe: not Dionusos, still less Bacchus, but her own ancient and simple deity. And if you have read with some care the statement I gave you, with Carlyle's help, of the moment and manner of her change from savageness to dexterity, and from rudeness to refinement of life, you will hear, familiar as the lines are to you, the invocation in the first Georgic with a new sense of its meaning:—

" Vos, O clarissima mundi
Lumina, labentem cœlo quæ ducitis annum,
Liber, et alma Ceres; vestro si munere tellus
Chaoniam pingui glandem mutavit arista,
Poculaqu' inventis Acheloia miscuit uvis,
Munera vestra cano."

These gifts, innocent, rich, full of life, exquisitely beautiful in order and grace of growth, I have thought best to symbolize to you, in the series of types of the power of the Greek gods, placed in your educational series, by the blossom of the wild strawberry; which in rising from its trine cluster of trine leaves,—itself as beautiful as a white rose, and always single on its stalk, like an ear of corn, yet with a succeeding blossom at its side, and bearing a fruit which is as distinctly a group of seeds as an ear of corn itself, and yet is the pleasantest to taste of all the pleasant things prepared by nature for the food of men,*—may accurately symbolize, and help you to remember, the conditions of this liberal and delightful, yet entirely modest and orderly, art, and thought.

64. You will find in the fourth of my inaugural lectures, at the 98th paragraph, this statement,—much denied by modern artists and authors, but nevertheless quite unexceptionally true,—that the entire vitality of art depends upon its having for object either to *state a true thing*, or *adorn a serviceable one*. The two functions of art in Italy, in this entirely liberal and virescent phase of it,—virgin art, we may call it, retaining the most literal sense of the words *virga* and *virgo*,—are to manifest the doctrines of a religion which now, for the first time, men had soul enough to understand; and to adorn edifices or dress, with which the completed politeness of daily life might be invested, its convenience completed, and its decorous and honourable pride satisfied.

65. That pride was, among the men who gave its character to the century, in honourableness of private conduct, and useful magnificence of public art. Not of private or domestic art: observe this very particularly.

“Such was the simplicity of private manners,”—(I am now quoting Sismondi, but with the fullest ratification that my knowledge enables me to give,)—“and the economy of the richest citizens, that if a city enjoyed repose only for a few

* I am sorry to pack my sentences together in this confused way. But I have much to say; and cannot always stop to polish or adjust it as I used to do.

years, it doubled its revenues, and found itself, in a sort, encumbered with its riches. The Pisans knew neither of the luxury of the table, nor that of furniture, nor that of a number of servants; yet they were sovereigns of the whole of Sardinia, Corsica, and Elba, had colonies at St. Jean d'Acre and Constantinople, and their merchants in those cities carried on the most extended commerce with the Saracens and Greeks."*

66. "And in that time," (I now give you my own translation of Giovanni Villani,) "the citizens of Florence lived sober, and on coarse meats, and at little cost; and had many customs and playfulnesses which were blunt and rude; and they dressed themselves and their wives with coarse cloth; many wore merely skins, with no lining, and *all* had only leathern buskins; † and the Florentine ladies, plain shoes and stockings with no ornaments; and the best of them were content with a close gown of coarse scarlet of Cyprus, or camlet girded with an old-fashioned clasp-girdle; and a mantle over all, lined with vaire, with a hood above; and that, they threw over their heads. The women of lower rank were dressed in the same manner, with coarse green Cambray cloth; fifty pounds was the ordinary bride's dowry, and a hundred or a hundred and fifty would in those times have been held brilliant, ('isfolgorata,' dazzling, with sense of dissipation or extravagance;) and most maidens were twenty or more before they married. Of such gross customs were then the Florentines; but of good faith, and loyal among themselves and in their state; and in their

* Sismondi; French translation, Brussels, 1838; vol. ii., p. 275.

† I find this note for expansion on the margin of my lecture, but had no time to work it out:—'This lower class should be either barefoot, or have strong shoes—wooden clogs good. Pretty Boulogne sabot with purple stockings. Waterloo Road—little girl with her hair in curlpapers,—a coral necklace round her neck—the neck bare—and her boots of thin stuff, worn out, with her toes coming through, and rags hanging from her heels,—a profoundly accurate type of English national and political life. Your hair in curlpapers—borrowing tongs from every foreign nation, to pinch you into manners. The rich ostentatiously wearing coral about the bare neck; and the poor—cold as the stones, and indecent.'

coarse life, and poverty, did more and braver things than are done in our days with more refinement and riches."

67. I detain you a moment at the words "scarlet of Cyprus, or camlet."

Observe that camelot (camelet) from *καμηλωτή*, camel's skin, is a stuff made of silk and camel's hair originally, afterwards of silk and wool. At Florence, the camel's hair would always have reference to the Baptist, who, as you know, in Lippi's picture, wears the camel's skin itself, made into a Florentine dress, such as Villani has just described, "col tassello sopra," with the hood above. Do you see how important the word "Capulet" is becoming to us, in its main idea?

68. Not in private nor domestic art, therefore, I repeat to you, but in useful magnificence of public art, these citizens expressed their pride:—and that public art divided itself into two branches—civil, occupied upon ethic subjects of sculpture and painting; and religious, occupied upon scriptural or traditional histories, in treatment of which, nevertheless, the nascent power and liberality of thought were apparent, not only in continual amplification and illustration of scriptural story by the artist's own invention, but in the acceptance of profane mythology, as part of the Scripture, or tradition, given by Divine inspiration.

69. Nevertheless, for the provision of things necessary in domestic life, there developed itself, together with the group of inventive artists exercising these nobler functions, a vast body of craftsmen, and, literally, *manufacturers*, workers by hand, who associated themselves, as chance, tradition, or the accessibility of material directed, in towns which thenceforward occupied a leading position in commerce, as producers of a staple of excellent, or perhaps inimitable, quality; and the linen or cambric of Cambray, the lace of Mechlin, the wool of Worstead, and the steel of Milan, implied the tranquil and hereditary skill of multitudes, living in wealthy industry, and humble honour.

70. Among these artisans, the weaver, the ironsmith, the goldsmith, the carpenter, and the mason necessarily took the

principal rank, and on their occupations the more refined arts were wholesomely based, so that the five businesses may be more completely expressed thus:—

The weaver and embroiderer,
 The ironsmith and armourer,
 The goldsmith and jeweller,
 The carpenter and engineer,
 The stonecutter and painter.

You have only once to turn over the leaves of Lionardo's sketch book, in the Ambrosian Library, to see how carpentry is connected with engineering,—the architect was always a stonecutter, and the stonecutter not often practically separate, as yet, from the painter, and never so in general conception of function. You recollect, at a much later period, Kent's description of Cornwall's steward :

“KENT. You cowardly rascal!—nature disclaims in thee, a tailor made thee !

CORNWALL. Thou art a strange fellow—a tailor make a man ?

KENT. Ay, sir ; a stonecutter, or a painter, could not have made him so ill ; though they had been but two hours at the trade.”

71. You may consider then this group of artizans with the merchants, as now forming in each town an important Tiers Etat, or Third State of the people, occupied in service, first, of the ecclesiastics, who in monastic bodies inhabited the cloisters round each church ; and, secondly, of the knights, who, with their retainers, occupied, each family their own fort, in allied defence of their appertaining streets.

72. A Third Estate, indeed ; but adverse alike to both the others, to Montague as to Capulet, when they become disturbers of the public peace ; and having a pride of its own,—hereditary still, but consisting in the inheritance of skill and knowledge rather than of blood,—which expressed the sense of such inheritance by taking its name habitually from the master rather than the sire ; and which, in its natural antagonism to dignities won only by violence, or recorded only by

heraldry, you may think of generally as the race whose bearing is the Apron, instead of the shield.

73. When, however, these two, or in perfect subdivision three, bodies of men, lived in harmony,—the knights remaining true to the State, the clergy to their faith, and the workmen to their craft,—conditions of national force were arrived at, under which all the great art of the middle ages was accomplished. The pride of the knights, the avarice of the priests, and the gradual abasement of character in the craftsman, changing him from a citizen able to wield either tools in peace or weapons in war, to a dull tradesman, forced to pay mercenary troops to defend his shop door, are the direct causes of common ruin towards the close of the sixteenth century.

74. But the deep underlying cause of the decline in national character itself, was the exhaustion of the Christian faith. None of its practical claims were avouched either by reason or experience; and the imagination grew weary of sustaining them in despite of both. Men could not, as their powers of reflection became developed, steadily conceive that the sins of a life might be done away with, by finishing it with Mary's name on the lips; nor could tradition of miracle for ever resist the personal discovery, made by each rude disciple by himself, that he might pray to all the saints for a twelvemonth together, and yet not get what he asked for.

75. The Reformation succeeded in proclaiming that existing Christianity was a lie; but substituted no theory of it which could be more rationally or credibly sustained; and ever since, the religion of educated persons throughout Europe has been dishonest or ineffectual; it is only among the labouring peasantry that the grace of a pure Catholicism, and the patient simplicities of the Puritan, maintain their imaginative dignity, or assert their practical use.

76. The existence of the nobler arts, however, involve the harmonious life and vital faith of the three classes whom we have just distinguished; and that condition exists, more or less disturbed, indeed, by the vices inherent in each class, yet, on the whole, energetically and productively, during the

twelfth, thirteenth, fourteenth, and fifteenth centuries. But our present subject being Architecture only, I will limit your attention altogether to the state of society in the great age of architecture, the thirteenth century. A great age in all ways; but most notably so in the correspondence it presented, up to a just and honourable point, with the utilitarian energy of our own days.

77. The increase of wealth, the safety of industry, and the conception of more convenient furniture of life, to which we must attribute the rise of the entire artist class, were accompanied, in that century, by much enlargement in the conception of useful public works: and—not by *private* enterprise,—that idle persons might get dividends out of the public pocket,—but by *public* enterprise,—each citizen paying down at once his share of what was necessary to accomplish the benefit to the State,—great architectural and engineering efforts were made for the common service. Common, observe; but not, in our present sense, republican. One of the most ludicrous sentences ever written in the blindness of party spirit is that of Sismondi, in which he declares, thinking of these public works only, that ‘the architecture of the thirteenth century is entirely republican.’ The architecture of the thirteenth century is, in the mass of it, simply baronial or ecclesiastical; it is of castles, palaces, or churches; but it is true that splendid civic works were also accomplished by the vigour of the newly risen popular power.

“The canal named Naviglio Grande, which brings the waters of the Ticino to Milan, traversing a distance of thirty miles, was undertaken in 1179, recommenced in 1257, and, soon after, happily terminated; in it still consists the wealth of a vast extent of Lombardy. At the same time the town of Milan rebuilt its walls, which were three miles round, and had sixteen marble gates, of magnificence which might have graced the capital of all Italy. The Genovese, in 1276 and 1283, built their two splendid docks, and the great wall of their quay; and in 1295 finished the noble aqueduct which brings pure and abundant waters to their city from a great distance

among their mountains. There is not a single town in Italy which at the same time did not undertake works of this kind; and while these larger undertakings were in progress, stone bridges were built across the rivers, the streets and piazzas were paved with large slabs of stone, and every free government recognized the duty of providing for the convenience of the citizens." *

78. The necessary consequence of this enthusiasm in useful building, was the formation of a vast body of craftsmen and architects; corresponding in importance to that which the railway, with its associated industry, has developed in modern times, but entirely different in personal character, and relation to the body politic.

Their personal character was founded on the accurate knowledge of their business in all respects; the ease and pleasure of unaffected invention; and the true sense of power to do everything better than it had ever been yet done, coupled with general contentment in life, and in its vigour and skill.

It is impossible to overrate the difference between such a condition of mind, and that of the modern artist, who either does not know his business at all, or knows it only to recognize his own inferiority to every former workman of distinction.

79. Again: the political relation of these artificers to the State was that of a caste entirely separate from the noblesse; † paid for their daily work what was just, and competing with each other to supply the best article they could for the money. And it is, again, impossible to overrate the difference between such a social condition, and that of the artists of to-day, struggling to occupy a position of equality in wealth with the noblesse,—paid irregular and monstrous prices by an entirely ignorant and selfish public; and competing with each other to supply the worst article they can for the money.

* Sismondi, vol. ii. chap. 10.

† The giving of knighthood to Jacopo della Quercia for his lifelong service to Siena was not the elevation of a dexterous workman, but grace to a faithful citizen,

I never saw anything so impudent on the walls of any exhibition, in any country, as last year in London. It was a daub professing to be a "harmony in pink and white" (or some such nonsense;) absolute rubbish, and which had taken about a quarter of an hour to scrawl or daub—it had no pretence to be called painting. The price asked for it was two hundred and fifty guineas.

80. In order to complete your broad view of the elements of social power in the thirteenth century, you have now farther to understand the position of the country people, who maintained by their labour these three classes, whose action you can discern, and whose history you can read; while, of those who maintained them, there is no history, except of the annual ravage of their fields by contending cities or nobles;—and, finally, that of the higher body of merchants, whose influence was already beginning to counterpoise the prestige of noblesse in Florence, and who themselves constituted no small portion of the noblesse of Venice.

The food-producing country was for the most part still possessed by the nobles; some by the ecclesiastics; but a portion, I do not know how large, was in the hands of peasant proprietors, of whom Sismondi gives this, to my mind, completely pleasant and satisfactory, though, to his, very painful, account:—

"They took no interest in public affairs; they had assemblies of their commune at the village in which the church of their parish was situated, and to which they retreated to defend themselves in case of war; they had also magistrates of their own choice; but all their interests appeared to them enclosed in the circle of their own commonality; they did not meddle with general politics, and held it for their point of honour to remain faithful, through all revolutions, to the State of which they formed a part, obeying, without hesitation, its chiefs, whoever they were, and by whatever title they occupied their places."

81. Of the inferior agricultural labourers, employed on the farms of the nobles and richer ecclesiastics, I find nowhere

due notice, nor does any historian seriously examine their manner of life. Liable to every form of robbery and oppression, I yet regard their state as not only morally but physically happier than that of riotous soldiery, or the lower class of artisans, and as the safeguard of every civilized nation, through all its worst vicissitudes of folly and crime. Nature has mercifully appointed that seed must be sown, and sheep folded, whatever lances break, or religions fail; and at this hour, while the streets of Florence and Verona are full of idle politicians, loud of tongue, useless of hand and treacherous of heart, there still may be seen in their market-places, standing, each by his heap of pulse or maize, the grey-haired labourers, silent, serviceable, honourable, keeping faith, untouched by change, to their country and to Heaven.*

82. It is extremely difficult to determine in what degree the feelings or intelligence of this class influenced the architectural design of the thirteenth century;—how far afield the cathedral tower was intended to give delight, and to what simplicity of rustic conception Quercia or Ghiberti appealed by the fascination of their Scripture history. You may at least conceive, at this date, a healthy animation in all men's minds, and the children of the vineyard and sheepcote crowding the city on its festa days, and receiving impulse to busier, if not nobler, education, in its splendour.†

83. The great class of the merchants is more difficult to define; but you may regard them generally as the examples of whatever modes of life might be consistent with peace and justice, in the economy of transfer, as opposed to the military license of pillage.

They represent the gradual ascendancy of foresight, prudence, and order in society, and the first ideas of advantageous national intercourse. Their body is therefore composed of the most intelligent and temperate natures of the time,—

* Compare "Sesame and Lilies," sec. 38, p. 58. (P. 86 of the small edition of 1882.)

† Of detached abbeys, see note on Education of Joan of Arc, "Sesame and Lilies," sec. 82, p. 106. (P. 158 of the small edition of 1882.)

uniting themselves, not directly for the purpose of making money, but to obtain stability for equal institutions, security of property, and pacific relations with neighbouring states. Their guilds form the only representatives of true national council, unaffected, as the landed proprietors were, by merely local circumstances and accidents.

84. The strength of this order, when its own conduct was upright, and its opposition to the military body was not in avaricious cowardice, but in the resolve to compel justice and to secure peace, can only be understood by you after an examination of the great changes in the government of Florence during the thirteenth century, which, among other minor achievements interesting to us, led to that destruction of the Tower of the Death-watch, so ingeniously accomplished by Niccola Pisano. This change, and its results, will be the subject of my next lecture. I must to-day sum, and in some farther degree make clear, the facts already laid before you.

85. We have seen that the inhabitants of every great Italian state may be divided, and that very stringently, into the five classes of knights, priests, merchants, artists, and peasants. No distinction exists between artist and artizan, except that of higher genius or better conduct; the best artist is assuredly also the best artizan; and the simplest workman uses his invention and emotion as well as his fingers. The entire body of artists is under the orders (as shopmen are under the orders of their customers), of the knights, priests, and merchants,—the knights for the most part demanding only fine goldsmiths' work, stout armour, and rude architecture; the priests commanding both the finest architecture and painting, and the richest kinds of decorative dress and jewellery,—while the merchants directed works of public use, and were the best judges of artistic skill. The competition for the Baptistery gates of Florence is before the guild of merchants; nor is their award disputed, even in thought, by any of the candidates.

86. This is surely a fact to be taken much to heart by our present communities of Liverpool and Manchester. They

probably suppose, in their modesty, that lords and clergymen are the proper judges of art, and merchants can only, in the modern phrase, 'know what they like,' or follow humbly the guidance of their golden-crested or flat-capped superiors. But in the great ages of art, neither knight nor pope shows signs of true power of criticism. The artists crouch before them, or quarrel with them, according to their own tempers. To the merchants they submit silently, as to just and capable judges. And look what men these are, who submit. Donatello, Ghiberti, Quercia, Luca! If men like these submit to the merchant, who shall rebel?

87. But the still franker, and surer, judgment of innocent pleasure was awarded them by all classes alike: and the interest of the public was the *final* rule of right,—that public being always eager to see, and earnest to learn. For the stories told by their artists formed, they fully believed, a Book of Life; and every man of real genius took up his function of illustrating the scheme of human morality and salvation, as naturally, and faithfully, as an English mother of to-day giving her children their first lessons in the Bible. In this endeavour to teach they almost unawares taught themselves; the question "How shall I represent this most clearly?" became to themselves, presently, "How was this most likely to have happened?" and habits of fresh and accurate thought thus quickly enlivened the formalities of the Greek pictorial theology; formalities themselves beneficent, because restraining by their severity and mystery the wantonness of the newer life. Foolish modern critics have seen nothing in the Byzantine school but a barbarism to be conquered and forgotten. But that school brought to the art-scholars of the thirteenth century, laws which had been serviceable to Phœnicians and symbols which had been beautiful to Homer: and methods and habits of pictorial scholarship which gave a refinement of manner to the work of the simplest craftsman, and became an education to the higher artists which no discipline of literature can now bestow, developed themselves in the effort to

decipher, and the impulse to re-interpret 'the Eleusinian divinity of Byzantine tradition.

88. The words I have just used, "pictorial scholarship," and "pictorial theology," remind me how strange it must appear to you that in this sketch of the intellectual state of Italy in the thirteenth century I have taken no note of literature itself, nor of the fine art of Music with which it was associated in minstrelsy. The corruption of the meaning of the word "clerk," from "a chosen person" to "a learned one," partly indicates the position of literature in the war between the golden crest and scarlet cap; but in the higher ranks, literature and music became the grace of the noble's life, or the occupation of the monk's, without forming any separate class, or exercising any materially visible political power. Masons or butchers might establish a government,—but never troubadours: and though a good knight held his education to be imperfect unless he could write a sonnet and sing it, he did not esteem his castle to be at the mercy of the "editor" of a manuscript. He might indeed owe his life to the fidelity of a minstrel, or be guided in his policy by the wit of a clown; but he was not the slave of sensual music, or vulgar literature, and never allowed his Saturday reviewer to appear at table without the cock's comb.

89. On the other hand, what was noblest in thought or saying was in those times as little attended to as it is now. I do not feel sure that, even in after times, the poem of Dante has had any political effect on Italy; but at all events, in his life, even at Verona, where he was treated most kindly, he had not half so much influence with Can Grande as the rough Count of Castelbarco, not one of whose words was ever written, or now remains; and whose portrait, by no means that of a man of literary genius, almost disfigures, by its plainness, the otherwise grave and perfect beauty of his tomb.

LECTURE IV.

PARTED PER PALE.

90. THE chart of Italian intellect and policy which I have endeavoured to put into form in the last three lectures, may, I hope, have given you a clear idea of the subordinate, yet partly antagonistic, position which the artist, or merchant,—whom in my present lecture I shall class together,—occupied, with respect to the noble and priest. As an honest labourer, he was opposed to the violence of pillage, and to the folly of pride: as an honest thinker, he was likely to discover any latent absurdity in the stories he had to represent in their nearest likelihood; and to be himself moved strongly by the true meaning of events which he was striving to make ocularly manifest. The painter terrified himself with his own fiends, and reproved or comforted himself by the lips of his own saints, far more profoundly than any verbal preacher; and thus, whether as craftsman or inventor, was likely to be foremost in defending the laws of his city, or directing its reformation.

91. The contest of the craftsman with the pillaging soldier is typically represented by the war of the Lombard League with Frederick II.; and that of the craftsman with the hypocritical priest, by the war of the Pisans with Gregory IX. (1241). But in the present lecture I wish only to fix your attention on the revolutions in Florence, which indicated, thus early, the already established ascendancy of the moral forces which were to put an end to open robber-soldiership; and at least to compel the assertion of some higher principle in war, if not, as in some distant day may be possible, the cessation of war itself.

The most important of these revolutions was virtually that of which I before spoke to you, taking place in mid-thirteenth

century in the year 1250,—a very memorable one for Christendom, and the very crisis of vital change in its methods of economy, and conceptions of art.

92. Observe, first, the exact relations at that time of Christian and Profane Chivalry. St. Louis, in the winter of 1248–9, lay in the Isle of Cyprus, with his crusading army. He had trusted to Providence for provisions; and his army was starving. The profane German Emperor, Frederick II., was at war with Venice, but gave a safe-conduct to the Venetian ships, which enabled them to carry food to Cyprus, and to save St. Louis and his crusaders. Frederick had been for half his life excommunicate,—and the Pope (Innocent IV.) at deadly spiritual and temporal war with him;—spiritually, because he had brought Saracens into Apulia; temporally, because the Pope wanted Apulia for himself. St. Louis and his mother both wrote to Innocent, praying him to be reconciled to the kind heretic who had saved the whole crusading army. But the Pope remained implacably thundrous; and Frederick, weary of quarrel, stayed quiet in one of his Apulian castles for a year. The repose of infidelity is seldom cheerful, unless it be criminal. Frederick had much to repent of, much to regret, nothing to hope, and nothing to do. At the end of his year's quiet he was attacked by dysentery, and so made his final peace with the Pope, and heaven,—aged fifty-six.

93. Meantime St. Louis had gone on into Egypt, had got his army defeated, his brother killed, and himself carried captive. You may be interested in seeing, in the leaf of his psalter which I have laid on the table, the death of that brother set down in golden letters, between the common letters of ultramarine, on the eighth of February.

94. Providence, defied by Frederick, and trusted in by St. Louis, made such arrangements for them both; Providence not in anywise regarding the opinions of either king, but very much regarding the facts, that the one had no business in Egypt, nor the other in Apulia.

No two kings, in the history of the world, could have been happier, or more useful, than these two might have been, if

they only had had the sense to stay in their own capitals, and attend to their own affairs. But they seem only to have been born to show what grievous results, under the power of discontented imagination, a Christian could achieve by faith, and a philosopher by reason.*

95. The death of Frederick II. virtually ended the soldier power in Florence; and the mercantile power assumed the authority it thenceforward held, until, in the hands of the Medici, it destroyed the city.

We will now trace the course and effects of the three revolutions which closed the reign of War, and crowned the power of Peace.

96. In the year 1248, while St. Louis was in Cyprus, I told you Frederick was at war with Venice. He was so because she stood, if not as the leader, at least as the most important ally, of the great Lombard mercantile league against the German military power.

That league consisted essentially of Venice, Milan, Bologna, and Genoa, in alliance with the Pope; the Imperial or Ghibelline towns were, Padua and Verona under Ezzelin; Mantua, Pisa, and Siena. I do not name the minor towns of north Italy which associated themselves with each party: get only the main localities of the contest well into your minds. It was all concentrated in the furious hostility of Genoa and Pisa; Genoa fighting really very piously for the Pope, as well as for herself; Pisa for her own hand, and for the Emperor as much as suited her. The mad little sea falcon never caught sight of another water bird on the wing, but she must hawk at it; and as an ally of the Emperor, balanced Venice and Genoa with her single strength. And so it came to pass that the victory of either the Guelph or Ghibelline party depended on the final action of Florence.

* It must not be thought that this is said in disregard of the nobleness of either of these two glorious Kings. Among the many designs of past years, one of my favorites was to write a life of Frederick II. But I hope that both his, and that of Henry II. of England, will soon be written now, by a man who loves them as well as I do, and knows them far better.

97. Florence meanwhile was fighting with herself, for her own amusement. She was nominally at the head of the Guelphic League in Tuscany; but this only meant that she hated Siena and Pisa, her southern and western neighbours. She had never declared openly against the Emperor. On the contrary, she always recognized his authority, in an imaginative manner, as representing that of the Cæsars. She spent her own energy chiefly in street-fighting,—the death of Buondelmonti in 1215 having been the root of a series of quarrels among her nobles which gradually took the form of contests of honour; and were a kind of accidental tournaments, fought to the death, because they could not be exciting or dignified enough on any other condition. And thus the manner of life came to be customary, which you have accurately, with its consequences, pictured by Shakspeare. Samson bites his thumb at Abraham, and presently the streets are impassable in battle. The quarrel in the Canongate between the Leslies and Seytons, in Scott's 'Abbot,' represents the same temper; and marks also, what Shakspeare did not so distinctly, because it would have interfered with the domestic character of his play, the connection of these private quarrels with political divisions which paralyzed the entire body of the State.—Yet these political schisms, in the earlier days of Italy, never reached the bitterness of Scottish feud,* because they were never so sincere. Protestant and Catholic Scotsmen faithfully believed each other to be servants of the devil; but the Guelph and Ghibelline of Florence each respected, in the other, the fidelity to the Emperor, or piety towards the Pope, which he found it convenient, for the time, to dispense with in his own person. The street fighting was therefore more general, more chivalric, more good-humoured; a word of offence set all the noblesse of the town on fire; every one rallied to his post; fighting began at once in half a dozen places of recognized convenience, but ended in the evening; and, on the

* Distinguish always the personal from the religious feud; personal feud is more treacherous and violent in Italy than in Scotland; but not the political or religious feud, unless involved with vast material interests.

following day, the leaders determined in contended truce who had fought best, buried their dead triumphantly, and better fortified any weak points, which the events of the previous day had exposed at their palace corners. Florentine dispute was apt to centre itself about the gate of St. Peter,* the tower of the cathedral, or the fortress-palace of the Uberti, (the family of Dante's Bellincion Berti and of Farinata), which occupied the site of the present Palazzo Vecchio. But the streets of Siena seem to have afforded better barricade practice. They are as steep as they are narrow—extremely both; and the projecting stones on their palace fronts, which were left, in building, to sustain, on occasion, the barricade beams across the streets, are to this day important features in their architecture.

98. Such being the general state of matters in Florence, in this year 1248, Frederick writes to the Uberti, who headed the Ghibellines, to engage them in serious effort to bring the city distinctly to the Imperial side. He was besieging Parma; and sent his natural son, Frederick, king of Antioch, with sixteen hundred German knights, to give the Ghibellines assured preponderance in the next quarrel.

The Uberti took arms before their arrival; rallied all their Ghibelline friends into a united body, and so attacked and carried the Guelph barricades, one by one, till their antagonists, driven together by local defeat, stood in consistency as complete as their own, by the gate of St. Peter, 'Scheraggio.' Young Frederick, with his German riders, arrived at this crisis; the Ghibellines opening the gates to him; the Guelphs, nevertheless, fought at their outmost barricade for four days more; but at last, tired, withdrew from the city, in a body, on the night of Candlemas, 2nd February, 1248; leaving the Ghibellines and their German friends to work their pleasure,—who immediately set themselves to throw down the Guelph palaces, and destroyed six-and-thirty of them, towers and all, with the good help of Niccola Pisano,—for this is the occasion of that beautiful piece of new engineering of his.

* Sismondi, vol. ii., chap. ii.; G. Villani, vi., 33.

99. It is the first interference of the Germans in Florentine affairs which belongs to the real cycle of modern history. Six hundred years later, a troop of German riders entered Florence again, to restore its Grand Duke; and our warm-hearted and loving English poetess, looking on from Casa Guidi windows, gives the said Germans many hard words, and thinks her darling Florentines entirely innocent in the matter. But if she had had clear eyes, (*yeux de lin** the Romance of the Rose calls them,) she would have seen that white-coated cavalry with its heavy guns to be nothing more than the rear-guard of young Frederick of Antioch; and that Florence's own Ghibellines had opened her gates to them. Destiny little regards cost of time; she does her justice at that telescopic distance just as easily and accurately as close at hand.

100. "Frederick of *Antioch*." Note the titular coincidence. The disciples were called Christians first in Antioch; here we have our lieutenant of Antichrist also named from that town. The anti-Christian Germans got into Florence upon Sunday morning; the Guelphs fought on till Wednesday, which was Candlemas;—the Tower of the Death-watch was thrown down next day. It was so called because it stood on the Piazza of St. John; and all dying people in Florence called on St. John for help; and looked, if it might be, to the top of this highest and best-built of towers. The wicked anti-Christian Ghibellines, Nicholas of Pisa helping, cut the side of it "so that the tower might fall on the Baptistery. But as it pleased God, for better reverencing of the blessed St. John, the tower, which was a hundred and eighty feet high, as it was coming down, plainly appeared to eschew the holy church, and turned aside, and fell right across the square; at which all the Florentines marvelled, (pious or impious), and the *people* (anti-Ghibelline) were greatly delighted."

101. I have no doubt that this story is apocryphal, not only in its attribution of these religious scruples to the falling tower; but in its accusation of the Ghibellines as having defi-

* Lynx.

nately intended the destruction of the Baptistery. It is only modern reformers who feel the absolute need of enforcing their religious opinions in so practical a manner. Such a piece of sacrilege would have been revolting to Farinata; how much more to the group of Florentines whose temper is centrally represented by Dante's, to all of whom their "bel San Giovanni" was dear, at least for its beauty, if not for its sanctity. And Niccola himself was too good a workman to become the instrument of the destruction of so noble a work,—not to insist on the extreme probability that he was also too good an engineer to have had his purpose, if once fixed, thwarted by any tenderness in the conscience of the collapsing tower. The tradition itself probably arose after the rage of the exiled Ghibellines had half consented to the destruction, on political grounds, of Florence itself; but the form it took is of extreme historical value, indicating thus early at least the suspected existence of passions like those of the Cromwellian or Garibaldian soldiery in the Florentine noble; and the distinct character of the Ghibelline party as not only anti-Papal, but profane.

102. Upon the castles, and the persons of their antagonists, however, the pride, or fear, of the Ghibellines had little mercy; and in their day of triumph they provoked against themselves nearly every rational as well as religious person in the commonwealth. They despised too much the force of the newly-risen popular power, founded on economy, sobriety, and common sense; and, alike by impertinence and pillage, increased the irritation of the civil body; until, as aforesaid, on the 20th October, 1250, all the rich burgesses of Florence took arms; met in the square before the church of Santa Croce, ("where," says Sismondi, "the republic of the dead is still assembled to-day,") thence traversed the city to the palace of the Ghibelline podesta; forced him to resign; named Uberto of Lucca in his place, under the title of Captain of the People; divided themselves into twenty companies, each, in its own district of the city, having its captain* and standard;

* 'Corporal,' literally.

and elected a council of twelve ancients, constituting a seniory or signoria, to deliberate on and direct public affairs.

103. What a perfectly beautiful republican movement! thinks Sismondi, seeing, in all this, nothing but the energy of a multitude; and entirely ignoring the peculiar capacity of this Florentine mob,—capacity of two virtues, much forgotten by modern republicanism,—order, namely; and obedience; together with the peculiar instinct of this Florentine multitude, which not only felt itself to need captains, but knew where to find them.

104. Hubert of Lucca—How came they, think you, to choose *him* out of a stranger city, and that a poorer one than their own? Was there no Florentine then, of all this rich and eager crowd, who was fit to govern Florence?

I cannot find any account of this Hubert, Bright mind, of Ducca; Villani says simply of him, “Fu il primo capitano di Firenze.”

They hung a bell for him in the Campanile of the Lion, and gave him the flag of Florence to bear; and before the day was over, that 20th of October, he had given every one of the twenty companies their flags also. And the bearings of the said gonfalons were these. I will give you this heraldry as far as I can make it out from Villani; it will be very useful to us afterwards; I leave the Italian when I cannot translate it:—

105. A. Sesto, (sixth part of the city,) of the other side of Arno.

Gonfalon 1. Gules; a ladder, argent.

2. Argent; a scourge, sable.

3. Azure; (una piazza bianca con nicchi vermigli).

4. Gules; a dragon, vert.

B. Sesto of St. Peter Scheraggio.

1. Azure; a chariot, or.

2. Or; a bull, sable.

3. Argent; a lion rampant, sable.

4. (A lively piece, “pezza gagliarda”) Barry of (how many?) pieces, argent and sable,

You may as well note at once of this kind of bearing, called ‘gagliarda’ by Villani, that these groups of piles, pales, bends, and bars, were called in English heraldry ‘Restrial bearings,’ “in respect of their strength and solid substance, which is able to abide the stresse and force of any triall they shall be put unto.”* And also that, the number of bars being uncertain, I assume the bearing to be ‘barry,’ that is, having an even number of bars; had it been odd, as of seven bars, it should have been blazoned, argent; three bars, sable; or, if so divided, sable, three bars argent.

This lively bearing was St. Pulinari’s.

C. Sesto of Borgo.

1. Or; a viper, vert.
2. Argent; a needle, (?) (aguglia) sable.
3. Vert; a horse unbridled; draped, argent, a cross, gules.

D. Sesto of St. Brancazio.

1. Vert; a lion rampant, proper.
2. Argent; a lion rampant, gules.
3. Azure; a lion rampant, argent.

E. Sesto of the Cathedral gates.

1. Azure; a lion (passant?) or.
2. Or; a dragon, vert.
3. Argent; a lion rampant, azure, crowned, or.

F. Sesto of St. Peter’s gates.

1. Or; two keys, gules.
2. An Italian (or more definitely a Greek and Etruscan bearing; I do not know how to blazon it;) concentric bands, argent and sable. This is one of the remains of the Greek expressions of storm; hail, or the Trinacrian limbs, being put on the giant’s shields also. It is connected besides with the Cretan labyrinth, and the circles of the Inferno.

* Guillim, sect. ii., chap. 3.

3. Parted per fesse, gules and vai (I don't know if vai means grey—not a proper heraldic colour—or vaire).

106. Of course Hubert of Lucca did not determine these bearings, but took them as he found them, and appointed them for standards;* he did the same for all the country parishes, and ordered them to come into the city at need. “And in this manner the old people of Florence ordered itself; and for more strength of the people, they ordered and began to build the palace which is behind the Badia,—that is to say, the one which is of dressed stone, with the tower; for before there was no palace of the commune in Florence, but the signory abode sometimes in one part of the town, sometimes in another.

107. “And as the people had now taken state and signory on themselves, they ordered, for greater strength of the people, that all the towers of Florence—and there were many 180 feet high †—should be cut down to 75 feet, and no more; and so it was done, and with the stones of them they walled the city on the other side Arno.”

108. That last sentence is a significant one. Here is the central expression of the true burgess or townsman temper,—resolute maintenance of fortified peace. These are the walls which modern republicanism throws down, to make boulevards over their ruins.

109. Such new order being taken, Florence remained quiet for—full two months. On the 13th of December, in the same year, died the Emperor Frederick II.; news of his death did not reach Florence till the 7th January, 1251. It had chanced, according to Villani, that on the actual day of his death, his Florentine vice-regent, Rinieri of Montemerlo, was killed by a piece of the vaulting ‡ of his room falling on him as he slept. And when the people heard of the Emperor's death, “which was most useful and needful for Holy Church, and

* We will examine afterwards the heraldry of the trades, chap. xi., Villani.

† 120 braccia.

‡ “Una volta ch' era sopra la camera.”

for our commune," they took the fall of the roof on his lieutenant as an omen of the extinction of Imperial authority, and resolved to bring home all their Guelphic exiles, and that the Ghibellines should be forced to make peace with them. Which was done, and the peace really lasted for full six months; when, a quarrel chancing with Ghibelline Pistoja, the Florentines, under a Milanese podesta, fought their first properly communal and commercial battle, with great slaughter of Pistoiese. Naturally enough, but very unwisely, the Florentine Ghibellines declined to take part in this battle; whereupon the people, returning flushed with victory, drove them all out, and established pure Guelph government in Florence, changing at the same time the flag of the city from gules, a lily argent, to argent, a lily gules; but the most ancient bearing of all, simply parted per pale, argent and gules, remained always on their carroccio of battle,—“Non si muto mai.”

110. “Non si muto mai.” Villani did not know how true his words were. That old shield of Florence, parted per pale, argent and gules, (or our own Saxon Oswald's, parted per pale, or and purple,) are heraldry changeless in sign; declaring the necessary balance, in ruling men, of the Rational and Imaginative powers; pure Alp, and glowing cloud.

Church and State—Pope and Emperor—Clergy and Laity,—all these are partial, accidental—too often, criminal—oppositions; but the bodily and spiritual elements, seemingly adverse, remain in everlasting harmony.

Not less the new bearing of the shield, the red fleur-de-lys, has another meaning. It is red, not as ecclesiastical, but as free. Not of Guelph against Ghibelline, but of Labourer against Knight. No more his serf, but his minister. His duty no more ‘servitium,’ but ‘ministerium,’ ‘mestier.’ We learn the power of word after word, as of sign after sign, as we follow the traces of this nascent art. I have sketched for you this lily from the base of the tower of Giotto. You may judge by the subjects of the sculpture beside it that it was built just in this fit of commercial triumph; for all the outer bas-reliefs are of trades.

111. Draw that red lily then, and fix it in your minds as the sign of the great change in the temper of Florence, and in her laws, in mid-thirteenth century; and remember also, when you go to Florence and see that mighty tower of the Palazzo Vecchio (noble still, in spite of the calamitous and accursed restorations which have smoothed its rugged outline, and effaced with modern vulgarisms its lovely sculpture)—terminating the shadowy perspectives of the Uffizii, or dominant over the city seen from Fésóle or Bellosguardo,—that, as the tower of Giotto is the notablest monument in the world of the Religion of Europe, so, on this tower of the Palazzo Vecchio, first shook itself to the winds the Lily standard of her liberal,—because honest,—commerce.

LECTURE V.

PAX VOBISCUM.

112. MY last lecture ended with a sentence which I thought, myself, rather pretty, and quite fit for a popular newspaper, about the 'lily standard of liberal commerce.' But it might occur, and I hope did occur, to some of you, that it would have been more appropriate if the lily had changed colour the other way, from red to white, (instead of white to red,) as a sign of a pacific constitution and kindly national purpose.

113. I believe otherwise, however; and although the change itself was for the sake of change merely, you may see in it, I think, one of the historical coincidences which contain true instruction for us.

Quite one of the chiefest art-mistakes and stupidities of men has been their tendency to dress soldiers in red clothes, and monks, or pacific persons, in black, white, or grey ones. At least half of that mental bias of young people, which sustains the wickedness of war among us at this day, is owing to the prettiness of uniforms. Make all Hussars black, all Guards black, all troops of the line black; dress officers and men, alike, as you would public executioners; and the number of candidates for commissions will be greatly diminished. Habitually, on the contrary, you dress these destructive rustics and *their* officers in scarlet and gold, but give your productive rustics no costume of honour or beauty; you give your peaceful student a costume which he tucks up to his waist, because he is ashamed of it; and dress your pious rectors, and your sisters of charity, in black, as if it were *their* trade instead of the soldier's to send people to hell, and their own destiny to arrive there.

114. But the investiture of the lily of Florence with scarlet is a symbol,—unintentional, observe, but not the less notable,

—of the recovery of human sense and intelligence in this matter. The reign of war was past; this was the sign of it; —the red glow, not now of the Towers of Dis, but of the Carita, “*ehe appena fora dentro al fuoco nota.*” And a day is coming, be assured, when the kings of Europe will dress their peaceful troops beautifully; will clothe their peasant girls “in scarlet, with other delights,” and “put on ornaments of gold upon *their* apparel;” when the crocus and the lily will not be the only living things dressed daintily in our land, and the glory of the wisest monarchs be indeed, in that their people, like themselves, shall be, at least in some dim likeness, “arrayed like one of these.”

115. But as for the immediate behaviour of Florence herself, with her new standard, its colour was quite sufficiently significant in that old symbolism, when the first restrial bearing was drawn by dying fingers dipped in blood. The Guelphic revolution had put her into definite political opposition with her nearest, and therefore,—according to the custom and Christianity of the time,—her hatefullest, neighbours,—Pistoja, Pisa, Siena, and Volterra. What glory might not be acquired, what kind purposes answered, by making pacific mercantile states also of those benighted towns! Besides, the death of the Emperor had thrown his party everywhere into discouragement; and what was the use of a flag which flew no farther than over the new palazzo?

116. Accordingly, in the next year, the pacific Florentines began by ravaging the territory of Pistoja; then attacked the Pisans at Pontadera, and took 3000 prisoners; and finished by traversing, and eating up all that could be ate in, the country of Siena; besides beating the Sienese under the castle of Montalcino. Returning in triumph after these benevolent operations, they resolved to strike a new piece of money in memory of them,—the golden Florin!

117. This coin I have placed in your room of study, to be the first of the series of coins which I hope to arrange for you, not chronologically, but for the various interest, whether as regards art or history, which they should possess in your

general studies. "The Florin of Florence," (says Sismondi), "through all the monetary revolutions of all neighbouring countries, and while the bad faith of governments adulterated their coin from one end of Europe to the other, has always remained the same; it is, to-day," (I don't know when, exactly, he wrote this,—but it doesn't matter), "of the same weight, and bears the same name and the same stamp, which it did when it was struck in 1252." It was gold of the purest title (24 carats), weighed the eighth of an ounce, and carried, as you see, on one side the image of St. John Baptist, on the other the Fleur-de-lys. It is the coin which Chaucer takes for the best representation of beautiful money in the Pardoner's Tale: this, in his judgment, is the fairest mask of Death. Villani's relation of its moral and commercial effect at Tunis is worth translating, being in the substance of it, I doubt not, true.

118. "And these new florins beginning to scatter through the world, some of them got to Tunis, in Barbary; and the King of Tunis, who was a worthy and wise lord, was greatly pleased with them, and had them tested; and finding them of fine gold, he praised them much, and had the legend on them interpreted to him,—to wit, on one side 'St. John Baptist,' on the other 'Florentia.' So seeing they were pieces of Christian money, he sent for the Pisan merchants, who were free of his port, and much before the King (and also the Florentines traded in Tunis through Pisan agents),—[see these hot little Pisans, how they are first everywhere,]—and asked of them what city it was among the Christians which made the said florins. And the Pisans answered in spite and envy, 'They are our land Arabs.' The King answered wisely, "It does not appear to me Arab's money; you Pisans, what golden money have *you* got?" Then they were confused, and knew not what to answer. So he asked if there was any Florentine among them. And there was found a merchant from the other-side-Arno, by name Peter Balducci, discreet and wise. The King asked him of the state and being of Florence, of which the Pisans made their Arabs,—who answered him

wisely, showing the power and magnificence of Florence; and how Pisa, in comparison, was not, either in land or people, the half of Florence; and that they had no golden money; and that the gold of which those florins had been made was gained by the Florentines above and beyond them, by many victories. Wherefore the said Pisans were put to shame, and the King, both by reason of the florin, and for the words of our wise citizen, made the Florentines free, and appointed for them their own Fondaco, and church, in Tunis, and gave them privileges like the Pisans. And this we know for a truth from the same Peter, having been in company with him at the office of the Priors."

119. I cannot tell you what the value of the piece was at this time: the sentence with which Sismondi concludes his account of it being only useful as an example of the total ignorance of the laws of currency in which many even of the best educated persons at the present day remain.

"Its value," he says always the same, "answers to eleven francs forty centimes of France."

But all that can be scientifically said of any piece of money is that it contains a given weight of a given metal. Its value in other coins, other metals, or other general produce, varies not only from day to day, but from instant to instant.

120. With this coin of Florence ought in justice to be ranked the Venetian zecchin; * but of it I can only thus give you account in another place,—for I must at once go on now to tell you the first use I find recorded, as being made by the Florentines of their new money.

They pursued in the years 1253 and 1254 their energetic promulgation of peace. They ravaged the lands of Pistoja so often, that the Pistojesse submitted themselves, on condition of receiving back their Guelph exiles, and admitting a Florentine garrison into Pistoja. Next they attacked Monte Reggione, the March-fortress of the Sienese; and pressed it

* In connection with the Pisans' insulting intention by their term of Arabs, remember that the Venetian 'zecca,' (mint) came from the Arabic 'sehk,' the steel die used in coinage.

so vigorously that Siena was fain to make peace too, on condition of ceasing her alliance with the Ghibellines. Next they ravaged the territory of Volterra: the townspeople, confident in the strength of their rock fortress, came out to give battle; the Florentines beat them up the hill, and entered the town gates with the fugitives.

121. And, for note to this sentence, in my long-since-read volume of Sismondi, I find a cross-fleury at the bottom of the page, with the date 1254 underneath it; meaning that I was to remember that year as the beginning of Christian warfare. For little as you may think it, and grotesquely opposed as this ravaging of their neighbours' territories may seem to their pacific mission, this Florentine army is fighting in absolute good faith. Partly self-deceived, indeed, by their own ambition, and by their fiery natures, rejoicing in the excitement of battle, they have nevertheless, in this their "year of victories,"—so they ever afterwards called it,—no occult or malignant purpose. At least, whatever is occult or malignant is also unconscious; not now in cruel, but in kindly jealousy of their neighbours, and in a true desire to communicate and extend to them the privileges of their own new artizan government, the Trades of Florence have taken arms. They are justly proud of themselves; rightly assured of the wisdom of the change they have made; true to each other for the time, and confident in the future. No army ever fought in better cause, or with more united heart. And accordingly they meet with no check, and commit no error; from tower to tower of the field fortresses,—from gate to gate of the great cities,—they march in one continuous and daily more splendid triumph, yet in gentle and perfect discipline; and now, when they have entered Volterra with her fugitives, after stress of battle, not a drop of blood is shed, nor a single house pillaged, nor is any other condition of peace required than the exile of the Ghibelline nobles. You may remember, as a symbol of the influence of Christianity in this result, that the Bishop of Volterra, with his clergy, came out in procession to meet them

as they began to run * the streets, and obtained this mercy; else the old habits of pillage would have prevailed.

122. And from Volterra, the Florentine army entered on the territory of Pisa; and now with so high prestige, that the Pisans at once sent ambassadors to them with keys in their hands, in token of submission. And the Florentines made peace with them, on condition that the Pisans should let the Florentine merchandize pass in and out without tax;—should use the same weights as Florence,—the same cloth measure,—and the same alloy of money.

123. You see that Mr. Adam Smith was not altogether the originator of the idea of free trade; and six hundred years have passed without bringing Europe generally to the degree of mercantile intelligence, as to weights and currency, which Florence had in her year of victories.

The Pisans broke this peace two years afterwards, to help the Emperor Manfred; whereupon the Florentines attacked them instantly again; defeated them on the Serchio, near Lucca; entered the Pisan territory by the Val di Serchio; and there, cutting down a great pine tree, struck their florins on the stump of it, putting, for memory, under the feet of the St. John, a trefoil “in guise of a little tree.” And note here the difference between artistic and mechanical coinage. The Florentines, using pure gold, and thin, can strike their coin anywhere, with only a wooden anvil, and their engraver is ready on the instant to make such change in the stamp as may record any new triumph. Consider the vigour, popularity, pleasantness of an art of coinage thus ductile to events, and easy in manipulation.

124. It is to be observed also that a thin gold coinage like that of the English angel, and these Italian zecchins, is both more convenient and prettier than the massive gold of the Greeks, often so small that it drops through the fingers, and, if of any size, inconveniently large in value.

125. It was in the following year, 1255, that the Florentines

* “Corsona la citta senza contesto niuno.”—*Villani*.

made the noblest use of their newly struck florins, so far as I know, ever recorded in any history; and a Florentine citizen made as noble refusal of them. You will find the two stories in Giovanni Villani, Book 6th, chapters 61, 62. One or two important facts are added by Sismondi, but without references. I take his statement as on the whole trustworthy, using Villani's authority wherever it reaches; one or two points I have farther to explain to you myself as I go on.

126. The first tale shows very curiously the mercenary and independent character of warfare, as it now was carried on by the great chiefs, whether Guelph or Ghibelline. The Florentines wanted to send a troop of five hundred horse to assist Orvieto, a Guelph town, isolated on its rock, and at present harassed upon it. They gave command of this troop to the Knight Guido Guerra de' Conti Guidi, and he and his riders set out for Orvieto by the Umbrian road, through Arezzo, which was at peace with Florence, though a Ghibelline town. The Guelph party within the town asked help from the passing Florentine battalion; and Guido Guerra, without any authority for such action, used the troop of which he was in command in their favour, and drove out the Ghibellines. Sismondi does not notice what is quite one of the main points in the matter, that this troop of horse must have been mainly composed of Count Guido's own retainers, and not of Florentine citizens, who would not have cared to leave their business on such a far-off quest as this help to Orvieto. However, Arezzo is thus brought over to the Florentine interest; and any other Italian state would have been sure, while it disclaimed the Count's independent action, to keep the advantage of it. Not so Florence. She is entirely resolved, in these years of victory, to do justice to all men so far as she understands it; and in this case it will give her some trouble to do it, and worse,—cost her some of her fine new florins. For her countermandate is quite powerless with Guido Guerra. He has taken Arezzo mainly with his own men, and means to stay there, thinking that the Florentines, if even they do not abet him, will take no practical steps against him. But he does not know

this newly risen clan of military merchants, who quite clearly understand what honesty means, and will put themselves out of their way to keep their faith. Florence calls out her trades instantly, and with gules, a dragon vert, and or, a bull sable, they march, themselves, angrily up the Val d'Arno, replace the adverse Ghibellines in Arezzo, and send Master Guido de' Conti Guido about his business. But the prettiest and most curious part of the whole story is their equity even to him, after he had given them all this trouble. They entirely recognize the need he is under of getting meat, somehow, for the mouths of these five hundred riders of his; also they hold him still their friend, though an unmanageable one; and admit with praise what of more or less patriotic and Guelphic principle may be at the root of his disobedience. So when he claims twelve thousand lire,—roughly, some two thousand pounds of money at present value,—from the Guelphs of Arezzo for his service, and the Guelphs, having got no good of it, owing to this Florentine interference, object to paying him, the Florentines themselves lend them the money,—and are never paid a farthing of it back.

127. There is a beautiful “investment of capital” for your modern merchant to study! No interest thought of, and little hope of ever getting back the principal. And yet you will find that there were no mercantile “panics,” in Florence in those days, nor failing bankers,* nor “clearings out of this establishment—any reasonable offer accepted.”

128. But the second story, of a private Florentine citizen, is better still.

In that campaign against Pisa in which the florins were struck on the root of pine, the conditions of peace had been ratified by the surrender to Florence of the Pisan fortress of Mutrona, which commanded a tract of seaboard below Pisa, of great importance for the Tuscan trade. The Florentines had stipulated for the right not only of holding, but of de-

* Some account of the state of modern British business in this kind will be given, I hope, in some number of “Fors Clavigera” for this year, 1874.

stroying it, if they chose; and in their Council of Ancients, after long debate, it was determined to raze it, the cost of its garrison being troublesome, and the freedom of seaboard all that the city wanted. But the Pisans feeling the power that the fortress had against them in case of future war, and doubtful of the issue of council at Florence, sent a private negotiator to the member of the Council of Ancients who was known to have most influence, though one of the poorest of them, Aldobrandino Ottobuoni; and offered him four thousand golden florins if he would get the vote passed to raze Mutrona. The vote *had* passed the evening before. Aldobrandino dismissed the Pisan ambassador in silence, returned instantly into the council, and without saying anything of the offer that had been made to him, got them to reconsider their vote, and showed them such reason for keeping Mutrona in its strength, that the vote for its destruction was rescinded. "And note thou, O reader," says Villani, "the virtue of such a citizen, who, not being rich in substance, had yet such continence and loyalty for his state."

129. You might, perhaps, once, have thought me detaining you needlessly with these historical details, little bearing, it is commonly supposed, on the subject of art. But you are, I trust, now in some degree persuaded that no art, Florentine or any other, can be understood without knowing these sculptures and mouldings of the national soul. You remember I first begun this large digression when it became a question with us why some of Giovanni Pisano's sepulchral work had been destroyed at Perugia. And now we shall get our first gleam of light on the matter, finding similar operations carried on in Florence. For a little while after this speech in the Council of Ancients, Aldobrandino died, and the people, at public cost, built him a tomb of marble, "higher than any other" in the church of Santa Reparata, engraving on it these verses, which I leave you to construe, for I cannot:—

Fons est supremus Aldobrandino amoenus,
Ottoboni natus, a bono civita datus.

Only I suppose the pretty word 'amoenus' may be taken as marking the delightfulness and sweetness of character which had won all men's love, more, even, than their gratitude.

130. It failed of its effect, however, on the Tuscan aristocratic mind. For, when, after the battle of the Arbia, the Ghibellines had again their own way in Florence, though Ottobuoni had been then dead three years, they beat down his tomb, pulled the dead body out of it, dragged it—by such tenure as it might still possess—through the city, and threw the fragments of it into ditches. It is a memorable parallel to the treatment of the body of Cromwell by our own Cavaliers; and indeed it seems to me one of the highest forms of laudatory epitaph upon a man, that his body should be thus torn from its rest. For he can hardly have spent his life better than in drawing on himself the kind of enmity which can so be gratified; and for the most loving of lawgivers, as of princes, the most enviable and honourable epitaph has always been

“οἰδὲ πολῖται αὐτῶν ἐμίβουν αὐτὸν.”

131. Not but that pacific Florence, in her pride of victory, was beginning to show unamiableness of temper also, on her so equitable side. It is perhaps worth noticing, for the sake of the name of Correggio, that in 1257, when Matthew Correggio, of Parma, was the Podesta of Florence, the Florentines determined to destroy the castle and walls of Poggibonzi, suspected of Ghibelline tendency, though the Poggibonzi people came with “corege in collo,” leathern straps round their necks, to ask that their cattle might be spared. And the heartburnings between the two parties went on, smouldering hotter and hotter, till July, 1258, when the people having discovered secret dealings between the Uberti and the Emperor Manfred, and the Uberti refusing to obey citation to the popular tribunals, the trades ran to arms, attacked the Uberti palace, killed a number of their people, took prisoner, Uberto of the Uberti, Hubert of the Huberts, or Bright-mind of the

Bright-minds, with ‘Mangia degl’ Infangati, (‘Gobbler* of the dirty ones’ this knight’s name sounds like,)—and after they had confessed their guilt, beheaded them in St. Michael’s corn-market; and all the rest of the Uberti and Ghibelline families were driven out of Florence, and their palaces pulled down, and the walls towards Siena built with the stones of them; and two months afterwards, the people suspecting the Abbot of Vallombrosa of treating with the Ghibellines, took him, and tortured him; and he confessing under torture, “at the cry of the people, they beheaded him in the square of St. Apollinare.” For which unexpected piece of clangorous impiety the Florentines were excommunicated, besides drawing upon themselves the steady enmity of Pavia, the Abbot’s native town; “and indeed people say the Abbot was innocent, though he belonged to a great Ghibelline house. And for this sin, and for many others done by the wicked people, many wise persons say that God, for Divine judgment, permitted upon the said people the revenge and slaughter of Monteperti.”

132. The sentence which I have last read introduces, as you must at once have felt, a new condition of things. Generally, I have spoken of the Ghibellines as infidel, or impious; and for the most part they represent, indeed, the resistance of kingly to priestly power. But, in this action of Florence, we have the rise of another force against the Church, in the end to be much more fatal to it, that of popular intelligence and popular passion. I must for the present, however, return to our immediate business; and ask you to take note of the effect, on actually existing Florentine architecture, of the political movements of the ten years we have been studying.

133. In the revolution of Candlemas, 1248, the successful Ghibellines throw down thirty-six of the Guelph palaces.

And in the revolution of July, 1258, the successful Guelphs throw down *all* the Ghibelline palaces.

* At least, the compound ‘Mangia-pane,’ ‘munch-bread,’ stands still for a good-for-nothing fellow.

Meantime the trades, as against the Knights Castellans, have thrown down the tops of all the towers above seventy-five feet high.

And we shall presently have a proposal, after the battle of the Arbia, to throw down Florence altogether.

134. You think at first that this is remarkably like the course of republican reformations in the present day? But there is a wide difference. In the first place, the palaces and towers are not thrown down in mere spite or desire of ruin, but after quite definite experience of their danger to the State, and positive dejection of boiling lead and wooden logs from their machicolations upon the heads below. In the second place, nothing is thrown down without complete certainty on the part of the overthrowers that they are able, and willing, to build as good or better things instead; which, if any like conviction exist in the minds of modern republicans, is a wofully ill-founded one: and lastly, these abolitions of private wealth were coincident with a widely spreading disposition to undertake, as I have above noticed, works of public utility, *from which no dividends were to be received by any of the shareholders*; and for the execution of which *the builders received no commission on the cost*, but payment at the rate of so much a day, carefully adjusted to the exertion of real power and intelligence.

135. We must not, therefore, without qualification blame, though we may profoundly regret, the destructive passions of the thirteenth century. The architecture of the palaces thus destroyed in Florence contained examples of the most beautiful round-arched work that had been developed by the Norman schools; and was in some cases adorned with a barbaric splendour, and fitted into a majesty of strength which, so far as I can conjecture the effect of it from the few now existing traces, must have presented some of the most impressive aspects of street edifice ever existent among civil societies.

136. It may be a temporary relief for you from the confusion of following the giddy successions of Florentine temper, if I interrupt, in this place, my history of the city by some

inquiry into technical points relating to the architecture of these destroyed palaces. Their style is familiar to us, indeed, in a building of which it is difficult to believe the early date,—the leaning tower of Pisa. The lower stories of it are of the twelfth century, and the open arcades of the cathedrals of Pisa and Lucca, as well as the lighter construction of the spire of St. Niccol, at Pisa, (though this was built in continuation of the older style by Niccola himself,) all represent to you, though in enriched condition, the general manner of building in palaces of the Norman period in Val d'Arno. That of the Tosinghi, above the old market in Florence, is especially mentioned by Villani, as more than a hundred feet in height, entirely built with little pillars, (colonnelli,) of marble. On their splendid masonry was founded the exquisiteness of that which immediately succeeded them, of which the date is fixed by definite examples both in Verona and Florence, and which still exists in noble masses in the retired streets and courts of either city; too soon superseded, in the great thoroughfares, by the effeminate and monotonous luxury of Venetian renaissance, or by the heaps of quarried stone which rise into the ruggedness of their native cliffs, in the Pitti and Strozzi palaces.

LECTURE VI.

MARBLE COUCHANT.

137. I TOLD you in my last lecture that the exquisiteness of Florentine thirteenth century masonry was founded on the strength and splendour of that which preceded it.

I use the word 'founded' in a literal as well as figurative sense. While the merchants, in their year of victories, threw down the walls of the war-towers, they as eagerly and diligently set their best craftsmen to lift higher the walls of their churches. For the most part, the Early Norman or Basilican forms were too low to please them in their present enthusiasm. Their pride, as well as their piety, desired that these stones of their temples might be goodly; and all kinds of junctions, insertions, refittings, and elevations were undertaken; which, the genius of the people being always for mosaic, are so perfectly executed, and mix up twelfth and thirteenth century work in such intricate harlequinade, that it is enough to drive a poor antiquary wild.

138. I have here in my hand, however, a photograph of a small church, which shows you the change at a glance, and attests it in a notable manner.

You know Hubert of Lucca was the first captain of the Florentine people, and the march in which they struck their florin on the pine trunk was through Lucca, on Pisa.

Now here is a little church in Lucca, of which the lower half of the façade is of the twelfth century, and the top, built by the Florentines, in the thirteenth, and sealed for their own by two fleur-de-lys, let into its masonry. The most important difference, marking the date, is in the sculpture of the heads which carry the archivolts. But the most palpable difference is in the Cyclopean simplicity of irregular bedding in the lower story; and the delicate bands of alternate serpentine

and marble, which follow the horizontal or couchant placing of the stones above.

139. Those of you who, interested in English Gothic, have visited Tuscany, are, I think, always offended at first, if not in permanence, by these horizontal stripes of her marble walls. Twenty-two years ago I quoted, in vol. i. of the "Stones of Venice," Professor Willis's statement that "a practice more destructive of architectural grandeur could hardly be conceived;" and I defended my favourite buildings against that judgment, first by actual comparison in the plate opposite the page, of a piece of them with an example of our modern grandeur; secondly, (vol. i. chap. v.,) by a comparison of their aspect with that of the building of the grandest piece of wall in the Alps,—that Matterhorn in which you all have now learned to take some gymnastic interest; and thirdly, (vol. i., chap. xxvi.,) by reference to the use of barred colours, with delight, by Giotto and all subsequent colourists.

140. But it did not then occur to me to ask, much as I always disliked the English Perpendicular, what would have been the effect on the spectator's mind, had the buildings been striped vertically instead of horizontally; nor did I then know, or in the least imagine, how much *practical* need there was for reference from the structure of the edifice to that of the cliff; and how much the permanence, as well as propriety, of structure depended on the stones being *couchant* in the wall, as they had been in the quarry: to which subject I wish to-day to direct your attention.

141. You will find stated with as much clearness as I am able, in the first and fifth lectures in "Aratra Pentelici," the principles of architectural design to which, in all my future teaching, I shall have constantly to appeal; namely, that architecture consists distinctively in the adaptation of form to resist force;—that, practically, it may be always thought of as doing this by the ingenious adjustment of various pieces of solid material; that the perception of this ingenious adjustment, or structure, is to be always joined with our admiration of the superadded ornament; and that all delightful ornament is the

honouring of such useful structures ; but that the beauty of the ornament itself is independent of the structure, and arrived at by powers of mind of a very different class from those which are necessary to give skill in architecture proper.

142. During the course of this last summer I have been myself very directly interested in some of the quite elementary processes of true architecture. I have been building a little pier into Coniston Lake, and various walls and terraces in a steeply sloping garden, all which had to be constructed of such rough stones as lay nearest. Under the dextrous hands of a neighbour farmer's son, the pier projected, and the walls rose, as if enchanted ; every stone taking its proper place, and the loose dyke holding itself as firmly upright as if the gripping cement of the Florentine towers had fastened it. My own better acquaintance with the laws of gravity and of statics did not enable me, myself, to build six inches of dyke that would stand ; and all the decoration possible under the circumstances consisted in turning the lichened sides of the stones outwards. And yet the noblest conditions of building in the world are nothing more than the gradual adornment, by play of the imagination, of materials first arranged by this natural instinct of adjustment. You must not lose sight of the instinct of building, but you must not think the play of the imagination depends upon it. Intelligent laying of stones is always delightful ; but the fancy must not be limited to its contemplation.

143. In the more elaborate architecture of my neighbourhood, I have taken pleasure these many years ; one of the first papers I ever wrote on architecture was a study of the Westmoreland cottage ;—properly, observe, the cottage of Westmere-land, of the land of western lakes. Its principal feature is the projecting porch at its door, formed by two rough slabs of Coniston slate, set in a blunt gable ; supported, if far projecting, by two larger masses for uprights. A disciple of Mr. Pugin would delightedly observe that the porch of St. Zeno at Verona was nothing more than the decoration of this construction ; but you do not suppose that the first idea of put-



PLATE V.—DOOR OF THE BAPTISTERY. PISA.

ting two stones together to keep off rain was all on which the sculptor of St. Zeno wished to depend for your entertainment.

144. Perhaps you may most clearly understand the real connection between structure and decoration by considering all architecture as a kind of book, which must be properly bound indeed, and in which the illumination of the pages has distinct reference in all its forms to the breadth of the margins and length of the sentences; but is itself free to follow its own quite separate and higher objects of design.

145. Thus, for instance, in the architecture which Niccola was occupied upon, when a boy, under his Byzantine master. Here is the door of the Baptistery at Pisa, again by Mr. Severn delightfully enlarged for us from a photograph.* The general idea of it is a square-headed opening in a solid wall, faced by an arch carried on shafts. And the ornament does indeed follow this construction so that the eye catches it with ease,—but under what arbitrary conditions! In the square door, certainly the side-posts of it are as important members as the lintel they carry; but the lintel is carved elaborately, and the side-posts left blank. Of the facing arch and shaft, it would be similarly difficult to say whether the sustaining vertical, or sustained curve, were the more important member of the construction; but the decorator now reverses the distribution of his care, adorns the vertical member with passionate elaboration, and runs a narrow band, of comparatively uninteresting work, round the arch. Between this outer shaft and inner door is a square pilaster, of which the architect carves one side, and lets the other alone. It is followed by a smaller shaft and arch, in which he reverses his treatment of the outer order by cutting the shaft delicately and the arch deeply. Again, whereas in what is called the decorated construction of English Gothic, the pillars would have been left plain and the spandrils deep cut,—here, are we to call it decoration of the construction, when the pillars are carved and the spandrils

* Plate 5 is from the photograph itself; the enlarged drawing showed the arrangement of parts more clearly, but necessarily omitted detail which it is better here to retain.

left plain? Or when, finally, either these spandril spaces on each side of the arch, or the corresponding slopes of the gable, are loaded with recumbent figures by the sculptors of the renaissance, are we to call, for instance, Michael Angelo's Dawn and Twilight, only the decorations of the sloping plinths of a tomb, or trace to a geometrical propriety the subsequent rule in Italy that no window could be properly complete for living people to look out of, without having two stone people sitting on the corners of it above? I have heard of charming young ladies occasionally, at very crowded balls, sitting on the stairs, —would you call them, in that case, only decorations of the construction of the staircase?

146. You will find, on consideration, the ultimate fact to be that to which I have just referred you;—my statement in "Aratra," that the idea of a construction originally useful is retained in good architecture, through all the amusement of its ornamentation; as the idea of the proper function of any piece of dress ought to be retained through its changes in form or embroidery. A good spire or porch retains the first idea of a roof usefully covering a space, as a Norman high cap or elongated Quaker's bonnet retains the original idea of a simple covering for the head; and any extravagance of subsequent fancy may be permitted, so long as the notion of use is not altogether lost. A girl begins by wearing a plain round hat to shade her from the sun; she ties it down over her ears on a windy day; presently she decorates the edge of it, so bent, with flowers in front, or the riband that ties it with a bouquet at the side, and it becomes a bonnet. This decorated construction may be discreetly changed, by endless fashion, so long as it does not become a clearly useless riband round the middle of the head, or a clearly useless saucer on the top of it.

147. Again, a Norman peasant may throw up the top of her cap into a peak, or a Bernese one put gauze wings at the side of it, and still be dressed with propriety, so long as her hair is modestly confined, and her ears healthily protected, by the matronly safeguard of the real construction. She ceases to be



PLATE IX.—THE CHARGE TO ADAM. MODERN ITALIAN.



PLATE VI.—THE STORY OF ST. JOHN. ADVENT.

decorously dressed only when the material becomes too flimsy to answer such essential purpose, and the flaunting pendants or ribands can only answer the ends of coquetry or ostentation. Similarly, an architect may deepen or enlarge, in fantastic exaggeration, his original Westmoreland gable into Rouen porch, and his original square roof into Coventry spire; but he must not put within his splendid porch, a little door where two persons cannot together get in, nor cut his spire away into hollow filigree, and mere ornamental perviousness to wind and rain.

148. Returning to our door at Pisa, we shall find these general questions as to the distribution of ornament much confused with others as to its time and style. We are at once, for instance, brought to a pause as to the degree in which the ornamentation was once carried out in the doors themselves. Their surfaces were, however, I doubt not, once recipients of the most elaborate ornament, as in the Baptistery of Florence; and in later bronze, by John of Bologna, in the door of the Pisan cathedral opposite this one. And when we examine the sculpture and placing of the lintel, which at first appeared the most completely Greek piece of construction of the whole, we find it so far advanced in many Gothic characters, that I once thought it a later interpolation cutting the inner pilasters underneath their capitals, while the three statues set on it are certainly, by several tens of years, later still.

149. How much ten years did at this time, one is apt to forget; and how irregularly the slower minds of the older men would surrender themselves, sadly, or awkwardly, to the vivacities of their pupils. The only wonder is that it should be usually so easy to assign conjectural dates within twenty or thirty years; but, at Pisa, the currents of tradition and invention run with such cross eddies, that I often find myself utterly at fault. In this lintel, for instance, there are two pieces separated by a narrower one, on which there has been an inscription, of which in my enlarged plate you may trace, though, I fear, not decipher, the few letters that remain. The uppermost of these stones is nearly pure in its Byzantine style; the lower, already semi-Gothic. Both are exquisite of their

kind, and we will examine them closely; but first note these points about the stones of them. We are discussing work at latest of the thirteenth century. Our loss of the inscription is evidently owing to the action of the iron rivets which have been causelessly used at the two horizontal joints. There was nothing whatever in the construction to make these essential, and, but for this error, the entire piece of work, as delicate as an ivory tablet, would be as intelligible to-day as when it was laid in its place.*

150. *Laid*. I pause upon this word, for it is an important one. And I must devote the rest of this lecture to consideration merely of what follows from the difference between laying a stone and setting it up, whether we regard sculpture or construction. The subject is so wide, I scarcely know how to approach it. Perhaps it will be the pleasantest way to begin if I read you a letter from one of yourselves to me. A very favourite pupil, who travels third class always, for sake of better company, wrote to me the other day: "One of my fellow-travellers, who was a builder, or else a master mason, told me that the way in which red sandstone buildings last depends entirely on the way in which the stone is laid. It must lie as it does in the quarry; but he said that very few workmen could always tell the difference between the joints of planes of cleavage and the—something else which I couldn't catch,—by which he meant, I suppose, planes of stratification. He said too that some people, though they were very particular about having the stone laid well, allowed blocks to stand in the rain the wrong way up, and that they never recovered one wetting. The stone of the same quarry varies much, and he said that moss will grow immediately on good stone, but not on bad. How curious,—nature helping the best workman!" Thus far my favourite pupil.

151. 'Moss will grow on the best stone.' The first thing your modern restorer would do is to scrape it off; and with it,

* Plates 6 and 7 give, in greater clearness, the sculpture of this lintel, for notes on which see Appendix.

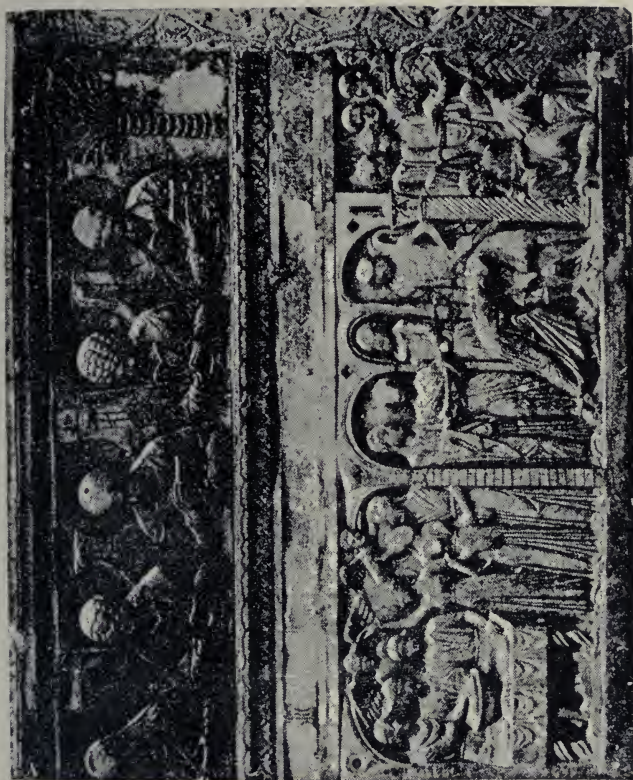


PLATE VII.—THE STORY OF ST. JOHN. DEPARTURE.

whatever knitted surface, half moss root, protects the interior stone. Have you ever considered the infinite functions of protection to mountain form exercised by the mosses and lichens? It will perhaps be refreshing to you after our work among the Pisan marbles and legends, if we have a lecture or two on moss. Meantime I need not tell you that it would not be a satisfactory natural arrangement if moss grew on marble, and that all fine workmanship in marble implies equal exquisiteness of surface and edge.

152. You will observe also that the importance of laying the stone in the building as it lay in its bed was from the first recognised by all good northern architects, to such extent that to lay stones 'en delit,' or in a position out of their bedding, is a recognised architectural term in France, where all structural building takes its rise; and in that form of 'delit' the word gets most curiously involved with the Latin delictum and deliquium. It would occupy the time of a whole lecture if I entered into the confused relations of the words derived from lectus, liquidus, delinquo, diliquo, and deliquesco; and of the still more confused, but beautifully confused, (and enriched by confusion,) forms of idea, whether respecting morality or marble, arising out of the meanings of these words: the notions of a bed gathered or strewn for the rest, whether of rocks or men; of the various states of solidity and liquidity connected with strength, or with repose; and of the duty of staying quiet in a place, or under a law, and the mischief of leaving it, being all fastened in the minds of early builders, and of the generations of men for whom they built, by the unescapable bearing of geological laws on their life; by the ease or difficulty of splitting rocks, by the variable consistency of the fragments split, by the innumerable questions occurring practically as to bedding and cleavage in every kind of stone, from tufo to granite, and by the unseemly or beautiful, destructive or protective, effects of decomposition.* The

* This passage cannot but seem to the reader loose and fantastic. I have elaborate notes, and many an unwritten thought, on these matters, but no

same processes of time which causes your Oxford oolite to flake away like the leaves of a mouldering book, only warm with a glow of perpetually deepening gold the marbles of Athens and Verona; and the same laws of chemical change which reduce the granites of Dartmoor to porcelain clay, bind the sands of Coventry into stones which can be built up half-way to the sky.

153. But now, as to the matter immediately before us, observe what a double question arises about laying stones as they lie in the quarry. First, how *do* they lie in the quarry? Secondly, how can we lay them so in every part of our building?

A. How do they lie in the quarry? Level, perhaps, at Stonesfield and Coventry; but at an angle of 45° at Carrara; and for aught I know, of 90° in Paros or Pentelicus. Also, the *bedding* is of prime importance at Coventry, but the *cleavage* at Coniston.*

B. And then, even if we know what the quarry bedding is, how are we to keep it always in our building? You may lay the stones of a wall carefully level, but how will you lay those of an arch? You think these, perhaps, trivial, or merely curious questions. So far from it, the fact that while the bedding in Normandy is level, that at Carrara is steep, and that the forces which raised the beds of Carrara crystallized them also, so that the cleavage which is all-important in the stones of my garden wall is of none in the duomo of Pisa,—simply determined the possibility of the existence of Pisan sculpture at

time or strength to develop them. The passage is not fantastic, but the rapid index of what I know to be true in all the named particulars. But compare, for mere rough illustration of what I mean, the moral ideas relating to the stone of Jacob's pillow, or the tradition of it, with those to which French Flamboyant Gothic owes its character.

* There are at least four definite cleavages at Coniston, besides joints. One of these cleavages furnishes the Coniston slate of commerce; another forms the ranges of Wetherlam and Yewdale crag; a third cuts these ranges to pieces, striking from north-west to south-east; and a fourth into other pieces, from north-east to south-west.

all, and regulated the whole life and genius of Nicholas the Pisan and of Christian art. And, again, the fact that you can put stones in true bedding in a wall, but cannot in an arch, determines the structural transition from classical to Gothic architecture.

154. The *structural* transition, observe; only a part, and that not altogether a coincident part, of the *moral* transition. Read carefully, if you have time, the articles 'Pierre' and 'Meneau' in M. Violet le Duc's Dictionary of Architecture, and you will know everything that is of importance in the changes dependent on the mere qualities of *matter*. I must, however, try to set in your view also the relative acting qualities of *mind*.

You will find that M. Violet le Duc traces all the forms of Gothic tracery to the geometrical and practically serviceable development of the stone 'chassis,' chasing, or frame, for the glass. For instance, he attributes the use of the cusp or 'redent' in its more complex forms, to the necessity, or convenience, of diminishing the space of glass which the tracery grasps; and he attributes the reductions of the mouldings in the tracery bar under portions of one section, to the greater facility thus obtained by the architect in directing his workmen. The plan of a window once given, and the moulding-section,—all is said, thinks M. Violet le Duc. Very convenient indeed, for modern architects who have commission on the cost. But certainly not necessary, and perhaps even *inconvenient*, to Niccola Pisano, who is himself his workman, and cuts his own traceries, with his apron loaded with dust.

155. Again, the *redent*—the 'tooth within tooth' of a French tracery—may be necessary, to bite its glass. But the cusp, *cuspis*, spiny or spearlike point of a thirteenth century illumination, is not in the least necessary to transfix the parchment. Yet do you suppose that the structural convenience of the *redent* entirely effaces from the mind of the designer the æsthetic characters which he seeks in the cusp? If you could for an instant imagine this, you would be undeceived by a

glance either at the early redents of Amiens, fringing hollow vaults, or the late redents of Rouen, acting as crockets on the *outer* edges of pediments.

156. Again: if you think of the tracery in its *bars*, you call the cusp a redent; but if you think of it in the *openings*, you call the apertures of it foils. Do you suppose that the thirteenth century builder thought only of the strength of the bars of his enclosure, and never of the beauty of the form he enclosed? You will find in my chapter on the Aperture, in the "Stones of Venice," full development of the æsthetic laws relating to both these forms, while you may see, in Professor Willis's 'Architecture of the Middle Ages,' a beautiful analysis of the development of tracery from the juxtaposition of aperture; and in the article 'Meneau,' just quoted of M. Violet le Duc, an equally beautiful analysis of its development from the masonry of the chassis. You may at first think that Professor Willis's analysis is inconsistent with M. Violet le Duc's. But they are no more inconsistent than the accounts of the growth of a human being would be, if given by two anatomists, of whom one had examined only the skeleton, and the other only the respiratory system; and who, therefore, supposed—the first, that the animal had been made only to leap, and the other only to sing. I don't mean that either of the writers I name are absolutely thus narrow in their own views, but that, so far as inconsistency appears to exist between them, it is of that partial kind only.

157. And for the understanding of our Pisan traceries we must introduce a third element of similarly distinctive nature. We must, to press our simile a little farther, examine the growth of the animal as if it had been made neither to leap, nor to sing, but only to think. We must observe the transitional states of its nerve power; that is to say, in our window tracery we must consider not merely how its ribs are built, (or how it *stands*,) nor merely how its openings are shaped, or how it *breathes*; but also what its openings are made to light, or its shafts to receive, of picture or image. As the

limbs of the building, it may be much; as the lungs of the building, more. As the *eyes** of the building, what?

158. Thus you probably have a distinct idea—those of you at least who are interested in architecture—of the shape of the windows in Westminster Abbey, in the Cathedral of Chartres, or in the Duomo of Milan. Can any of you, I should like to know, make a guess at the shape of the windows in the Sistine Chapel, the Stanze of the Vatican, the Scuola di San Rocco, or the lower church of Assisi? The soul or anima of the first three buildings is in their windows; but of the last three, in their walls.

All these points I may for the present leave you to think over for yourselves, except one, to which I must ask yet for a few moments your further attention.

159. The trefoils to which I have called your attention in Niccola's pulpit are as absolutely without structural office in the circles as in the panels of the font beside it. But the circles are drawn with evident delight in the lovely circular line, while the trefoil is struck out by Niccola so roughly that there is not a true compass curve or section in any part of it.

Roughly, I say. Do you suppose I ought to have said carelessly? So far from it, that if one sharper line or more geometric curve had been given, it would have caught the eye too strongly, and drawn away the attention from the sculpture. But imagine the feeling with which a French master workman would first see these clumsy intersections of curves. It would be exactly the sensation with which a practical botanical draughtsman would look at a foliage background of Sir Joshua Reynolds.

But Sir Joshua's sketched leaves would indeed imply some unworkmanlike haste. We must not yet assume the Pisan master to have allowed himself in any such. His mouldings may be hastily cut, for they are, as I have just said, unneces-

* I am ashamed to italicize so many words; but these passages, written for oral delivery, can only be understood if read with oral emphasis. This is the first series of lectures which I have printed as they were to be spoken; and it is a great mistake,

sary to his structure, and disadvantageous to his decoration ; but he is not likely to be careless about arrangements necessary for strength. His mouldings may be cut hastily, but do you think his *joints* will be?

160. What subject of extended inquiry have we in this word, ranging from the cementless clefts between the couchant stones of the walls of the kings of Rome, whose iron rivets you had but the other day placed in your hands by their discoverer, through the grip of the stones of the Tower of the Death-watch, to the subtle joints in the marble armour of the Florentine Baptistery !

Our own work must certainly be left with a rough surface at this place, and we will fit the edges of it to our next piece of study as closely as we may.



PLATE VIII. — "THE CHARGE TO ADAM." GIOVANNI PISANO.

LECTURE VII.

MARBLE RAMPANT.

161. I CLOSED my last lecture at the question respecting Nicholas's masonry. His mouldings may be careless, but do you think his joints will be?

I must remind you now of the expression as to the building of the communal palace—"of *dressed* stones" *—as opposed to the Tower of the Death-watch, in which the grip of cement had been so good. Virtually, you will find that the schools of structural architecture are those which use cement to bind their materials together, and in which, therefore, balance of *weight* becomes a continual and inevitable question. But the schools of sculptural architecture are those in which stones are fitted without cement,—in which, therefore, the question of *fitting* or adjustment is continual and inevitable, but the sustainable weight practically unlimited.

162. You may consider the Tower of the Death-watch as having been knit together like the mass of a Roman brick wall.

But the dressed stone work of the thirteenth century is the hereditary completion of such block-laying, as the Parthenon in marble; or, in tufo, as that which was shown you so lately

* "Pietre conce." The portion of the bas-reliefs of Orvieto, given in the opposite plate, will show the importance of the jointing. Observe the way in which the piece of stone with the three principal figures is dovetailed above the extended band, and again in the rise above the joint of the next stone on the right, the sculpture of the wings being carried across the junction. I have chosen this piece on purpose, because the loss of the broken fragment, probably broken by violence, and the only serious injury which the sculptures have received, serves to show the perfection of the uninjured surface, as compared with northern sculpture of the same date. I have thought it well to show at the same time the modern German engraving of the subject, respecting which see Appendix.

in the walls of Romulus; and the decoration of that system of couchant stone is by the finished grace of mosaic or sculpture.

163. It was also pointed out to you by Mr. Parker that there were two forms of Cyclopean architecture; one of level blocks, the other of polygonal,—contemporary, but in localities affording different material of stone.

I have placed in this frame examples of the Cyclopean horizontal, and the Cyclopean polygonal, architecture of the thirteenth century. And as Hubert of Lucca was the master of the new buildings at Florence, I have chosen the Cyclopean horizontal from his native city of Lucca; and as our Nicholas and John brought their new Gothic style into practice at Orvieto, I have chosen the Cyclopean polygonal from their adopted city of Orvieto.

Both these examples of architecture are early thirteenth century work, the beginnings of its new and Christian style, but beginnings with which Nicholas and John had nothing to do; they were part of the national work going on round them.

164. And this example from Lucca is of a very important class indeed. It is from above the east entrance gate of Lucca, which bears the cross above it, as the doors of a Christian city should. Such a city is, or ought to be, a place of peace, as much as any monastery.

This custom of placing the cross above the gate is Byzantine-Christian; and here are parallel instances of its treatment from Assisi. The lamb with the cross is given in the more elaborate arch of Verona.

165. But farther. The mosaic of this cross is so exquisitely fitted that no injury has been received by it to this day from wind or weather. And the horizontal dressed stones are laid so daintily that not an edge of them has stirred; and, both to draw your attention to their beautiful fitting, and as a substitute for cement, the architect cuts his uppermost block so as to dovetail into the course below.

Dovetail, I say deliberately. This is stone carpentry, in

which the carpenter despises glue. I don't say he won't use glue, and glue of the best, but he feels it to be a nasty thing, and that it spoils his wood or marble. None, at least, he determines shall be seen outside, and his laying of stones shall be so solid and so adjusted that, take all the cement away, his wall shall yet stand.

Stonehenge, the Parthenon, the walls of the Kings, this gate of Lucca, this window of Orvieto, and this tomb at Verona, are all built on the Cyclopean principle. They will stand without cement, and no cement shall be seen outside. Mr. Burgess and I actually tried the experiment on this tomb. Mr. Burgess modelled every stone of it in clay, put them together, and it stood.

166. Now there are two most notable characteristics about this Cyclopean architecture to which I beg your close attention.

The first: that as the laying of stones is so beautiful, their joints become a subject of admiration, and great part of the architectural ornamentation is in the beauty of lines of separation, drawn as finely as possible. Thus the separating lines of the bricks at Siena, of this gate at Lucca, of the vault at Verona, of this window at Orvieto, and of the contemporary refectory at Furness Abbey, are a main source of the pleasure you have in the building. Nay, they are not merely engravers' lines, but, in finest practice, they are mathematical lines—length without breadth. Here in my hand is a little shaft of Florentine mosaic executed at the present day. The separations between the stones are, in dimension, mathematical lines. And the two sides of the thirteenth century porch of St. Anastasia at Verona are built in this manner,—so exquisitely, that for some time, my mind not having been set at it, I passed them by as painted!

167. That is the first character of the Florentine Cyclopean. But secondly; as the joints are so firm, and as the building must never stir or settle after it is built, the sculptor may trust his work to two stones set side by side, or one above another, and carve continuously over the whole surface, disregarding the joints, if he so chooses.

Of the degree of precision with which Nicholas of Pisa and his son adjusted their stones, you may judge by this rough sketch of a piece of St. Mary's of the Thorn, in which the design is of panels enclosing very delicately sculptured heads; and one would naturally suppose that the enclosing panels would be made of jointed pieces, and the heads carved separately and inserted. But the Pisans would have considered that unsafe masonry,—liable to the accident of the heads being dropped out, or taken away. John of Pisa did indeed use such masonry, of necessity, in his fountain; and the bas-reliefs *have* been taken away. But here one great block of marble forms part of two panels, and the mouldings and head are both carved in the solid, the joint running just behind the neck.

168. Such masonry is, indeed, supposing there were no fear of thieves, gratuitously precise in a case of this kind, in which the ornamentation is in separate masses, and might be separately carved. But when the ornamentation is current, and flows or climbs along the stone in the manner of waves or plants, the concealment of the joints of the pieces of marble becomes altogether essential. And here we enter upon a most curious group of associated characters in Gothic as opposed to Greek architecture.

169. If you have been able to read the article to which I referred you, 'Meneau,' in M. Violet le Duc's dictionary, you know that one great condition of the perfect Gothic structure is that the stones shall be 'en de-lit,' set up on end. The ornament then, which on the reposing or couchant stone was current only, on the erected stone begins to climb also, and becomes, in the most heraldic sense of the term, rampant.

In the heraldic sense, I say, as distinguished from the still wider original sense of advancing with a stealthy, creeping, or clinging motion, as a serpent on the ground, and a cat, or a vine, up a tree-stem. And there is one of these reptile, creeping, or rampant things, which is the first whose action was translated into marble, and otherwise is of boundless importance in the arts and labours of man.

170. You recollect Kingsley's expression,—now hackneyed,

because admired for its precision,—the ‘crawling foam,’ of waves advancing on sand. Tennyson has somewhere also used, with equal truth, the epithet ‘climbing’ of the spray of breakers against vertical rock.* In either instance, the sea action is literally ‘rampant’; and the course of a great breaker, whether in its first proud likeness to a rearing horse, or in the humble and subdued gaining of the outmost verge of its foam on the sand, or the intermediate spiral whorl which gathers into a lustrous precision, like that of a polished shell, the grasping force of a giant, you have the most vivid sight and embodiment of literally rampant energy; which the Greeks expressed in their symbolic Poseidon, Scylla, and sea-horse, by the head and crest of the man, dog, or horse, with the body of the serpent; and of which you will find the slower image, in vegetation, rendered both by the spiral tendrils of grasping or climbing plants, and the perennial gaining of the foam or the lichen upon barren shores of stone.

171. If you will look to the thirtieth chapter of vol. i. in the new edition of the “Stones of Venice,” which, by the gift of its publishers, I am enabled to lay on your table to be placed in your library, you will find one of my first and most eager statements of the necessity of inequality or change in form, made against the common misunderstanding of Greek symmetry, and illustrated by a woodcut of the spiral ornament on the treasury of Atreus at Mycenae. All that is said in that chapter respecting nature and the ideal, I now beg most earnestly to recommend and ratify to you; but although, even at that time, I knew more of Greek art than my antagonists, my broken reading has given me no conception of the range of its symbolic power, nor of the function of that more or less formal spiral line, as expressive, not only of the waves of the sea, but of the zones of the whirlpool, the return of the tempest, and the involution of the labyrinth. And although my readers say that I wrote then better than I write now, I cannot

* Perhaps I am thinking of Lowell, not Tennyson; I have not time to look.

refer you to the passage without asking you to pardon in it what I now hold to be the petulance and vulgarity of expression, disgracing the importance of the truth it contains. A little while ago, without displeasure, you permitted me to delay you by the account of a dispute on a matter of taste between my father and me, in which he was quietly and unavailingly right. It seems to me scarcely a day, since, with boyish conceit, I resisted his wise entreaties that I would re-word this clause; and especially take out of it the descriptive of a sea-wave as "laying a great white tablecloth of foam" all the way to the shore. Now, after an interval of twenty years, I refer you to the passage, repentant and humble as far as regards its style, which people sometimes praised, but with absolute re-assertion of the truth and value of its contents, which people always denied. As natural form is varied, so must beautiful ornament be varied. You are not an artist by re-proving nature into deathful sameness, but by animating your copy of her into vital variation. But I thought at that time that only Goths were rightly changeful. I never thought Greeks were. Their reserved variation escaped me, or I thought it accidental. Here, however, is a coin of the finest Greek workmanship, which shows you their mind in this matter unmistakably. Here are the waves of the Adriatic round a knight of Tarentum, and there is no doubt of their variableness.

172. This pattern of sea-wave, or river whirlpool, entirely sacred in the Greek mind, and the *βόστρυχος* or similarly curling wave in flowing hair, are the two main sources of the spiral form in lambent or rampant decoration. Of such lambent ornament, the most important piece is the crocket, of which I rapidly set before you the origin.

173. Here is a drawing of the gable of the bishop's throne in the upper church at Assisi, of the exact period when the mosaic workers of the thirteenth century at Rome adopted rudely the masonry of the north. Briefly, this is a Greek temple pediment, in which, doubtful of their power to carve figures beautiful enough, they cut a trefoiled hold for ornament, and bordered the edges with harlequinade of mosaic.

They then call to their help the Greek sea-waves, and let the surf of the Ægean climb along the slopes, and toss itself at the top into a fleur-de-lys. Every wave is varied in outline and proportionate distance, though cut with a precision of curve like that of the sea itself. From this root we are able—but it must be in a lecture on crockets only—to trace the succeeding changes through the curl of Richard II.'s hair, and the crisp leaves of the forests of Picardy, to the knobbed extravagances of expiring Gothic. But I must to-day let you compare one piece of perfect Gothic work with the perfect Greek.

174. There is no question in my own mind, and, I believe, none in that of any other long-practised student of mediæval art, that in pure structural Gothic the church of St. Urbain at Troyes is without rival in Europe. Here is a rude sketch of its use of the crocket in the spandrils of its external tracery, and here are the waves of the Greek sea round the son of Poseidon. Seventeen hundred years are between them, but the same mind is in both. I wonder how many times seventeen hundred years Mr. Darwin will ask, to retrace the Greek designer of this into his primitive ape; or how many times six hundred years of such improvements as *we* have made on the church of St. Urbain, will be needed in order to enable our descendants to regard the designers of that, as only primitive apes.

175. I return for a moment to my gable at Assisi. You see that the crest of the waves at the top form a rude likeness of a fleur-de-lys. There is, however, in this form no real intention of imitating a flower, any more than the meeting of the tails of these two Etruscan griffins. The notable circumstance in this piece of Gothic is its advanced form of crocket, and its prominent foliation, with nothing in the least approaching to floral ornament.

176. And now, observe this very curious fact in the personal character of two contemporary artists. See the use of my manually graspable flag. Here is John of Pisa,—here Giotto. They are contemporary for twenty years;—but these

are the prime of Giotto's life, and the last of John's life: virtually, Giotto is the later workman by full twenty years.

But Giotto always uses severe geometrical mouldings, and disdains all luxuriance of leafage to set off interior sculpture.

John of Pisa not only adopts Gothic tracery, but first allows himself enthusiastic use of rampant vegetation;—and here in the façade of Orvieto, you have not only perfect Gothic in the sentiment of Scripture history, but such luxurious ivy ornamentation as you cannot afterwards match for two hundred years. Nay, you can scarcely match it then—for grace of line, only in the richest flamboyant of France.

177. Now this fact would set you, if you looked at art from its æsthetic side only, at once to find out what German artists had taught Giovanni Pisano. There *were* Germans teaching him,—some teaching him many things; and the intense conceit of the modern German artist imagines them to have taught him all things.

But he learnt his luxuriance, and Giotto his severity, in another school. The quality in both is Greek; and altogether moral. The grace and the redundance of Giovanni are the first strong manifestation of those characters in the Italian mind which culminate in the Madonnas of Luini and the arabesques of Raphael. The severity of Giotto belongs to him, on the contrary, not only as one of the strongest practical men who ever lived on this solid earth, but as the purest and firmest reformer of the discipline of the Christian Church, of whose writings any remains exist.

178. Of whose writings, I say; and you look up, as doubtful that he has left any. Hieroglyphics, then, let me say instead; or, more accurately still, hieroglyphics. St. Francis, in what he wrote and said, taught much that was false. But Giotto, his true disciple, nothing but what was true. And where *he* uses an arabesque of foliage, depend upon it it will be to purpose—not redundant. I return for the time to our soft and luxuriant John of Pisa.

179. Soft, but with no unmanly softness; luxuriant, but with no unmannered luxury. To him you owe as to their

first sire in art, the grace of Ghiberti, the tenderness of Raphael, the awe of Michael Angelo. Second-rate qualities in all the three, but precious in their kind, and learned, as you shall see, essentially from this man. Second-rate he also, but with most notable gifts of this inferior kind. He is the Canova of the thirteenth century; but the Canova of the thirteenth, remember, was necessarily a very different person from the Canova of the eighteenth.

The Canova of the eighteenth century mimicked Greek grace for the delight of modern revolutionary sensualists. The Canova of the thirteenth century brought living Gothic truth into the living faith of his own time.

Greek truth, and Gothic 'liberty,'—in that noble sense of the word, derived from the Latin 'liber,' of which I have already spoken, and which in my next lecture I will endeavour completely to develope. Meanwhile let me show you, as far as I can, the architecture itself about which these subtle questions arise.

180. Here are five frames, containing the best representations I can get for you of the façade of the cathedral of Orvieto. I must remind you, before I let you look at them, of the reason why that cathedral was built; for I have at last got to the end of the parenthesis which began in my second lecture, on the occasion of our hearing that John of Pisa was sent for to Perugia, to carve the tomb of Pope Urban IV.; and we must now know who this Pope was.

181. He was a Frenchman, born at that Troyes, in Champagne, which I gave you as the centre of French architectural skill, and Royalist character. He was born in the lowest class of the people, rose like Wolsey; became Bishop of Verdun; then, Patriarch of Jerusalem; returned in the year 1261, from his Patriarchate, to solicit the aid of the then Pope, Alexander IV., against the Saracen. I do not know on what day he arrived in Rome; but on the 25th of May, Alexander died, and the Cardinals, after three months' disputing, elected the suppliant Patriarch to be Pope himself.

182. A man with all the fire of France in him, all the faith,

and all the insolence ; incapable of doubting a single article of his creed, or relaxing one tittle of his authority ; destitute alike of reason and of pity ; and absolutely merciless either to an infidel, or an enemy. The young Prince Manfred, bastard son of Frederick II., now representing the main power of the German empire, was both ; and against him the Pope brought into Italy a religious French knight, of character absolutely like his own, Charles of Anjou.

183. The young Manfred, now about twenty years old, was as good a soldier as he was a bad Christian ; and there was no safety for Urban at Rome. The Pope seated himself on a worthy throne for a thirteenth-century St. Peter. Fancy the rock of Edinburgh Castle, as steep on all sides as it is to the west ; and as long as the Old Town ; and you have the rock of Orvieto.

184. Here, enthroned against the gates of hell, in unassailable fortitude, and unfaltering faith, sat Urban ; the righteousness of his cause presently to be avouched by miracle, notablest among those of the Roman Church. Twelve miles east of his rock, beyond the range of low Apennine, shone the quiet lake, the Loch Leven of Italy, from whose island the daughter of Theodoric needed not to escape—Fate seeking her there ; and in a little chapel on its shore a Bohemian priest, infected with Northern infidelity, was brought back to his allegiance by seeing the blood drop from the wafer in his hand. And the Catholic Church recorded this heavenly testimony to her chief mystery, in the Festa of the Corpus Domini, and the Fabric of Orvieto.

185. And sending was made for John, and for all good labourers in marble ; but Urban never saw a stone of the great cathedral laid. His citation of Manfred to appear in his presence to answer for his heresy, was fixed against the posts of the doors of the old Duomo. But Urban had dug the foundation of the pile to purpose, and when he died at Perugia, still breathed, from his grave, calamity to Manfred, and made from it glory to the Church. He had secured the election of a French successor ; from the rock of Orvieto the spirit of

Urban led the French chivalry, when Charles of Anjou saw the day of battle come, so long desired. Manfred's Saracens, with their arrows, broke his first line; the Pope's legate blessed the second, and gave them absolution of all their sins, for their services to the Church. They charged for Orvieto with their old cry of 'Mont-Joie, Chevaliers!' and before night, while Urban lay sleeping in his carved tomb at Perugia, the body of Manfred lay only recognizable by those who loved him, naked among the slain.

186. Time wore on and on. The Suabian power ceased in Italy; between white and red there was now no more contest;—the matron of the Church, scarlet-robed, reigned, ruthless, on her seven hills. Time wore on; and, a hundred years later, now no more the power of the kings, but the power of the people,—rose against her. St. Michael, from the corn market,—Or San Michele,—the commercial strength of Florence, on a question of free trade in corn. And note, for a little bye piece of botany, that in Val d'Arno lilies grow among the corn instead of poppies. The purple gladiolus glows through all its green fields in early spring.

187. A question of free trade in corn, then, arose between Florence and Rome. The Pope's legate in Bologna stopped the supply of polenta, the Florentines depending on that to eat with their own oil. Very wicked, you think, of the Pope's legate, acting thus against quasi-Protestant Florence? Yes; just as wicked as the—not quasi-Protestants—but intensely positive Protestants, of Zurich, who tried to convert the Catholic forest-cantons by refusing them salt. Christendom has been greatly troubled about bread and salt: the then Protestant Pope, Zuinglius, was killed at the battle of Keppel, and the Catholic cantons therefore remain Catholic to this day; while the consequences of this piece of protectionist economy at Bologna are equally interesting and direct.

188. The legate of Bologna, not content with stopping the supplies of maize to Florence, sent our own John Hawkwood, on the 24th June, 1375, to burn all the maize the Florentines had got growing; and the Abbot of Montemaggiore sent a

troop of Perugian religious gentlemen-riders to ravage similarly the territory of Siena. Whereupon, at Florence, the Gonfalonier of Justice, Aloesio Aldobrandini, rose in the Council of Ancients and proposed, as an enterprise worthy of Florentine generosity, the freedom of all the peoples who groaned under the tyranny of the Church. And Florence, Siena, Pisa, Lucca, and Arezzo,—all the great cities of Etruria, the root of religion in Italy,—joined against the tyranny of religion. Strangely, this Etrurian league is not now to restore Tarquin to Rome, but to drive the Roman Tarquin into exile. The story of Lucretia had been repeated in Perugia; but the Umbrian Lucretia had died, not by suicide, but by falling on the pavement from the window through which she tried to escape. And the Umbrian Sextus was the Abbot of Montemaggiore's nephew.

189. Florence raised her fleur-de-lys standard: and, in ten days, eighty cities of Romagna were free, out of the number of whose names I will read you only these—Urbino, Foligno, Spoleto, Nanri, Camerino, Toscanella, Perugia, ORVIETO.

And while the wind and the rain still beat the body of Manfred, by the shores of the Rio Verde, the body of Pope Urban was torn from its tomb, and not one stone of the carved work thereof left upon another.

190. I will only ask you to-day to notice farther that the Captain of Florence, in this war, was a 'Conrad of Suabia,' and that she gave him, beside her own flag, one with only the word 'Libertas' inscribed on it.

I told you that the first stroke of the bell on the Tower of the Lion began the carillon for European civil and religious liberty. But perhaps, even in the fourteenth century, Florence did not understand, by that word, altogether the same policy which is now preached in France, Italy, and England.

What she did understand by it, we will try to ascertain in the course of next lecture.

LECTURE VIII.

FRANCHISE.

191. IN my first lecture of this course, you remember that I showed you the Lion of St. Mark's with Niccola Pisano's, calling the one an evangelical-preacher lion, and the other a real, and naturally affectionate, lioness.

And the one I showed you as Byzantine, the other as Gothic. So that I thus called the Greek art pious, and the Gothic profane.

Whereas in nearly all our ordinary modes of thought, and in all my own general references to either art, we assume Greek or classic work to be profane, and Gothic, pious, or religious.

192. Very short reflection, if steady and clear, will both show you how confused our ideas are usually on this subject, and how definite they may within certain limits become.

First of all, don't confuse piety with Christianity. There are pious Greeks and impious Greeks; pious Turks and impious Turks; pious Christians and impious Christians; pious modern infidels and impious modern infidels. In case you do not quite know what piety really means, we will try to know better in next lecture; for the present, understand that I mean distinctly to call Greek art, in the true sense of the word, pious, and Gothic, as opposed to it, profane.

193. But when I oppose these two words, Gothic and Greek, don't run away with the notion that I necessarily mean to oppose *Christian* and Greek. You must not confuse Gothic blood in a man's veins, with Christian feeling in a man's breast. There are unconverted and converted Goths; unconverted and converted Greeks. The Greek and Gothic temper is equally opposed, where the name of Christ has never been

uttered by either, or when every other name is equally detested by both.

I want you to-day to examine with me that essential difference between Greek and Gothic temper, irrespective of creed, to which I have referred in my preface to the last edition of the "Stones of Venice," saying that the Byzantines gave law to Norman license. And I must therefore ask your patience while I clear your minds from some too prevalent errors as to the meaning of these two words, law and license.

194. There is perhaps no more curious proof of the disorder which impatient and impertinent science is introducing into classical thought and language, than the title chosen by the Duke of Argyll for his interesting study of Natural History—'The Reign of Law.' Law cannot reign. If a natural law, it admits no disobedience, and has nothing to put right. If a human one, it can compel no obedience, and has no power to prevent wrong. A king only can reign;—a person, that is to say, who, conscious of natural law, enforces human law so far as it is just.

195. Kinghood is equally necessary in Greek dynasty, and in Gothic. Theseus is every inch a king, as well as Edward III. But the laws which they have to enforce on their own and their companions' humanity are opposed to each other as much as their dispositions are.

The function of a Greek king was to enforce labour.

That of a Gothic king, to restrain rage.

The laws of Greece determine the wise methods of labour; and the laws of France determine the wise restraints of passion.

For the sins of Greece are in Indolence, and its pleasures; and the sins of France are in fury, and its pleasures.

196. You are now again surprised, probably, at hearing me oppose France typically to Greece. More strictly, I might oppose only a part of France,—Normandy. But it is better to say, France,* as embracing the seat of the established Norman

* "Normandie, la franche,"—"France, la solue;" (chanson de Roland). One of my good pupils referred me to this ancient and glorious French song.

power in the Island of our Lady; and the province in which it was crowned,—Champagne.

France is everlastingly, by birth, name, and nature, the country of the Franks, or free persons; and the first source of European frankness, or franchise. The Latin for franchise is *libertas*. But the modern or Cockney-English word *liberty*,—Mr. John Stuart Mill's,—is not the equivalent of *libertas*; and the modern or Cockney-French word *liberté*,—M. Victor Hugo's,—is not the equivalent of franchise.

197. The Latin for franchise, I have said, is *libertas*; the Greek is *ἐλευθερία*. In the thoughts of all three nations, the idea is precisely the same, and the word used for the idea by each nation therefore accurately translates the word of the other: *ἐλευθερία*—*libertas*—franchise—reciprocally translate each other. Leonidas is characteristically *ἐλεύθερος* among Greeks; Publicola, characteristically *liber*, among Romans; Edward III. and the Black Prince, characteristically frank among French. And that common idea, which the words express, as all the careful scholars among you will know, is, with all the three nations, mainly of deliverance from the slavery of passion. To be *ἐλεύθερος*, *liber*, or *franc*, is first to have learned how to rule our own passions; and then, certain that our own conduct is right, to persist in that conduct against all resistance, whether of counter-opinion, counter-pain, or counter-pleasure. To be defiant alike of the mob's thought, of the adversary's threat, and the harlot's temptation,—this is in the meaning of every great nation to be free; and the one condition upon which that freedom can be obtained is pronounced to you in a single verse of the 119th Psalm, "I will walk at liberty, for I seek Thy precepts."

198. Thy precepts:—Law, observe, being dominant over the Gothic as over the Greek king, but a quite different law. Edward III. feeling no anger against the Sieur de Ribault, and crowning him with his own pearl chaplet, is obeying the law of love, *restraining* anger; but Theseus, slaying the Minotaur, is obeying the law of justice, and *enforcing* anger.

The one is acting under the law of the charity, *χάρις*, or

grace of God; the other under the law of His judgment. The two together fulfil His *κρίσις* and *ἀγάπη*.

199. Therefore the Greek dynasties are finally expressed in the kingdoms of Minos, Rhadamanthus, and Aeacus, who judge infallibly, and divide arithmetically. But the dynasty of the Gothic king is in equity and compassion, and his arithmetic is in largesse,

“ Whose moste joy was, I wis,
When that she gave, and said, Have this.”

So that, to put it in shortest terms of all, Greek law is of Stasy, and Gothic of Ec-stasy; there is no limit to the freedom of the Gothic hand or heart, and the children are most in the delight and the glory of liberty when they most seek their Father's precepts.

200. The two lines I have just quoted are, as you probably remember, from Chaucer's translation of the French Romance of the Rose, out of which I before quoted to you the description of the virtue of *Debonnairété*. Now that *Debonnairété* of the Painted Chamber of Westminster is the typical figure used by the French sculptors and painters for 'franchise,' frankness, or Frenchness; but in the Painted Chamber, *Debonnairété*, high breeding, 'out of goodnestedness,' or gentleness, is used, as an English king's English, of the Norman franchise. Here, then, is our own royalty,—let us call it Englishness, the grace of our proper kingdom;—and here is French royalty, the grace of French kingdom—Frenchness, rudely but sufficiently drawn by M. Didron from the porch of Chartres. She has the crown of fleur-de-lys, and William the Norman's shield.

201. Now this grace of high birth, the grace of his or her Most Gracious Majesty, has her name at Chartres written beside her, in Latin. Had it been in Greek, it would have been *ἐλευθερία*. Being in Latin, what do you think it must be necessarily?—Of course, *Libertas*. Now M. Didron is quite the best writer on art that I know,—full of sense and intelligence; but of course, as a modern Frenchman,—one of a

nation for whom the Latin and Gothic ideas of *libertas* have entirely vanished,—he is not on his guard against the trap here laid for him. He looks at the word *libertas* through his spectacles;—can't understand, being a thoroughly good antiquary,* how such a virtue, or privilege, could honestly be carved with approval in the twelfth century;—rubs his spectacles; rubs the inscription, to make sure of its every letter; stamps it, to make surer still;—and at last, though in a greatly bewildered state of mind, remains convinced that here is a sculpture of 'La Liberte' in the twelfth century. "C'est bien la liberte!" "On lit parfaitement *libertas*."

202. Not so, my good M. Didron!—a very different personage, this; of whom more, presently, though the letters of her name are indeed so plainly, 'Libertas, at non liberalitas,' liberalitas being the Latin for largesse, not for franchise.

This, then, is the opposition between the Greek and Gothic dynasties, in their passionate or vital nature; in the *animal* and *inbred* part of them;—Classic and romantic, Static and exstatic. But now, what opposition is there between their divine natures? Between Theseus and Edward III., as warriors, we now know the difference; but between Theseus and Edward III., as theologians; as dreaming and discerning creatures, as didactic kings,—engraving letters with the point of the sword, instead of thrusting men through with it,—changing the club into the ferula, and becoming schoolmasters as well as kings; what is, thus, the difference between them?

Theologians I called them. Philologists would be a better word,—lovers of the *Λογος*, or Word, by which the heavens and earth were made. What *logos*, *about* this *Logos*, have they learned, or can they teach?

203. I showed you, in my first lecture, the Byzantine Greek lion, as descended by true unblemished line from the Nemean Greek; but with this difference: Heracles kills the beast,

* Historical antiquary; not art-antiquary, I must limitedly say, however. He has made a grotesque mess of his account of the Ducal Palace of Venice, through his ignorance of the technical characters of sculpture.

and makes a helmet and cloak of his skin ; the Greek St. Mark converts the beast, and makes an evangelist of him.

Is not that a greater difference, think you, than one of mere decadence ?

This 'maniera goffa e sproporzionata' of Vasari is not, then, merely the wasting away of former leonine strength into thin rigidities of death ? There is another change going on at the same time,—body perhaps subjecting itself to spirit.

I will not tease you with farther questions. The facts are simple enough. Theseus and Heracles have their religion, sincere and sufficient,—a religion of lion-killers, minotaur-killers, very curious and rude ; Eleusinian mystery mingled in it, inscrutable to us now,—partly always so, even to them.

204. Well ; the Greek nation, in process of time, loses its manliness,—becomes Graeculus instead of Greek. But though effeminate and feeble, it inherits all the subtlety of its art, all the cunning of its mystery ; and it is converted to a more spiritual religion. Nor is it altogether degraded, even by the diminution of its animal energy. Certain spiritual phenomena are possible to the weak, which are hidden from the strong ;—nay, the monk may, in his order of being, possess strength denied to the warrior. Is it altogether, think you, by blundering, or by disproportion in intellect or in body, that Theseus becomes St. Athanase ? For that is the kind of change which takes place, from the days of the great King of Athens, to those of the great Bishop of Alexandria, in the thought and theology, or, summarily, in the spirit of the Greek.

Now we have learned indeed the difference between the Gothic knight and the Greek knight ; but what will be the difference between the Gothic saint and Greek saint ?

Franchise of body against constancy of body.

Franchise of thought, then, against constancy of thought.

Edward III. against Theseus.

And the Frank of Assisi against St. Athanase.

205. Utter franchise, utter gentleness in theological thought. Instead of, 'This is the faith, which except a man believe

faithfully, he cannot be saved,' 'This is the love, which if a bird or an insect keep faithfully, *it* shall be saved.'

Gentlemen, you have at present arrived at a phase of natural science in which, rejecting alike the theology of the Byzantine, and the affection of the Frank, you can only contemplate a bird as flying under the reign of law, and a cricket as singing under the compulsion of caloric.

I do not know whether you yet feel that the position of your boat on the river also depends entirely on the reign of law, or whether, as your churches and concert-rooms are privileged in the possession of organs blown by steam, you are learning yourselves to sing by gas, and expect the Dies Irae to be announced by a steam-trumpet. But I can very positively assure you that, in my poor domain of imitative art, not all the mechanical or gaseous forces of the world, nor all the laws of the universe, will enable you either to see a colour, or draw a line, without that singular force anciently called the soul, which it was the function of the Greek to discipline in the duty of the servants of God, and of the Goth to lead into the liberty of His children.

206. But in one respect I wish you were more conscious of the existence of law than you appear to be. The difference which I have pointed out to you as existing between these great nations, exists also between two orders of intelligence among men, of which the one is usually called Classic, the other Romantic. Without entering into any of the fine distinctions between these two sects, this broad one is to be observed as constant: that the writers and painters of the Classic school set down nothing but what is known to be true, and set it down in the perfectest manner possible in their way, and are thenceforward authorities from whom there is no appeal. Romantic writers and painters, on the contrary, express themselves under the impulse of passions which may indeed lead them to the discovery of new truths, or to the more delightful arrangement or presentment of things already known: but their work, however brilliant or lovely, remains imperfect, and without authority. It is not

possible, of course, to separate these two orders of men trenchantly: a classic writer may sometimes, whatever his care, admit an error, and a romantic one may reach perfection through enthusiasm. But, practically, you may separate the two for your study and your education; and, during your youth, the business of us your masters is to enforce on you the reading, for school work, only of classical books: and to see that your minds are both informed of the indisputable facts they contain, and accustomed to act with the infallible accuracy of which they set the example.

207. I have not time to make the calculation, but I suppose that the daily literature by which we now are principally nourished, is so large in issue that though St. John's "even the world itself could not contain the books which should be written" may be still hyperbole, it is nevertheless literally true that the world might be *wrapped* in the books which are written; and that the sheets of paper covered with type on any given subject, interesting to the modern mind, (say the prospects of the Claimant,) issued in the form of English morning papers during a single year, would be enough literally to pack the world in.

208. Now I will read you fifty-two lines of a classical author, which, once well read and understood, contain more truth than has been told you all this year by this whole globe's compass of print.

Fifty-two lines, of which you will recognize some as hackneyed, and see little to admire in others. But it is not possible to put the statements they contain into better English, nor to invalidate one syllable of the statements they contain.*

209. Even those, and there may be many here, who would dispute the truth of the passage, will admit its exquisite distinctness and construction. If it be untrue, that is merely because I have not been taught by my modern education to recognize a classical author; but whatever my mistakes, or yours, may be, there *are* certain truths long known to all

* 'The Deserted Village,' line 251 to 302.

rational men, and indisputable. You may add to them, but you cannot diminish them. And it is the business of a University to determine what books of this kind exist, and to enforce the understanding of them.

210. The classical and romantic arts which we have now under examination therefore consist,—the first, in that which represented, under whatever symbols, truths respecting the history of men, which it is proper that all should know; while the second owes its interest to passionate impulse or incident. This distinction holds in all ages, but the distinction between the franchise of Northern, and the constancy of Byzantine, art, depends partly on the unsystematic play of emotion in the one, and the appointed sequence of known fact or determined judgment in the other.

You will find in the beginning of M. Didron's book, already quoted, an admirable analysis of what may be called the classic sequence of Christian theology, as written in the sculpture of the Cathedral of Chartres. You will find in the treatment of the façade of Orvieto the beginning of the development of passionate romance,—the one being grave sermon writing; the other, cheerful romance or novel writing: so that the one requires you to think, the other only to feel or perceive; the one is always a parable with a meaning, the other only a story with an impression.

211. And here I get at a result concerning Greek art, which is very sweeping and wide indeed. That it is all parable, but Gothic, as distinct from it, literal. So absolutely does this hold, that it reaches down to our modern school of landscape. You know I have always told you Turner belonged to the Greek school. Precisely as the stream of blood coming from under the throne of judgment in the Byzantine mosaic of Torcello is a sign of condemnation, his scarlet clouds are used by Turner as a sign of death; and just as on an Egyptian tomb the genius of death lays the sun down behind the horizon, so in his *Cephalus and Procris*, the last rays of the sun withdraw from the forest as the nymph expires.

And yet, observe, both the classic and romantic teaching

may be equally earnest, only different in manner. But from classic art, unless you understand it, you may get nothing; from romantic art, even if you don't understand it, you get at least delight.

212. I cannot show the difference more completely or fortunately than by comparing Sir Walter Scott's type of *libertas*, with the franchise of Chartres Cathedral, or *Debonnaireté* of the Painted Chamber.

At Chartres, and Westminster, the high birth is shown by the crown; the strong bright life by the flowing hair; the fortitude by the conqueror's shield; and the truth by the bright openness of the face :

“ She was not brown, nor dull of hue,
But white as snowe, fallen newe.”

All these are symbols, which, if you cannot read, the image is to you only an uninteresting stiff figure. But Sir Walter's Franchise, Diana Vernon, interests you at once in personal aspect and character. She is no symbol to you; but if you acquaint yourself with her perfectly, you find her utter frankness, governed by a superb self-command; her spotless truth, refined by tenderness; her fiery enthusiasm, subdued by dignity; and her fearless liberty, incapable of doing wrong, joining to fulfil to you, in sight and presence, what the Greek could only teach by signs.

213. I have before noticed—though I am not sure that you have yet believed my statement of it—the significance of Sir Walter's as of Shakspeare's names; Diana ‘Vernon, *semper viret*,’ gives you the conditions of purity and youthful strength or spring which imply the highest state of *libertas*. By corruption of the idea of purity, you get the modern heroines of London Journal—or perhaps we may more fitly call it ‘Cockney-daily’—literature. You have one of them in perfection, for instance, in Mr. Charles Reade's ‘Griffith Gaunt’—“Lithe, and vigorous, and one with her great white gelding;” and liable to be entirely changed in her mind about the destinies of her life by a quarter of an hour's conversation with a gen-

tleman unexpectedly handsome; the hero also being a person who looks at people whom he dislikes, with eyes "like a dog's in the dark;" and both hero and heroine having souls and intellects also precisely corresponding to those of a dog's in the dark, which is indeed the essential picture of the practical English national mind at this moment,—happy if it remains doggish,—Circe not usually being content with changing people into dogs only. For the Diana Vernon of the Greek is Artemis Laphria, who is friendly to the dog; not to the swine. Do you see, by the way, how perfectly the image is carried out by Sir Walter in putting his Diana on the border country? "Yonder blue hill is in Scotland," she says to her cousin,—not in the least thinking less of him for having been concerned, it may be, in one of Rob Roy's forays. And so gradually you get the idea of Norman franchise carried out in the free-rider or free-booter; not safe from degradation on that side also; but by no means of swinish temper, or foraging, as at present the British speculative public, only with the snout.

214. Finally, in the most soft and domestic form of virtue, you have Wordsworth's ideal:

"Her household motions light and free,
And steps of virgin liberty."

The distinction between these northern types of feminine virtue, and the figures of Alcestis, Antigone, or Iphigenia, lies deep in the spirit of the art of either country, and is carried out into its most unimportant details. We shall find in the central art of Florence at once the thoughtfulness of Greece and the gladness of England, associated under images of monastic severity peculiar to herself.

And what Diana Vernon is to a French ballerine dancing the Cancan, the 'libertas' of Chartres and Westminster is to the 'liberty' of M. Victor Hugo and Mr. John Stuart Mill.

LECTURE IX.

THE TYRRHENE SEA.

215. WE may now return to the points of necessary history, having our ideas fixed within accurate limits as to the meaning of the word Liberty; and as to the relation of the passions which separated the Guelph and Ghibelline to those of our own days.

The Lombard or Guelph league consisted, after the accession of Florence, essentially of the three great cities—Milan, Bologna, and Florence; the Imperial or Ghibelline league, of Verona, Pisa, and Siena. Venice and Genoa, both nominally Guelph, are in furious contention always for sea empire; while Pisa and Genoa are in contention, not so much for empire, as honour. Whether the trade of the East was to go up the Adriatic, or round by the Gulf of Genoa, was essentially a mercantile question; but whether, of the two ports in sight of each other, Pisa or Genoa was to be the Queen of the Tyrrhene Sea, was no less distinctly a personal one than which of two rival beauties shall preside at a tournament.

216. This personal rivalry, so far as it was separated from their commercial interests, was indeed mortal, but not malignant. The quarrel was to be decided to the death, but decided with honour; and each city had four observers permittedly resident in the other, to give account of all that was done there in naval invention and armament.

217. Observe, also, in the year 1251, when we quitted our history, we left Florence not only Guelph, as against the Imperial power, (that is to say, the body of her knights who favoured the Pope and Italians, in dominion over those who favoured Manfred and the Germans), but we left her also definitely with her apron thrown over her shield; and the

tradesmen and craftsmen in authority over the knight, whether German or Italian, Papal or Imperial.

That is in 1251. Now in these last two lectures I must try to mark the gist of the history of the next thirty years. The Thirty Years' War, this, of the middle ages, infinitely important to all ages; first observe, between Guelph and Ghibelline, ending in the humiliation of the Ghibelline; and, secondly, between Shield and Apron, or, if you like better, between Spear and Hammer, ending in the breaking of the Spear.

218. The first decision of battle, I say, is that between Guelph and Ghibelline, headed by two men of precisely opposite characters, Charles of Anjou and Manfred of Suabia. That I may be able to define the opposition of their characters intelligibly, I must first ask your attention to some points of general scholarship.

I said in my last lecture that, in this one, it would be needful for us to consider what piety was, if we happened not to know; or worse than that, it may be, not instinctively to feel. Such want of feeling is indeed not likely in you, being English-bred; yet as it is the modern cant to consider all such sentiment as useless, or even shameful, we shall be in several ways advantaged by some examination of its nature. Of all classical writers, Horace is the one with whom English gentlemen have on the average most sympathy; and I believe, therefore, we shall most simply and easily get at our point by examining the piety of Horace.

219. You are perhaps, for the moment, surprised, whatever might have been admitted of Æneas, to hear Horace spoken of as a pious person. But of course when your attention is turned to the matter you will recollect many lines in which the word 'pietas' occurs, of which you have only hitherto failed to allow the force because you supposed Horace did not mean what he said.

220. But Horace always and altogether means what he says. It is just because—whatever his faults may have been—he was not a hypocrite, that English gentlemen are so fond of him. "Here is a frank fellow, anyhow," they say, "and a

witty one." Wise men know that he is also wise. True men know that he is also true. But pious men, for want of attention, do not always know that he is pious.

One great obstacle to your understanding of him is your having been forced to construct Latin verses, with introduction of the word 'Jupiter' always, at need, when you were at a loss for a dactyl. You always feel as if Horace only used it also when *he* wanted a dactyl.

221. Get quit of that notion wholly. All immortal writers speak out of their hearts. Horace spoke out of the abundance of his heart, and tells you precisely what he is, as frankly as Montaigne. Note then, first, how modest he is: "Ne parva Tyrrhenum per aequor, vela darem;—Operosa parvus, carmina fingo." Trust him in such words; he absolutely means them; knows thoroughly that he cannot sail the Tyrrhene Sea,—knows that he cannot float on the winds of Matinum,—can only murmur in the sunny hollows of it among the heath. But note, secondly, his pride: "Exegi monumentum ære perennius." He is not the least afraid to say that. He did it; knew he had done it; said he had done it; and feared no charge of arrogance.

222. Note thirdly, then, his piety, and accept his assured speech of it: "Dis pietas mea, et Musa, cordi est." He is perfectly certain of that also; serenely tells you so; and you had better believe him. Well for you, if you *can* believe him; for to believe him, you must understand him first; and I can tell you, you won't arrive at that understanding by looking out the word 'pietas' in your White-and-Riddle. If you do, you will find those tiresome contractions, Etym. Dub., stop your inquiry very briefly, as you go back; if you go forward, through the Italian *pieta*, you will arrive presently in another group of ideas, and end in *miser cordia*, mercy, and pity. You must not depend on the form of the word; you must find out what it stands for in Horace's mind, and in Virgil's. More than race to the Roman; more than power to the statesman; yet helpless beside the grave,—“Non, Torquate, genus, non te facundia, non te, Restitvet pietas.”

Nay, also what it stands for as an attribute, not only of men, but of gods; nor of those only as merciful, but also as avenging. Against Æneas himself, Dido invokes the waves of the Tyrrhene Sea, “si quid pia numina possunt.” Be assured there is no getting at the matter by dictionary or context. To know what love means you must love; to know what piety means, you must be pious.

223. Perhaps you dislike the word, now, from its vulgar use. You may have another if you choose, a metaphorical one,—close enough it seems to Christianity, and yet still absolutely distinct from it,—*χριστός*. Suppose, as you watch the white bloom of the olives of Val d’Arno and Val di Nievole, which modern piety and economy suppose were grown by God only to supply you with fine Lucca oil, you were to consider, instead, what answer you could make to the Socratic question, *πόθεν ἄν τις τῶντο τὸ χρίσμα λάβοι*.*

224. I spoke to you first of Horace’s modesty. All piety begins in modesty. You must feel that you are a very little creature, and that you had better do as you are bid. You will then begin to think what you are bid to do, and who bids it. And you will find, unless you are very unhappy indeed, that there is always a quite clear notion of right and wrong in your minds, which you can either obey or disobey, at your pleasure. Obey it simply and resolutely; it will become clearer to you every day: and in obedience to it, you will find a sense of being in harmony with nature, and at peace with God, and all His creatures. You will not understand how the peace comes, nor even in what it consists. It is the peace that passes understanding;—it is just as visionary and imaginative as love is, and just as real, and just as necessary to the life of man. It is the only source of true cheerfulness, and of true common sense; and whether you believe the Bible, or don’t,—or believe the Koran, or don’t,—or believe the Vedas, or don’t,—it will enable you to believe in God, and please Him, and be such a part of the *εὐδονία* of the universe as your nature fits

you to be, in His sight, faithful in awe to the powers that are above you, and gracious in regard to the creatures that are around.

225. I will take leave on this head to read one more piece of Carlyle, bearing much on present matters. "I hope also they will attack earnestly, and at length extinguish and eradicate, this idle habit of 'accounting for the moral sense,' as they phrase it. A most singular problem;—instead of bending every thought to have more, and ever more, of 'moral sense,' and therewith to irradiate your own poor soul, and all its work, into something of divineness, as the one thing needful to you in this world! A very futile problem that other, my friends; futile, idle, and far worse; leading to what moral ruin, you little dream of! The moral sense, thank God, is a thing you never will 'account for;' that, if you could think of it, is the perennial miracle of man; in all times, visibly connecting poor transitory man, here on this bewildered earth, with his Maker who is eternal in the heavens. By no greatest happiness principle, greatest nobleness principle, or any principle whatever, will you make that in the least clearer than it already is;—forbear, I say, or you may darken it away from you altogether! 'Two things,' says the memorable Kant, deepest and most logical of metaphysical thinkers, 'two things strike me dumb: the infinite starry heavens; and the sense of right and wrong in man.' Visible infinites, both; say nothing of them; don't try to 'account for them;' for you can say nothing wise."

226. Very briefly, I must touch one or two further relative conditions in this natural history of the soul. I have asked you to take the metaphorical, but distinct word '*χρῆσμα*,' rather than the direct but obscure one 'piety'; mainly because the Master of your religion chose the metaphorical epithet for the perpetual one of His own life and person.

But if you will spend a thoughtful hour or two in reading the scripture, which pious Greeks read, not indeed on daintily printed paper, but on daintily painted clay,—if you will examine, that is to say, the scriptures of the Athenian religion, on

their Pan-Athenaic vases, in their faithful days, you will find that the gift of the literal *χρῖσμα*, or anointing oil, to the victor in the kingly and visible contest of life, is signed always with the image of that spirit or goddess of the air who was the source of their invisible life. And let me, before quitting this part of my subject, give you one piece of what you will find useful counsel. If ever from the right apothecary, or *μυροπώλης*, you get any of that *χρῖσμα*,—don't be careful, when you set it by, of looking for dead dragons or dead dogs in it. But look out for the dead flies.

227. Again; remember, I only quote St. Paul as I quote Xenophon to you; but I expect you to get some good from both. As I want you to think what Xenophon means by '*μαντεία*,' so I want you to consider also what St. Paul means by '*προφητεία*.' He tells you to prove all things,—to hold fast what is good, and not to despise '*prophesyings*.'

228. Now it is quite literally probable, that this world, having now for some five hundred years absolutely refused to do as it is plainly bid by every prophet that ever spoke in any nation, and having reduced itself therefore to Saul's condition, when he was answered neither by Urim nor by prophets, may be now, while you sit there, receiving necromantic answers from the witch of Endor. But with that possibility you have no concern. There is a prophetic power in your own hearts, known to the Greeks, known to the Jews, known to the Apostles, and knowable by you. If it is now silent to you, do not despise it by tranquillity under that privation; if it speaks to you, do not despise it by disobedience.

229. Now in this broad definition of *Pietas*, as reverence to sentimental law, you will find I am supported by all classical authority and use of this word. For the particular meaning of which I am next about to use the word *Religion*, there is no such general authority, nor can there be, for any limited or accurate meaning of it. The best authors use the word in various senses; and you must interpret each writer by his own context. I have myself continually used the term vaguely. I shall endeavour, henceforward, to use it under

limitations which, willing always to accept, I shall only transgress by carelessness, or compliance with some particular use of the word by others. The power in the word, then, which I wish you now to notice, is in its employment with respect to doctrinal divisions. You do not say that one man is of one piety, and another of another; but you do, that one man is of one religion, and another of another.

230. The religion of any man is thus properly to be interpreted, as the feeling which binds him, irrationally, to the fulfilment of duties, or acceptance of beliefs, peculiar to a certain company of which he forms a member, as distinct from the rest of the world. 'Which binds him *irrationally*,' I say;—by a feeling, at all events, apart from reason, and often superior to it; such as that which brings back the bee to its hive, and the bird to her nest.

A man's religion is the form of mental rest, or dwelling-place, which, partly, his fathers have gained or built for him, and partly, by due reverence to former custom, he has built for himself; consisting of whatever imperfect knowledge may have been granted, up to that time, in the land of his birth, of the Divine character, presence, and dealings; modified by the circumstances of surrounding life.

It may be, that sudden accession of new knowledge may compel him to cast his former idols to the moles and to the bats. But it must be some very miraculous interposition indeed which can justify him in quitting the religion of his forefathers: and, assuredly, it must be an unwise interposition which provokes him to insult it.

231. On the other hand, the value of religious ceremonial, and the virtue of religious truth, consist in the meek fulfilment of the one as the fond habit of a family; and the meek acceptance of the other, as the narrow knowledge of a child. And both are destroyed at once, and the ceremonial or doctrinal prejudice becomes only an occasion of sin, if they make us either wise in our own conceit, or violent in our methods of proselytism. Of those who will compass sea and land to make one proselyte, it is too generally true that they are them-

selves the children of hell, and make their proselytes twofold more so.

232. And now I am able to state to you, in terms so accurately defined that you cannot misunderstand them, that we are about to study the results in Italy of the victory of an impious Christian over a pious Infidel, in a contest which, if indeed principalities of evil spirit are ever permitted to rule over the darkness of this world, was assuredly by them wholly provoked, and by them finally decided. The war was not actually ended until the battle of Tagliacozzo, fought in August, 1268; but you need not recollect that irregular date, or remember it only as three years after the great battle of Welcome, Benevento, which was the decisive one. Recollect, therefore, securely :

1250. The First Trades Revolt in Florence.

1260. Battle of the Arbia.

1265. Battle of Welcome.

Then between the battle of Welcome and of Tagliacozzo, (which you might almost English in the real meaning of it as the battle of Hart's Death: 'cozzo' is a butt or thrust with the horn, and you may well think of the young Conradin as a wild hart or stag of the hills)—between those two battles, in 1266, comes the second and central revolt of the trades in Florence, of which I have to speak in next lecture.

233. The two German princes who perished in these two battles—Manfred of Tarentum, and his nephew and ward Conradin—are the natural son, and the legitimate grandson of Frederick II.: they are also the last assertors of the infidel German power in south Italy against the Church; and in alliance with the Saracens; such alliance having been maintained faithfully ever since Frederick II.'s triumphal entry into Jerusalem, and coronation as its king. Not only a great number of Manfred's forts were commanded by Saracen governors, but he had them also appointed over civil tribunals. My own impression is that he found the Saracens more just and trustworthy than the Christians; but it is proper to remember the

allegations of the Church against the whole Suabian family ; namely, that Manfred had smothered his father Frederick under cushions at Ferentino ; and that, of Frederick's sons, Conrad had poisoned Henry, and Manfred had poisoned Conrad. You will, however, I believe, find the Prince Manfred one of the purest representatives of northern chivalry. Against his nephew, educated in all knightly accomplishments by his mother, Elizabeth of Bavaria, nothing could be alleged by his enemies, even when resolved on his death, but the splendour of his spirit and the brightness of his youth.

234. Of the character of their enemy, Charles of Anjou, there will remain on your minds, after careful examination of his conduct, only the doubt whether I am justified in speaking of him as Christian against Infidel. But you will cease to doubt this when you have entirely entered into the conditions of this nascent Christianity of the thirteenth century. You will find that while men who desire to be virtuous receive it as the mother of virtues, men who desire to be criminal receive it as the forgiver of crimes ; and that therefore, between Ghibelline or Infidel cruelty, and Guelph or Christian cruelty, there is always this difference,—that the Infidel cruelty is done in hot blood, and the Christian's in cold. I hope (in future lectures on the architecture of Pisa) to illustrate to you the opposition between the Ghibelline Conti, counts, and the Guelphic Visconti, viscounts or “against counts,” which issues, for one thing, in that, by all men blamed as too deliberate, death of the Count Ugolino della Gherardesca. The Count Ugolino was a traitor, who entirely deserved death ; but another Count of Pisa, entirely faithful to the Ghibelline cause, was put to death by Charles of Anjou, not only in cold blood, but with resolute infliction of Ugolino's utmost grief ;—not in the dungeon, but in the full light of day—his son being first put to death before his eyes. And among the pieces of heraldry most significant in the middle ages, the asp on the shield of the Guelphic viscounts is to be much remembered by you as a sign of this merciless cruelty of mistaken religion ; mistaken, but not in the least hypocritical. It has perfect confidence in

itself, and can answer with serenity for all its deeds. The serenity of heart never appears in the guilty Infidels; they die in despair or gloom, greatly satisfactory to adverse religious minds.

235. The French Pope, then, Urban of Troyes, had sent for Charles of Anjou; who would not have answered his call, even with all the strength of Anjou and Provence, had not Scylla of the Tyrrhene Sea been on his side. Pisa, with eighty galleys (the Sicilian fleet added to her own), watched and defended the coasts of Rome. An irresistible storm drove her fleet to shelter; and Charles, in a single ship, reached the mouth of the Tiber, and found lodgings at Rome in the convent of St. Paul. His wife meanwhile spent her dowry in increasing his land army, and led it across the Alps. How he had got his wife, and her dowry, we must hear in Villani's words, as nearly as I can give their force in English, only, instead of the English word pilgrim, I shall use the Italian 'romeo,' for the sake both of all English Juliets, and that you may better understand the close of the sixth canto of the Paradise.

236. "Now the Count Raymond Berenger had for his inheritance all Provence on this side Rhone; and he was a wise and courteous signor, and of noble state, and virtuous; and in his time they did honourable things; and to his court came by custom all the gentlemen of Provence, and France, and Catalonia, for his courtesy and noble state; and there they made many cobbled verses, and Provençal songs of great sentences."

237. I must stop to tell you that 'cobbled' or 'coupled' verses mean rhymes, as opposed to the dull method of Latin verse; for we have now got an ear for jingle, and know that dove rhymes to love. Also, "songs of great sentences" mean didactic songs, containing much in little, (like the new didactic Christian painting,) of which an example (though of a later time) will give you a better idea than any description.

"Vraye foy de necessité,
Non tant seulement d'équité,
Nous fait de Dieu sept choses croire ;

C'est sa douce nativité,
 Son baptesme d'humilité,
 Et sa mort, digne de mémoire
 Son descens en la chartre noire,
 Et sa résurrection, voire ;
 S'ascencion d'auctorité,
 La venuë judicatoire,
 Ou ly bons seront mis en gloire,
 Et ly mals en adver-ité."

238. "And while they were making these cobbled verses and harmonious creeds, there came a romeo to court, returning from the shrine of St. James." I must stop again just to say that he ought to have been called a pellegrino, not a romeo, for the three kinds of wanderers are,—Palmer, one who goes to the Holy Land ; Pilgrim, one who goes to Spain ; and Romeo, one who goes to Rome. Probably this romeo had been to both. "He stopped at Count Raymond's court, and was so wise and worthy (*valoroso*), and so won the Count's grace, that he made him his master and guide in all things. Who also, maintaining himself in honest and religious customs of life, in a little time, by his industry and good sense, doubled the Count's revenues three times over, maintaining always a great and honoured court. Now the Count had four daughters, and no son ; and by the sense and provision of the good romeo—(I can do no better than translate '*procaccio*' provision, but it is only a makeshift for the word derived from *procax*, meaning the general talent of prudent impudence, in getting forward ; '*forwardness*,' has a good deal of the true sense, only diluted;)—well, by the sense and—progressive faculty, shall we say?—of the good pilgrim, he first married the eldest daughter, by means of money, to the good King Louis of France, saying to the Count, 'Let me alone,—*Lasciami-fare*—and never mind the expense, for if you marry the first one well, I'll marry you all the others cheaper, for her relationship.'

239. "And so it fell out, sure enough ; for incontinently the King of England (Henry III.) because he was the King of France's relation, took the next daughter, Eleanor, for very

little money indeed; next, his natural brother, elect King of the Romans, took the third; and, the youngest still remaining unmarried,—says the good romeo, ‘Now for this one, I will you to have a strong man for son-in-law, who shall be thy heir;’—and so he brought it to pass. For finding Charles, Count of Anjou, brother of the King Louis, he said to Raymond, ‘Give her now to him, for his fate is to be the best man in the world,’—prophesying of him. And so it was done. And after all this it came to pass, by envy which ruins all good, that the barons of Provence became jealous of the good romeo, and accused him to the Count of having ill-guided his goods, and made Raymond demand account of them. Then the good romeo said, ‘Count, I have served thee long, and have put thee from little state into mighty, and for this, by false counsel of thy people, thou art little grateful. I came into thy court a poor romeo; I have lived honestly on thy means; now, make to be given to me my little mule and my staff and my wallet, as I came, and I will make thee quit of all my service.’ The Count would not he should go; but for nothing would he stay; and so he came, and so he departed, that no one ever knew whence he had come, nor whither he went. It was the thought of many that he was indeed a sacred spirit.”

240. This pilgrim, you are to notice, is put by Dante in the orb of justice, as a just servant; the Emperor Justinian being the image of a just ruler. Justinian’s law-making turned out well for England; but the good romeo’s match-making ended ill for it; and for Rome, and Naples also. For Beatrice of Provence resolved to be a queen like her three sisters, and was the prompting spirit of Charles’s expedition to Italy. She was crowned with him, Queen of Apulia and Sicily, on the day of the Epiphany, 1265; she and her husband bringing gifts that day of magical power enough; and Charles, as soon as the feast of coronation was over, set out to give battle to Manfred and his Saracens. “And this Charles,” says Villani, “was wise, and of sane counsel; and of prowess in arms.

and fierce, and much feared and redoubted by all the kings in the world;—magnanimous and of high purposes; fearless in the carrying forth of every great enterprise; firm in every adversity; a verifier of his every word; speaking little,—doing much; and scarcely ever laughed, and then but a little; sincere, and without flaw, as a religious and catholic person; stern in justice, and fierce in look; tall and nervous in person, olive coloured, and with a large nose, and well he appeared a royal majesty more than other men. Much he watched, and little he slept; and used to say that so much time as one slept, one lost; generous to his men-at-arms, but covetous to acquire land, signory, and coin, come how it would, to furnish his enterprises and wars: in courtiers, servants of pleasure, or jocular persons, he delighted never.”

241. To this newly crowned and resolute king, riding south from Rome, Manfred, from his vale of Nocera under Mount St. Angelo, sends to offer conditions of peace. Jehu the son of Nimshi is not swifter of answer to Ahaziah's messenger than the fiery Christian king, in his ‘What hast thou to do with peace?’ Charles answers the messengers with his own lips: “Tell the Sultan of Nocera, this day I will put him in hell, or he shall put me in paradise.”

242. Do not think it the speech of a hypocrite. Charles was as fully prepared for death that day as ever Scotch Covenanter fighting for his holy League; and as sure that death would find him, if it found, only to glorify and bless. Balfour of Burley against Claverhouse is not more convinced in heart that he draws the sword of the Lord and of Gideon. But all the knightly pride of Claverhouse himself is knit together, in Charles, with fearless faith, and religious wrath. “This Saracen scum, led by a bastard German,—traitor to his creed, usurper among his race,—dares it look me, a Christian knight, a prince of the house of France, in the eyes? Tell the Sultan of Nocera, to-day I put him in hell, or he puts me in paradise.”

They are not passionate words neither; any more than hypocritical ones. They are measured, resolute, and the fewest

possible. He never wasted words, nor showed his mind, but when he meant it should be known.

243. The messenger returned, thus answered; and the French king rode on with his host. Manfred met him in the plain of Grandella, before Benevento. I have translated the name of the fortress 'Welcome.' It was altered, as you may remember, from Maleventum, for better omen; perhaps, originally, only *μαλοεις*—a rock full of wild goats?—associating it thus with the meaning of Tagliacozzo.

244. Charles divided his army into four companies. The captain of his own was our English Guy de Montfort, on whom rested the power and the fate of his grandfather, the pursuer of the Waldensian shepherds among the rocks of the wild goats. The last, and it is said the goodliest, troop was of the exiled Guelphs of Florence, under Guido Guerra, whose name you already know. "These," said Manfred, as he watched them ride into their ranks, "cannot lose to-day." He meant that if he himself was the victor, he would restore these exiles to their city. The event of the battle was decided by the treachery of the Count of Caserta, Manfred's brother-in-law. At the end of the day only a few knights remained with him, whom he led in the last charge. As he helmed himself, the crest fell from his helmet. "Hoc est signum Dei," he said,—so accepting what he saw to be the purpose of the Ruler of all things; not claiming God as his friend, not asking anything of Him, as if His purpose could be changed; not fearing him as an enemy; but accepting simply His sign that the appointed day of death was come. He rode into the battle armed like a nameless soldier, and lay unknown among the dead.

245. And in him died all southern Italy. Never, after that day's treachery, did her nobles rise, or her people prosper.

Of the finding of the body of Manfred, and its casting forth, accursed, you may read, if you will, the story in Dante. I trace for you to-day rapidly only the acts of Charles after this victory, and its consummation, three years later, by the defeat of Conradin.

The town of Benevento had offered no resistance to Charles, but he gave it up to pillage, and massacred its inhabitants. The slaughter, indiscriminate, continued for eight days; the women and children were slain with the men, being of Saracen blood. Manfred's wife, Sybil of Epirus, his children, and all his barons, died, or were put to death, in the prisons of Provence. With the young Conrad, all the faithful Ghibelline knights of Pisa were put to death. The son of Frederick of Antioch, who drove the Guelphs from Florence, had his eyes torn out, and was hanged, he being the last child of the house of Suabia. Twenty-four of the barons of Calabria were executed at Gallipoli, and at Rome. Charles cut off the feet of those who had fought for Conrad; then—fearful lest they should be pitied—shut them into a house of wood, and burned them. His lieutenant in Sicily, William of the Standard, besieged the town of Augusta, which defended itself with some fortitude, but was betrayed, and all its inhabitants, (who must have been more than three thousand, for there were a thousand able to bear arms,) massacred in cold blood; the last of them searched for in their hiding-places, when the streets were empty, dragged to the sea-shore, then beheaded, and their bodies thrown into the sea. Throughout Calabria the Christian judges of Charles thus forgave his enemies. And the Mohammedan power and heresy ended in Italy, and she became secure in her Catholic creed.

246. Not altogether secure under French dominion. After fourteen years of misery, Sicily sang her angry vespers, and a Calabrian admiral burnt the fleet of Charles before his eyes, where Scylla rules her barking Salamis. But the French king died in prayerful peace, receiving the sacrament with these words of perfectly honest faith, as he reviewed his past life: "Lord God, as I truly believe that you are my Saviour, so I pray you to have mercy on my soul; and as I truly made the conquest of Sicily more to serve the Holy Church than for my own covetousness, so I pray you to pardon my sins."

247. You are to note the two clauses of this prayer. He prays absolute mercy, on account of his faith in Christ; but

remission of purgatory, in proportion to the quantity of good work he has done, or meant to do, as against evil. You are so much wiser in these days, you think, not believing in purgatory; and so much more benevolent,—not massacring women and children. But we must not be too proud of not believing in purgatory, unless we are quite sure of our real desire to be purified: and as to our not massacring children, it is true that an English gentleman will not now himself willingly put a knife into the throat either of a child or a lamb; but he will kill any quantity of children by disease in order to increase his rents, as unconcernedly as he will eat any quantity of mutton. And as to absolute massacre, I do not suppose a child feels so much pain in being killed as a full-grown man, and its life is of less value to it. No pain either of body or thought through which you could put an infant, would be comparable to that of a good son, or a faithful lover, dying slowly of a painful wound at a distance from a family dependent upon him, or a mistress devoted to him. But the victories of Charles, and the massacres, taken in sum, would not give a muster-roll of more than twenty thousand dead; men, women, and children counted all together. On the plains of France, since I first began to speak to you on the subject of the arts of peace, at least five hundred thousand men, in the prime of life, have been massacred by the folly of one Christian emperor, the insolence of another, and the mingling of mean rapacity with meaner vanity, which Christian nations now call 'patriotism.'

248. But that the Crusaders, (whether led by St. Louis or by his brother,) who habitually lived by robbery, and might be swiftly enraged to murder, were still too savage to conceive the spirit or the character of this Christ whose cross they wear, I have again and again alleged to you; not, I imagine, without question from many who have been accustomed to look to these earlier ages as authoritative in doctrine, if not in example. We alike err in supposing them more spiritual or more dark, than our own. They had not yet attained to the knowledge which we have despised, nor dispersed

from their faith the shadows with which we have again overclouded ours.

Their passions, tumultuous and merciless as the Tyrrhene Sea, raged indeed with the danger, but also with the uses, of naturally appointed storm; while ours, pacific in corruption, languish in vague maremma of misguided pools; and are pestilential most surely as they retire.



PLATE XII.—THE ANNUNCIATION AND VISITATION.

LECTURE X.

FLEUR DE LYS.

249. THROUGH all the tempestuous winter which during the period of history we have been reviewing, weakened, in their war with the opposed rocks of religious or knightly pride, the waves of the Tuscan Sea, there has been slow increase of the Favonian power which is to bring fruitfulness to the rock, peace to the wave. The new element which is introduced in the thirteenth century, and perfects for a little time the work of Christianity, at least in some few chosen souls, is the law of Order and Charity, of intellectual and moral virtue, which it now became the function of every great artist to teach, and of every true citizen to maintain.

250. I have placed on your table one of the earliest existing engravings by a Florentine hand, representing the conception which the national mind formed of this spirit of order and tranquillity, "Cosmico," or the Equity of Kosmos, not by senseless attraction, but by spiritual thought and law. He stands pointing with his left hand to the earth, set only with tufts of grass; in his right hand he holds the ordered system of the universe—heaven and earth in one orb;—the heaven made cosmic by the courses of its stars; the earth cosmic by the seats of authority and fellowship,—castles on the hills and cities in the plain.

251. The tufts of grass under the feet of this figure will appear to you, at first, grotesquely formal. But they are only the simplest expression, in such herbage, of the subjection of all vegetative force to this law of order, equity, or symmetry, which, made by the Greek the principal method of his current vegetative sculpture, subdues it, in the hand of Cora or Trip- tolemus, into the merely triple sceptre, or animates it, in Florence, to the likeness of the Fleur-de-lys.

252. I have already stated to you that if any definite flower is meant by these triple groups of leaves, which take their authoritatively typical form in the crowns of the Cretan and Lacinian Hera, it is not the violet, but the purple iris; or sometimes, as in Pindar's description of the birth of Iamus, the yellow water-flag, which you know so well in spring, by the banks of your Oxford streams.* But, in general, it means simply the springing of beautiful and orderly vegetation in fields upon which the dew falls pure. It is the expression, therefore, of peace on the redeemed and cultivated earth, and of the pleasure of heaven in the uncareful happiness of men clothed without labour, and fed without fear.

253. In the passage, so often read by us, which announces the advent of Christianity as the dawn of peace on earth, we habitually neglect great part of the promise, owing to the false translation of the second clause of the sentence. I cannot understand how it should be still needful to point out to you here in Oxford that neither the Greek words "*ἐν ἀνθρώποις εὐδοκία*," nor those of the vulgate, "in terra pax hominibus bonæ voluntatis," in the slightest degree justify our English words, "goodwill to men."

Of God's goodwill to men, and to all creatures, for ever, there needed no proclamation by angels. But that men should be able to please *Him*,—that their wills should be made holy, and they should not only possess peace in themselves, but be able to give joy to their God, in the sense in which He afterwards is pleased with His own baptized Son;—this was a new thing for Angels to declare, and for shepherds to believe.

* In the catalogues of the collection of drawings in this room, and in my "Queen of the Air" you will find all that I would ask you to notice about the various names and kinds of the flower, and their symbolic use.—Note only, with respect to our present purpose, that while the true white lily is placed in the hands of the Angel of the Annunciation even by Florentine artists, in their general design, the fleur-de-lys is given to him by Giovanni Pisano on the façade of Orvieto; and that the flower in the crown-circlets of European kings answers, as I stated to you in my lecture on the Corona, to the Narcissus fillet of early Greece; the crown of abundance and rejoicing

254. And the error was made yet more fatal by its repetition in a passage of parallel importance,—the thanksgiving, namely, offered by Christ, that His Father, while He had hidden what it was best to know, not from the wise and prudent, but from some among the wise and prudent, and had revealed it unto babes; not ‘for so it seemed good’ in His sight, but ‘that there might be well pleasing in His sight,’—namely, that the wise and simple might equally live in the necessary knowledge, and enjoyed presence, of God. And if, having accurately read these vital passages, you then as carefully consider the tenour of the two songs of human joy in the birth of Christ, the Magnificat, and the Nunc dimittis, you will find the theme of both to be, not the newness of blessing, but the equity which disappoints the cruelty and humbles the strength of men; which scatters the proud in the imagination of their hearts; which fills the hungry with good things; and is not only the glory of Israel, but the light of the Gentiles.

255. As I have been writing these paragraphs, I have been checking myself almost at every word,—wondering, Will they be restless on their seats at this, and thinking all the while that they did not come here to be lectured on Divinity? You may have been a little impatient,—how could it well be otherwise? Had I been explaining points of anatomy, and showing you how you bent your necks and straightened your legs, you would have thought me quite in my proper function; because then, when you went with a party of connoisseurs through the Vatican, you would point out to them the insertion of the clavicle in the Apollo Belvidere; and in the Sistine Chapel the perfectly accurate delineation of the tibia in the legs of Christ. Doubtless; but you know I am lecturing at present on the goffi, and not on Michael Angelo; and the goffi are very careless about clavicles and shin-bones; so that if, after being lectured on anatomy, you went into the Campo Santo of Pisa, you would simply find nothing to look at, except three tolerably well-drawn skeletons. But if after being lectured on theology, you go into the Campo Santo of Pisa, you will find not a little to look at, and to remember.

256. For a single instance, you know Michael Angelo is admitted to have been so far indebted to these goffi as to borrow from the one to whose study of mortality I have just referred, Orcagna, the gesture of his Christ in the Judgment. He borrowed, however, accurately speaking, the position only, not the gesture; nor the meaning of it.* You all remember the action of Michael Angelo's Christ,—the right hand raised as if in violence of reprobation; and the left closed across His breast, as refusing all mercy. The action is one which appeals to persons of very ordinary sensations, and is very naturally adopted by the Renaissance painter, both for its popular effect, and its capabilities for the exhibition of his surgical science. But the old painter-theologian, though indeed he showed the right hand of Christ lifted, and the left hand laid across His breast, had another meaning in the actions. The fingers of the left hand are folded, in both the figures; but in Michael Angelo's as if putting aside an appeal; in Orcagna's, the fingers are bent to draw back the drapery from the right side. The right hand is raised by Michael Angelo, as in anger; by Orcagna, only to show the wounded palm. And as, to the believing disciples, He showed them His hands and His side, so that they were glad,—so, to the unbelievers, at their judgment, He shows the wounds in hand and side. They shall look on Him whom they pierced.

257. And thus, as we follow our proposed examination of the arts of the Christian centuries, our understanding of their work will be absolutely limited by the degree of our sympathy with the religion which our fathers have bequeathed to us. You cannot interpret classic marbles without knowing and loving your Pindar and Æschylus, neither can you interpret Christian pictures without knowing and loving your Isaiah and Matthew. And I shall have continually to examine texts of the one as I would verses of the other; nor must you retract yourselves from the labour in suspicion that I desire to betray

* I found all this in M. Didron's *Iconographie*, above quoted; I had never noticed the difference between the two figures myself.

your scepticism, or undermine your positivism, because I recommend to you the accurate study of books which have hitherto been the light of the world.

258. The change, then, in the minds of their readers at this date, which rendered it possible for them to comprehend the full purport of Christianity, was in the rise of the new desire for equity and rest, amidst what had hitherto been mere lust for spoil, and joy in battle. The necessity for justice was felt in the now extending commerce; the desire of rest in the now pleasant and fitly furnished habitation; and the energy which formerly could only be satisfied in strife, now found enough both of provocation and antagonism in the invention of art, and the forces of nature. I have in this course of lectures endeavoured to fasten your attention on the Florentine Revolution of 1250, because its date is so easily memorable, and it involves the principles of every subsequent one, so as to lay at once the foundations of whatever greatness Florence afterwards achieved by her mercantile and civic power. But I must not close even this slight sketch of the central history of Val d'Arno without requesting you, as you find time, to associate in your minds, with this first revolution, the effects of two which followed it, being indeed necessary parts of it, in the latter half of the century.

259. Remember then that the first, in 1250, is embryonic; and the significance of it is simply the establishment of order, and justice against violence and iniquity. It is equally against the power of knights and priests, so far as either are unjust,—not otherwise.

When Manfred fell at Benevento, his lieutenant, the Count Guido Novello, was in command of Florence. He was just, but weak; and endeavoured to temporize with the Guelphs. His effort ought to be notable to you, because it was one of the wisest and most far-sighted ever made in Italy; but it failed for want of resolution, as the gentlest and best men are too apt to fail. He brought from Bologna two knights of the order—then recently established—of *joyful* brethren; afterwards too fatally corrupted, but at this time pure in purpose.

They constituted an order of chivalry which was to maintain peace, obey the Church, and succour widows and orphans; but to be bound by no monastic vows. Of these two knights, he chose one Guelph, the other Ghibelline; and under their balanced power Guido hoped to rank the forces of the civil, manufacturing, and trading classes, divided into twelve corporations of higher and lower arts.* But the moment this beautiful arrangement was made, all parties—Guelph, Ghibelline, and popular,—turned unanimously against Count Guido Novello. The benevolent but irresolute captain indeed gathered his men into the square of the Trinity; but the people barricaded the streets issuing from it; and Guido, heartless, and unwilling for civil warfare, left the city with his Germans in good order. And so ended the incursion of the infidel Tedeschi for this time. The Florentines then dismissed the merry brothers whom the Tedeschi had set over them, and besought help from Orvieto and Charles of Anjou; who sent them Guy de Montfort and eight hundred French riders; the blessing of whose presence thus, at their own request, was granted them on Easter Day, 1267.

On Candlemas, if you recollect, 1251, they open their gates to the Germans; and on Easter, 1267, to the French.

260. Remember, then, this revolution, as coming between the battles of Welcome and Tagliacozzo; and that it expresses the lower revolutionary temper of the trades, with English and French assistance. Its immediate result was the appointment of five hundred and sixty lawyers, woolcombers, and butchers, to deliberate upon all State questions,—under which happy ordinances you will do well, in your own reading, to leave Florence, that you may watch, for a while, darling little Pisa, all on fire for the young Conradin. She sent ten vessels across the Gulf of Genoa to fetch him; received his cavalry in her plain of Sarzana; and putting five thousand of her own

* The seven higher arts were, Lawyers, Physicians, Bankers, Merchants of Foreign Goods, Wool Manufacturers, Silk Manufacturers, Furriers. The five lower arts were, Retail Sellers of Cloth, Butchers, Shoemakers, Masons and Carpenters, Smiths.

best sailors into thirty ships, sent them to do what they could, all down the coast of Italy. Down they went; startling Gaeta with an attack as they passed; found Charles of Anjou's French and Sicilian fleet at Messina, fought it, beat it, and burned twenty-seven of its ships.

261. Meantime, the Florentines prospered as they might with their religious-democratic constitution,—until the death, in the odour of sanctity, of Charles of Anjou, and of that Pope Martin IV. whose tomb was destroyed with Urban's at Perugia. Martin died, as you may remember, of eating Bol-sena eels,—that being his share in the miracles of the lake; and you will do well to remember at the same time, that the price of the lake eels was three soldi a pound; and that Niccola of Pisa worked at Siena for six soldi a day, and his son Giovanni for four.

262. And as I must in this place bid farewell, for a time, to Niccola and to his son, let me remind you of the large commission which the former received on the occasion of the battle of Tagliacozzo, and its subsequent massacres, when the victor, Charles, having to his own satisfaction exterminated the seed of infidelity, resolves, both in thanksgiving, and for the sake of the souls of the slain knights for whom some hope might yet be religiously entertained, to found an abbey on the battle-field. In which purpose he sent for Niccola to Naples, and made him build on the field of Tagliacozzo, a church and abbey of the richest; and caused to be buried therein the infinite number of the bodies of those who died in that battle day; ordering farther, that, by many monks, prayer should be made for their souls, night and day. In which fabric the king was so pleased with Niccola's work that he rewarded and honoured him highly.

263. Do you not begin to wonder a little more what manner of man this Nicholas was, who so obediently throws down the towers which offend the Ghibellines, and so skilfully puts up the pinnacles which please the Guelphs? A passive power, seemingly, he;—plastic in the hands of any one who will em-

ploy him to build, or to throw down. On what exists of evidence, demonstrably in these years here is the strongest brain of Italy, thus for six shillings a day doing what it is bid.

264. I take farewell of him then, for a little time, ratifying to you, as far as my knowledge permits, the words of my first master in Italian art, Lord Lindsay.

“In comparing the advent of Niccola Pisano to that of the sun at his rising, I am conscious of no exaggeration; on the contrary, it is the only simile by which I can hope to give you an adequate impression of his brilliancy and power relatively to the age in which he flourished. Those sons of Erebus, the American Indians, fresh from their traditional subterranean world, and gazing for the first time on the gradual dawning of the day in the East, could not have been more dazzled, more astounded, when the sun actually appeared, than the popes and podestas, friars and freemasons must have been in the thirteenth century, when from among the Biduinos, Bonannos, and Antealmis of the twelfth, Niccola emerged in his glory, sovereign and supreme, a fount of light, diffusing warmth and radiance over Christendom. It might be too much to parallel him in actual genius with Dante and Shakspeare; they stand alone and unapproachable, each on his distinct pinnacle of the temple of Christian song; and yet neither of them can boast such extent and durability of influence, for whatever of highest excellence has been achieved in sculpture and painting, not in Italy only, but throughout Europe, has been in obedience to the impulse he primarily gave, and in following up the principle which he first struck out.

“His latter days were spent in repose at Pisa, but the precise year of his death is uncertain; Vasari fixes it in 1275; it could not have been much later. He was buried in the Campo Santo. Of his personal character we, alas! know nothing; even Shakspeare is less a stranger to us. But that it was noble, simple, and consistent, and free from the petty foibles that too frequently beset genius, may be fairly presumed from the works he has left behind him, and from the eloquent silence of tradition.”

265. Of the circumstances of Niccola Pisano's death, or the ceremonials practised at it, we are thus left in ignorance.

The more exemplary death of Charles of Anjou took place on the 7th of January, then, 1285; leaving the throne of Naples to a boy of twelve; and that of Sicily, to a Prince of Spain. Various discord, between French, Spanish, and Calabrese vices, thenceforward paralyzes South Italy, and Florence becomes the leading power of the Guelph faction. She had been inflamed and pacified through continual paroxysms of civil quarrel during the decline of Charles's power; but, throughout, the influence of the nobles declines, by reason of their own folly and insolence; while the people, though with no small degree of folly and insolence on their own side, keep hold of their main idea of justice. In the meantime, similar assertions of law against violence, and the nobility of useful occupation, as compared with that of idle rapine, take place in Bologna, Siena, and even at Rome, where Bologna sends her senator, Branca Leone, (short for Branca-di-Leone, Lion's Grip,) whose inflexible and rightly guarded reign of terror to all evil and thievish persons, noble or other, is one of the few passages of history during the middle ages, in which the real power of civic virtue may be seen exercised without warping by party spirit, or weakness of vanity or fear.

266. And at last, led by a noble, Giano della Bella, the people of Florence write and establish their final condemnation of noblesse living by rapine, those 'Ordinamenti della Giustizia,' which practically excluded all idle persons from government, and determined that the priors, or leaders of the State, should be priors, or leaders of its arts and productive labour; that its head 'podestà' or 'power' should be the standard-bearer of justice; and its council or parliament composed of charitable men, or good men: "boni viri," in the sense from which the French formed their noun 'bonté.'

The entire governing body was thus composed, first, of the Podestas, standard-bearer of justice; then of his military captain; then of his licitor, or executor; then of the twelve priors of arts and liberties—properly, deliberators on the daily oc-

cupations, interests, and pleasures of the body politic;—and, finally, of the parliament of “kind men,” whose business was to determine what kindness could be shown to other states, by way of foreign policy.

267. So perfect a type of national government has only once been reached in the history of the human race. And in spite of the seeds of evil in its own impatience, and in the gradually increasing worldliness of the mercantile body; in spite of the hostility of the angry soldier, and the malignity of the sensual priest, this government gave to Europe the entire cycle of Christian art, properly so called, and every highest Master of labour, architectural, scriptural, or pictorial, practised in true understanding of the faith of Christ;—Orcagna, Giotto, Brunelleschi, Lionardo, Luini as his pupil, Lippi, Luca, Angelico, Botticelli, and Michael Angelo.

268. I have named two men, in this group, whose names are more familiar to your ears than any others, Angelico and Michael Angelo;—who yet are absent from my list of those whose works I wish you to study, being both extravagant in their enthusiasm,—the one for the nobleness of the spirit, and the other for that of the flesh. I name them now, because the gifts each had were exclusively Florentine; in whatever they have become to the mind of Europe since, they are utterly children of the Val d’Arno.

269. You are accustomed, too carelessly, to think of Angelico as a child of the Church, rather than of Florence. He was born in 1387,—just eleven years, that is to say, after the revolt of Florence *against* the Church, and ten after the endeavour of the Church to recover her power by the massacres of Faenza and Cesena. A French and English army of pillaging riders were on the other side of the Alps,—six thousand strong; the Pope sent for it; Robert Cardinal of Geneva brought it into Italy. The Florentines fortified their Apennines against it; but it took winter quarters at Cesena, where the Cardinal of Geneva massacred five thousand persons in a day, and the children and sucklings were literally dashed against the stones.

270. That was the school which the Christian Church had prepared for their brother Angelico. But Fésolé, secluding him in the shade of her mount of Olives, and Florence revealing to him the true voice of his Master, in the temple of St. Mary of the Flower, taught him his lesson of peace on earth, and permitted him his visions of rapture in heaven. And when the massacre of Cesena was found to have been in vain, and the Church was compelled to treat with the revolted cities who had united to mourn for her victories, Florence sent her a living saint, Catherine of Siena, for her political Ambassador.

271. Of Michael Angelo I need not tell you: of the others, we will read the lives, and think over them one by one; the great fact which I have written this course of lectures to enforce upon your minds is the dependence of all the arts on the virtue of the State, and its kindly order.

The absolute mind and state of Florence, for the seventy years of her glory, from 1280 to 1350, you find quite simply and literally described in the 112th Psalm, of which I read you the descriptive verses, in the words in which they sang it, from this typically perfect manuscript of the time:—

Gloria et divitie in domo ejus, justitia ejus manet in seculum seculi.

Exortum est in tenebris lumen rectis, misericors, et miserator, et justus.

Jocundus homo, qui miseretur, et commodat: disponet sermones suos in judicio.

Dispersit, dedit pauperibus; justitia ejus manet in seculum seculi; cornu ejus exaltabitur in gloria.

I translate simply, praying you to note as the true one, the *literal* meaning of every word:—

Glory and riches are in his house. His justice remains for ever.

Light is risen in darkness for the straightforward people.

He is merciful in heart, merciful in deed, and just.

A jocund man; who is merciful, and lends.

He will dispose his words in judgment.

He hath dispersed. He hath given to the poor. His justice remains for ever. His horn shall be exalted in glory.

272. With vacillating, but steadily prevailing effort, the Florentines maintained this life and character for full half a century.

You will please now look at my staff of the year 1300,* adding the names of Dante and Orcagna, having each their separate masterful or prophetic function.

That is Florence's contribution to the intellectual work of the world during these years of justice. Now, the promise of Christianity is given with lesson from the fleur-de-lys: Seek ye first the royalty of God, and His justice, "and all these things," material wealth, "shall be added unto you." It is a perfectly clear, perfectly literal,—never failing and never unfulfilled promise. There is no instance in the whole cycle of history of its not being accomplished,—fulfilled to the uttermost, with full measure, pressed down, and running over.

273. Now hear what Florence was, and what wealth she had got by her justice. In the year 1330, before she fell, she had within her walls a hundred and fifty thousand inhabitants, of whom all the men—(laity)—between the ages of fifteen and seventy, were ready at an instant to go out to war, under their banners, in number twenty-four thousand. The army of her entire territory was eighty thousand; and within it she counted fifteen hundred noble families, every one absolutely submissive to her gonfalion of justice. She had within her walls a hundred and ten churches, seven priories, and thirty hospitals for the sick and poor; of foreign guests, on the average, fifteen hundred, constantly. From eight to ten thousand children were taught to read in her schools. The town was surrounded by some fifty square miles of uninterrupted garden, of olive, corn, vine, lily, and rose.

And the monetary existence of England and France depended upon her wealth. Two of her bankers alone had lent Edward III. of England five millions of money (in sterling value of this present hour).

274. On the 10th of March, 1337, she was first accused,

* Page 33 in my second lecture on Engraving.

with truth, of selfish breach of treaties. On the 10th of April, all her merchants in France were imprisoned by Philip of Valois; and presently afterwards Edward of England failed, quite in your modern style, for his five millions. These money losses would have been nothing to her; but on the 7th of August, the captain of her army, Pietro de' Rossi of Parma, the unquestioned best knight in Italy, received a chance spear-stroke before Monselice, and died next day. He was the Bayard of Italy; and greater than Bayard, because living in a nobler time. He never had failed in any military enterprise, nor ever stained success with cruelty or shame. Even the German troops under him loved him without bounds. To his companions he gave gifts with such largesse, that his horse and armour were all that at any time he called his own. Beautiful and pure as Sir Galahad, all that was brightest in womanhood watched and honoured him.

And thus, 8th August, 1337, he went to his own place.—To-day I trace the fall of Florence no more.

I will review the points I wish you to remember; and briefly meet, so far as I can, the questions which I think should occur to you.

275. I have named Edward III. as our heroic type of Franchise. And yet I have but a minute ago spoken of him as 'failing' in quite your modern manner. I must correct my expression:—he had no intent of failing when he borrowed; and did not spend his money on himself. Nevertheless, I gave him as an example of frankness; but by no means of honesty. He is simply the boldest and royalest of Free Riders; the campaign of Crecy is, throughout, a mere pillaging foray. And the first point I wish you to notice is the difference in the pecuniary results of living by robbery, like Edward III., or by agriculture and just commerce, like the town of Florence. That Florence can lend five millions to the King of England, and lose them with little care, is the result of her olive gardens and her honesty. Now hear the financial phenomena attending military exploits, and a life of pillage.

276. I give you them in this precise year, 1338, in which the King of England failed to the Florentines.

“He obtained from the prelates, barons, and knights of the shires, one half of their wool for this year—a very valuable and extraordinary grant. He seized all the tin” (above-ground, you mean, Mr. Henry!) “in Cornwall and Devonshire, took possession of the lands of all priories alien, and of the money, jewels, and valuable effects of the Lombard merchants. He demanded certain quantities of bread, corn, oats, and bacon, from each county; borrowed their silver plate from many abbeys, as well as great sums of money both abroad and at home; and pawned his crown for fifty thousand florins.”*

He pawns his queen's jewels next year; and finally summons all the gentlemen of England who had forty pounds a year, to come and receive the honour of knighthood, or pay to be excused!

277. II. The failures of Edward, or of twenty Edwards, would have done Florence no harm, had she remained true to herself, and to her neighbouring states. Her merchants only fall by their own increasing avarice; and above all by the mercantile form of pillage, usury. The idea that money could beget money, though more absurd than alchemy, had yet an apparently practical and irresistibly tempting confirmation in the wealth of villains, and the success of fools. Alchemy, in its day, led to pure chemistry; and calmly yielded to the science it had fostered. But all wholesome indignation against usurers was prevented, in the Christian mind, by wicked and cruel religious hatred of the race of Christ. In the end, Shakspeare himself, in his fierce effort against the madness, suffered himself to miss his mark by making his usurer a Jew: the Franciscan institution of the Mount of Pity failed before the lust of Lombardy, and the logic of Augsburg; and, to this day, the worship of the Immaculate Virginity of Money, mother of the Omnipotence of Money, is the Protestant form of Madonna worship.

* Henry's "History of England," book iv., chap. i.

278. III. The usurer's fang, and the debtor's shame, might both have been trodden down under the feet of Italy, had her knights and her workmen remained true to each other. But the brotherhoods of Italy were not of Cain to Abel—but of Cain to Cain. Every man's sword was against his fellow. Pisa sank before Genoa at Meloria, the Italian *Ægos-Potamos*; Genoa before Venice in the war of Chiozza, the Italian siege of Syracuse. Florence sent her Brunelleschi to divert the waves of Serchio against the walls of Lucca; Lucca her Castuccio, to hold mock tournaments before the gates of vanquished Florence. The weak modern Italian reviles or bewails the acts of foreign races, as if his destiny had depended upon these; let him at least assume the pride, and bear the grief, of remembering that, among all the virgin cities of his country, there has not been one which would not ally herself with a stranger, to effect a sister's ruin.

279. Lastly. The impartiality with which I have stated the acts, so far as known to me, and impulses, so far as discernible by me, of the contending Church and Empire, cannot but give offence, or provoke suspicion, in the minds of those among you who are accustomed to hear the cause of Religion supported by eager disciples, or attacked by confessed enemies. My confession of hostility would be open, if I were an enemy indeed; but I have never possessed the knowledge, and have long ago been cured of the pride, which makes men fervent in witness for the Church's virtue, or insolent in declamation against her errors. The will of Heaven, which grants the grace and ordains the diversities of Religion, needs no defence, and sustains no defeat, by the humours of men; and our first business in relation to it is to silence our wishes, and to calm our fears. If, in such modest and disciplined temper, you arrange your increasing knowledge of the history of mankind, you will have no final difficulty in distinguishing the operation of the Master's law from the consequences of the disobedience to it which He permits; nor will you respect the law less, because, accepting only the obedience of love, it neither hastily punishes, nor pompously rewards, with what

men think reward or chastisement. Not always under the feet of Korah the earth is rent; not always at the call of Elijah the clouds gather; but the guarding mountains for ever stand round about Jerusalem; and the rain, miraculous evermore, makes green the fields for the evil and the good.

280. And if you will fix your minds only on the conditions of human life which the Giver of it demands, "He hath shown thee, O man, what is good, and what doth thy Lord require of thee, but to do justice, and to love mercy, and to walk humbly with thy God," you will find that such obedience is always acknowledged by temporal blessing. If, turning from the manifest miseries of cruel ambition, and manifest wanderings of insolent belief, you summon to your thoughts rather the state of unrecorded multitudes, who laboured in silence, and adored in humility, widely as the snows of Christendom brought memory of the Birth of Christ, or her spring sunshine, of His Resurrection, you may know that the promise of the Bethlehem angels has been literally fulfilled; and will pray that your English fields, joyfully as the banks of Arno, may still dedicate their pure lilies to St. Mary of the Flower.

APPENDIX.

(NOTES ON THE PLATES ILLUSTRATING THIS VOLUME.)

IN the delivery of the preceding Lectures, some account was given of the theologic design of the sculptures by Giovanni Pisano at Orvieto, which I intended to have printed separately, and in more complete form, in this Appendix. But my strength does not now admit of my fulfilling the half of my intentions, and I find myself, at present, tired, and so dead in feeling, that I have no quickness in interpretation, or skill in description of emotional work. I must content myself, therefore, for the time, with a short statement of the points which I wish the reader to observe in the Plates, and which were left unnoticed in the text.

The frontispiece is the best copy I can get, in permanent materials, of a photograph of the course of the Arno, through Pisa, before the old banks were destroyed. Two arches of the Ponte-a-Mare which was carried away in the inundation of 1870, are seen in the distance; the church of La Spina, in its original position overhanging the river; and the buttressed and rugged walls of the mediæval shore. Never more, any of these, to be seen in reality, by living eyes.

PLATE I.—A small portion of a photograph of Nicolo Pisano's Adoration of the Magi, on the pulpit of the Pisan Baptistery. The intensely Greek character of the heads, and the severely impetuous chiselling (learned from Late Roman rapid work), which drives the lines of the drapery nearly straight, may be seen better in a fragment of this limited measure than in the crowded massing of the entire subject.

But it may be observed also that there is both a thoughtfulness and a tenderness in the features, whether of the Virgin or the attendant angel, which already indicate an aim beyond that of Greek art.

PLATE II.—The Pulpit of the Baptistery (of which the preceding plate represents a portion). I have only given this general view for convenience of reference. Beautiful photographs of the subject on a large scale are easily attainable.

PLATE III.—The Fountain of Perugia. Executed from a sketch by Mr. Arthur Severn. The perspective of the steps is not quite true; we both tried to get it right, but found that it would be a day or two's work, to little purpose,—and so let them go at hazard. The inlaid pattern behind is part of the older wall of the cathedral; the late door is of course inserted.

PLATE IV., LETTER E.—From Norman Bible in the British Museum; showing the moral temper which regulated common ornamentation in the twelfth century.

PLATE V.—Door of the Baptistery at Pisa. The reader must note that, although these plates are necessarily, in fineness of detail, inferior to the photographs from which they are taken, they have the inestimable advantage of permanence, and will not fade away into spectres when the book is old. I am greatly puzzled by the richness of the current ornamentation on the main pillars, as opposed to the general severity of design. I never can understand how the men who indulged in this flowing luxury of foliage were so stern in their masonry and figure-draperies.

PLATE VI.—Part of the lintel of the door represented on Plate V., enlarged. I intended, in the Lecture on Marble Couchant, to have insisted, at some length, on the decoration of the lintel and side-posts, as one of the most important phases of mystic ecclesiastical sculpture. But I find the materials furnished by Lucca, Pisa, and Florence, for such an essay, are far too rich to be examined cursorily; the treatment even of this single lintel could scarcely be enough explained in the close of the Lecture. I must dwell on some points of it now.

Look back to Section 175 in "Aratra Pentelici," giving statement of the four kinds of relief in sculpture. The uppermost of these plinths is of the kind I have called 'round relief'; you might strike it out on a coin. The lower is 'foliate relief'; it looks almost as if the figures had been cut out of one layer of marble, and laid against another behind it.

The uppermost, at the distance of my diagram, or in nature itself, would scarcely be distinguished at a careless glance from an egg-and-arrow moulding. You could not have a more simple or forcible illustration of my statement in the first chapter of "Aratra," that the essential business of sculpture is to produce a series of agreeable bosses or rounded surfaces; to which, if possible, some meaning may afterwards be attached. In the present instance, every egg becomes an angel, or evangelist, and every arrow a lily, or a wing.* The whole is in the most exquisitely finished Byzantine style.

I am not sure of being right in my interpretation of the meaning of these figures; but I think there can be little question about it. There are eleven altogether; the three central, Christ with His mother and St. Joseph; then, two evangelists, with two alternate angels, on each side. Each of these angels carries a rod, with a fleur-de-lys termination; their wings decorate the intermediate ridges (formed, in a pure Greek moulding, by the arrows); and, behind the heads of all the figures, there is now a circular recess; once filled, I doubt not, by a plate of gold. The Christ, and the Evangelists, all carry books, of which each has a mosaic, or intaglio ornament, in the shape of a cross. I could not show you a more severe or perfectly representative piece of *architectural* sculpture.

The heads of the eleven figures are as simply decorative as the ball flowers are in our English Gothic tracery; the slight irregularity produced by different gesture and character giv-

* In the contemporary south door of the Duomo of Genoa, the Greek moulding is used without any such transformation.

ing precisely the sort of change which a good designer wishes to see in the parts of a consecutive ornament.

The moulding closes at each extremity with a palm-tree, correspondent in execution with those on coins of Syracuse; for the rest, the interest of it consists only in these slight variations of attitude by which the figures express wonder or concern at some event going on in their presence. They are looking down; and I do not doubt, are intended to be the heavenly witnesses of the story engraved on the stone below,—The Life and Death of the Baptist.

The lower stone on which this is related, is a model of skill in Fiction, properly so called. In Fictile art, in Fictile history, it is equally exemplary. 'Feigning' or 'affecting' in the most exquisite way by fastening intensely on the principal points.

Ask yourselves what are the principal points to be insisted on, in the story of the Baptist.

He came, "preaching the Baptism of Repentance for the remission of sins." That is his Advice, or Order-preaching.

And he came, "to bear witness of the Light." "Behold the Lamb of God, which taketh away the sins of the world." That is his declaration, or revelation-preaching.

And the end of his own life is in the practice of this preaching—if you will think of it—under curious difficulties in both kinds. Difficulties in putting away sin—difficulties in obtaining sight. The first half of the stone begins with the apocalyptic preaching. Christ, represented as in youth, is set under two trees, in the wilderness. St. John is scarcely at first seen; he is only the guide, scarcely the teacher, of the crowd of peoples, nations, and languages, whom he leads, pointing them to the Christ. Without doubt, all these figures have separate meaning. I am too ignorant to interpret it; but observe generally, they are the thoughtful and wise of the earth, not its ruffians or rogues. This is not, by any means, a general amnesty to blackguards, and an apocalypse to brutes, which St. John is preaching. These are quite the best people he can find to call, or advise. You see many of them carry

rolls of paper in their hands, as he does himself. In comparison with the books of the upper cornice, these have special meaning, as throughout Byzantine design.

“Adverte quod patriarchæ et prophetæ pinguntur cum rotulis in manibus; quidam vero apostoli cum libris, et quidam cum rotulis. Nempe quia ante Christi adventum fides figurative ostendebatur, et quoad multa, in se implicita erat. Ad quod ostendendum patriarchæ et prophetæ pinguntur cum rotulis, per quos quasi quædam imperfecta cognitio designatur; quia vero apostoli a Christo perfecte edocti sunt, ideo libris, per quos designatur perfecta cognitio, uti possunt.”

WILLIAM DURANDUS, quoted by Didron, p. 305.

PLATE VII.—Next to this subject of the preaching comes the Baptism: and then, the circumstances of St. John's death. First, his declaration to Herod, “It is not lawful for thee to have thy brother's wife:” on which he is seized and carried to prison:—next, Herod's feast,—the consultation between daughter and mother, “What shall I ask?”—the martyrdom, and burial by the disciples. The notable point in the treatment of all these subjects is the quiet and mystic Byzantine dwelling on thought rather than action. In a northern sculpture of this subject, the daughter of Herodias would have been assuredly dancing; and most probably, casting a somersault. With the Byzantine, the debate in her mind is the only subject of interest, and he carves above, the evil angels, laying their hands on the heads, first of Herod and Herodias, and then of Herodias and her daughter.

PLATE VIII.—The issuing of commandment not to eat of the tree of knowledge. (Orvieto Cathedral.)

This, with Plates X. and XII., will give a sufficiently clear conception to any reader who has a knowledge of sculpture, of the principles of Giovanni Pisano's design. I have thought it well worth while to publish opposite two of them, facsimiles of the engravings which profess to represent them in Gruner's monograph* of the Orvieto sculptures; for these outlines will, once for all, and better than any words, show my pupils

* The drawings are by some Italian draughtsman, whose name it is no business of mine to notice.

what is the real virtue of mediæval work,—the power which we mediævalists rejoice in it for. Precisely the qualities which are *not* in the modern drawings, are the essential virtues of the early sculpture. If you like the Gruner outlines best, you need not trouble yourself to go to Orvieto, or anywhere else in Italy. Sculpture, such as those outlines represent, can be supplied to you by the acre, to order, in any modern academician's atelier. But if you like the strange, rude, quaint, Gothic realities (for these photographs are, up to a certain point, a vision of the reality) best; then, don't study mediæval art under the direction of modern illustrators. Look at it—for however short a time, where you can find it—veritable and untouched, however mouldered or shattered. And abhor, as you would the mimicry of your best friend's manners by a fool, all restorations and improving copies. For remember, none but fools think they can restore—none, but worse fools, that they can improve.

Examine these outlines, then, with extreme care, and point by point. The things which they have refused or lost, are the things you have to love, in Giovanni Pisano.

I will merely begin the task of examination, to show you how to set about it. Take the head of the commanding Christ. Although inclined forward from the shoulders in the advancing motion of the whole body, the head itself is not stooped; but held entirely upright, the line of forehead sloping backwards. The command is given in calm authority; not in mean anxiety. But this was not expressive enough for the copyist,—“How much better *I* can show what is meant!” thinks he. So he puts the line of forehead and nose upright; projects the brow out of its straight line; and the expression then becomes,—“Now, be very careful, and mind what I say.” Perhaps you like this ‘improved’ action better? Be it so; only, it is not Giovanni Pisano's design; but the modern Italian's.

Next, take the head of Eve. It is much missed in the photograph—nearly all the finest lines lost—but enough is got to show Giovanni's mind.

It appears, he liked long-headed people, with sharp chins and straight noses. It might be very wrong of him ; but that was his taste. So much so, indeed, that Adam and Eve have, both of them, heads not much shorter than one-sixth of their entire height.

Your modern Academy pupil, of course, cannot tolerate this monstrosity. He indulgently corrects Giovanni, and Adam and Eve have entirely orthodox one-eighth heads, by rule of schools.

But how of Eve's sharp-cut nose and pointed chin, thin lips, and look of quiet but rather surprised attention—not specially reverent, but looking keenly out from under her eyelids, like a careful servant receiving an order?

Well—those are all Giovanni's own notions ;—not the least classical, nor scientific, nor even like a pretty, sentimental modern woman. Like a Florentine woman—in Giovanni's time—it may be ; at all events, very certainly, what Giovanni thought proper to carve.

Now examine your modern edition. An entirely proper Greco-Roman academy plaster bust, with a proper nose, and proper mouth, and a round chin, and an expression of the most solemn reverence ; always, of course, of a classical description. Very fine, perhaps. But not Giovanni.

After Eve's head, let us look at her feet. Giovanni has his own positive notions about those also. Thin and bony, to excess, the right, undercut all along, so that the profile looks as thin as the mere elongated line on an Etruscan vase ; and the right showing the five toes all well separate, nearly straight, and the larger ones almost as long as fingers ! the shin bone above carried up in as severe and sharp a curve as the edge of a sword.

Now examine the modern copy. Beautiful little fleshy, Venus-de'-Medici feet and toes—no undercutting to the right foot,—the left having the great-toe properly laid over the second, according to the ordinances of schools and shoes, and a well-developed academic and operatic calf and leg. Again charming, of course. But only according to Mr. Gibson or Mr. Power—not according to Giovanni.

Farther, and finally, note the delight with which Giovanni has dwelt, though without exaggeration, on the muscles of the breast and ribs in the Adam; while he has subdued all away into virginal severity in Eve. And then note, and with conclusive admiration, how in the exact and only place where the poor modern fool's anatomical knowledge should have been shown, the wretch loses his hold of it! How he has entirely missed and effaced the grand Greek pectoral muscles of Giovanni's Adam, but has studiously added what mean fleshiness he could to the Eve; and marked with black spots the nipple and navel, where Giovanni left only the severe marble in pure light.

These instances are enough to enable you to detect the insolent changes in the design of Giovanni made by the modern Academy-student in so far as they relate to form absolute. I must farther, for a few moments, request your attention to the alterations made in the light and shade.

You may perhaps remember some of the passages. They occur frequently, both in my inaugural lectures, and in "Aratra Pentelici," in which I have pointed out the essential connection between the schools of sculpture and those of chiaroscuro. I have always spoken of the Greek, or essentially sculpture-loving schools, as chiaroscurist; always of the Gothic, or colour-loving schools, as non-chiaroscurist. And in one place, (I have not my books here, and cannot refer to it,) I have even defined sculpture as light-and-shade *drawing* with the chisel. Therefore, the next point you have to look to, after the absolute characters of form, is the mode in which the sculptor has placed his shadows, both to express these, and to force the eye to the points of his composition which he wants looked at. You cannot possibly see a more instructive piece of work, in these respects, than Giovanni's design of the Nativity, Plate X. So far as I yet know Christian art, this is the central type of the treatment of the subject; it has all the intensity and passion of the earliest schools, together with a grace of repose which even in Ghiberti's beautiful Nativity, founded upon it, has scarcely been increased, but rather lost



PLATE X.—THE NATIVITY. GIOVANNI PISANO.



PLATE XI.—THE NATIVITY. MODERN ITALIAN.

in languor. The motive of the design is the frequent one among all the early masters; the Madonna lifts the covering from the cradle to show the child to one of the servants, who starts forward adoring. All the light and shade is disposed to fix the eye on these main actions. First, one intense deeply-cut mass of shadow, under the pointed arch, to throw out the head and lifted hand of the Virgin. A vulgar sculptor would have cut all black behind the head; Giovanni begins with full shadow; then subdues it with drapery absolutely quiet in fall; then lays his fullest possible light on the head, the hand, and the edge of the lifted veil.

He has undercut his Madonna's profile, being his main aim, too delicately for time to spare; happily the deep-cut brow is left, and the exquisitely refined line above, of the veil and hair. The rest of the work is uninjured, and the sharpest edges of light are still secure. You may note how the passionate action of the servant is given by the deep shadows under and above her arm, relieving its curves in all their length, and by the recess of shade under the cheek and chin, which lifts the face.

Now take your modern student's copy, and look how *he* has placed his lights and shades. You see, they go as nearly as possible exactly where Giovanni's *don't*. First, pure white under this Gothic arch, where Giovanni has put his fullest dark. Secondly, just where Giovanni has used his whole art of chiselling, to soften his stone away, and show the wreaths of the Madonna's hair lifting her veil behind, the accursed modern blockhead carves his shadow straight down, because he thinks that will be more in the style of Michael Angelo. Then he takes the shadows away from behind the profile, and from under the chin, and from under the arm, and puts in two grand square blocks of dark at the ends of the cradle, that you may be safe to look at that, instead of the Child. Next, he takes it all away from under the servant's arms, and lays it all behind above the calf of her leg. Then, not having wit enough to notice Giovanni's undulating surface beneath the drapery of the bed on the left, he limits it with a hard parallel-

sided bar of shade, and insists on the vertical fold under the Madonna's arm, which Giovanni has purposely cut flat that it may not interfere with the arm above; finally, the modern animal has missed the only pieces of womanly form which Giovanni admitted, the rounded right arm and softly revealed breast; and absolutely removed, as if it were no part of the composition, the horizontal incision at the base of all—out of which the first folds of the drapery rise.

I cannot give you any better example, than this modern Academy-work, of the total ignorance of the very first meaning of the word 'Sculpture' into which the popular schools of existing art are plunged. I will not insist, now, on the uselessness, or worse, of their endeavours to represent the older art, and of the necessary futility of their judgment of it. The conclusions to which I wish to lead you on these points will be the subject of future lectures, being of too great importance for examination here. But you cannot spend your time in more profitable study than by examining and comparing, touch for touch, the treatment of light and shadow in the figures of the Christ and sequent angels, in Plates VIII. and IX., as we have partly examined those of the subject before us; and in thus assuring yourself of the uselessness of trusting to any ordinary modern copyists, for anything more than the rudest chart or map—and even that inaccurately surveyed—of ancient design.

The last plate given in this volume contains the two lovely subjects of the Annunciation and Visitation, which, being higher from the ground, are better preserved than the groups represented in the other plates. They will be found to justify, in subtlety of chiselling, the title I gave to Giovanni, of the Canova of the thirteenth century.

I am obliged to leave without notice, at present, the branch of ivy, given in illustration of the term 'marble rampant,' at the base of Plate VIII. The foliage of Orvieto can only be rightly described in connection with the great scheme of leaf-ornamentation which ascended from the ivy of the Homeric period in the sculptures of Cyprus, to the roses of Botticelli, and laurels of Bellini and Titian.

PROSERPINA.

STUDIES OF WAYSIDE FLOWERS,

WHILE THE AIR WAS YET PURE

AMONG THE ALPS, AND IN THE SCOTLAND AND ENGLAND
WHICH MY FATHER KNEW.

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Blossoming — and stricken in days.

COMMON HEATH. (LING)

PROSERPINA.

INTRODUCTION.

BRANTWOOD, 14th March, 1874.

YESTERDAY evening I was looking over the first book in which I studied Botany,—Curtis's Magazine, published in 1795 at No. 3, St. George's Crescent, Blackfriars Road, and sold by the principal booksellers in Great Britain and Ireland. Its plates are excellent, so that I am always glad to find in it the picture of a flower I know. And I came yesterday upon what I suppose to be a variety of a favorite flower of mine, called, in Curtis, "the St. Bruno's Lily."

I am obliged to say "what I suppose to be a variety," because my pet lily is branched,* while this is drawn as unbranched, and especially stated to be so. And the page of text, in which this statement is made, is so characteristic of botanical books, and botanical science, not to say all science as hitherto taught for the blessing of mankind; and of the difficulties thereby accompanying its communication, that I extract the page entire, printing it, on the next page, as nearly as possible in facsimile.

Now you observe, in this instructive page, that you have in the first place, eight names given you for one flower; and that, among these eight names, you are not even at liberty to make your choice, because the united authority of Haller

* At least, it throws off its flowers on each side in a bewilderingly pretty way; a real lily can't branch, I believe: but, if not, what is the use of the botanical books saying "on an unbranched stem" ?

ANTHERICUM LILIASTRUM. SAVOY ANTHEERICUM, or
ST. BRUNO'S LILY.

Class and Order.

HEXANDRIA MONOGYNIA.

Generic Character.

Cor. 6-petala, patens. *Caps.* ovata.

Specific Character and Synonyms.

ANTHERICUM *Liliastrum* solis planis, scapo simplicissimo, corollis campanulatis, staminibus declinatis. *Linn. Syst. Vegetab. ed. 14. Murr. p. 330. Ait. Kew. v. 1. p. 449.*

HEMEROCALLIS floribus patulis secundis. *Hall. Hist. n. 1230.*

PHALANGIUM magno flore. *Baub. Pin. 29.*

PHALANGIUM Allobrogicum majus. *Clus. cur. app. alt.*

PHALANGIUM Allobrogicum. The Savoye Spider-wort. *Park. Parad. p. 150. tab. 151. f. 1.*

Botanists are divided in their opinions respecting the genus of this plant; LINNÆUS considers it as an *Anthericum*, HALLER and MILLER make it an *Hemerocallis*.

It is a native of Switzerland, where, HALLER informs us, it grows abundantly in the Alpine meadows, and even on the summits of the mountains; with us it flowers in May and June.

It is a plant of great elegance, producing on an unbranched stem about a foot and a half high, numerous flowers of a delicate white color, much smaller, but resembling in form those of the common white lily, possessing a considerable degree of fragrance, their beauty is heightened by the rich orange color of their antheræ; unfortunately they are but of short duration.

MILLER describes two varieties of it differing merely in size.

A loamy soil, a situation moderately moist, with an eastern or western exposure, suits this plant best; so situated, it will increase by its roots, though not very fast, and by parting of these in the autumn, it is usually propagated.

PARKINSON describes and figures it in his *Parad. Terrest.*, observing, that "divers allured by the beauty of its flowers, had brought it into these parts."

and Miller may be considered as an accurate balance to the single authority of Linnæus; and you ought therefore for the present to remain, yourself, balanced between the sides. You may be farther embarrassed by finding that the *Anthericum* of Savoy is only described as growing in Switzerland. And farther still, by finding that Mr. Miller describes two varieties of it, which differ only in size, while you are left to conjecture whether the one here figured is the larger or smaller; and how great the difference is.

Farther, If you wish to know anything of the habits of the plant, as well as its eight names, you are informed that it grows both at the bottoms of the mountains, and the tops; and that, with us, it flowers in May and June,—but you are not told when, in its native country.

The four lines of the last clause but one, may indeed be useful to gardeners; but—although I know my good father and mother did the best they could for me in buying this beautiful book; and though the admirable plates of it did their work, and taught me much, I cannot wonder that neither my infantine nor boyish mind was irresistibly attracted by the text, of which this page is one of the most favorable specimens; nor, in consequence, that my botanical studies were—when I had attained the age of fifty—no farther advanced than the reader will find them in the opening chapter of this book.

Which said book was therefore undertaken, to put, if it might be, some elements of the science of botany into a form more tenable by ordinary human and childish faculties; or—for I can scarcely say I have yet any tenure of it myself—to make the paths of approach to it more pleasant. In fact, I only know, of it, the pleasant distant effects, which it bears to simple eyes; and some pretty mists and mysteries, which I invite my young readers to pierce, as they may, for themselves,—my power of guiding them being only for a little way.

Pretty mysteries, I say, as opposed to the vulgar and ugly mysteries of the so-called science of botany,—exempli-

fied sufficiently in this chosen page. Respecting which, please observe farther:—Nobody—I can say this very boldly—loves Latin more dearly than I; but, precisely because I do love it (as well as for other reasons), I have always insisted that books, whether scientific or not, ought to be written either in Latin, or English; and not in a doggish mixture of the refuse of both.

Linnaeus wrote a noble book of universal Natural History in Latin. It is one of the permanent classical treasures of the world. And if any scientific man thinks his labors are worth the world's attention, let him, also, write what he has to say in Latin, finishedly and exquisitely, if it take him a month to a page.*

But if—which, unless he be one chosen of millions, is assuredly the fact—his lucubrations are only of local and temporary consequence, let him write, as clearly as he can, in his native language.

This book, accordingly, I have written in English; (not, by the way, that I *could* have written it in anything else—so there are small thanks to me;) and one of its purposes is to interpret, for young English readers, the necessary European Latin or Greek names of flowers, and to make them vivid and vital to their understandings. But two great difficulties occur in doing this. The first, that there are generally from three or four, up to two dozen, Latin names current for every flower; and every new botanist thinks his eminence only to be properly asserted by adding another.

The second, and a much more serious one, is of the Devil's own contriving—(and remember I am always quite serious when I speak of the Devil,)—namely, that the most current and authoritative names are apt to be founded on some unclean or debasing association, so that to interpret them is to defile the reader's mind. I will give no instance; too many will at once occur to any learned reader, and the un-

* I have by happy chance just added to my Oxford library the poet Gray's copy of Linnaeus, with its exquisitely written Latin notes, exemplary alike to scholar and naturalist.

learned I need not vex with so much as one: but, in such cases, since I could only take refuge in the untranslated word by leaving other Greek or Latin words also untranslated, and the nomenclature still entirely senseless,—and I do not choose to do this,—there is only one other course open to me, namely, to substitute boldly, to my own pupils, other generic names for the plants thus faultfully hitherto titled.

As I do not do this for my own pride, but honestly for my readers' service, I neither question nor care how far the emendations I propose may be now or hereafter adopted. I shall not even name the cases in which they have been made for the serious reason above specified; but even shall mask those which there was real occasion to alter, by sometimes giving new names in cases where there was no necessity for such a kind. Doubtless I shall be accused of doing myself what I violently blame in others. I do so; but with a different motive—of which let the reader judge as he is disposed. The practical result will be that the children who learn botany on the system adopted in this book will know the useful and beautiful names of plants hitherto given, in all languages; the useless and ugly ones they will not know. And they will have to learn one Latin name for each plant, which, when differing from the common one, I trust may yet by some scientific persons be accepted, and with ultimate advantage.

The learning of the one Latin name—as, for instance, *Gramen striatum*—I hope will be accurately enforced always;—but not less carefully the learning of the pretty English one—“Ladielace Grass”—with due observance that “Ladies' laces hath leaves like unto Millet in fashion, with many white vaines or ribs, and silver strakes running along through the middest of the leaves, fashioning the same like to laces of white and green silk, very beautiful and faire to behold.”

I have said elsewhere, and can scarcely repeat too often, that a day will come when men of science will think their names disgraced, instead of honored, by being used to barbarize nomenclature; I hope therefore that my own name

may be kept well out of the way; but, having been privileged to found the School of Art in the University of Oxford, I think that I am justified in requesting any scientific writers who may look kindly upon this book, to add such of the names suggested in it as they think deserving of acceptance, to their own lists of synonyms, under the head of "Schol. Art. Oxon."

The difficulties thrown in the way of any quiet private student by existing nomenclature may be best illustrated by my simply stating what happens to myself in endeavoring to use the page above facsimiled. Not knowing how far St. Bruno's Lily might be connected with my own pet one, and not having any sufficient book on Swiss botany, I take down Loudon's Encyclopedia of Plants, (a most useful book, as far as any book in the present state of the science *can* be useful,) and find, under the head of Anthericum, the Savoy Lily indeed, but only the following general information:—"809. Anthericum. A name applied by the Greeks to the stem of the asphodel, and not misapplied to this set of plants, which in some sort resemble the asphodel. Plants with fleshy leaves, and spikes of bright *yellow* flowers, easily cultivated if kept dry."

Hunting further, I find again my Savoy Lily called a spider-plant, under the article Hemerocallis, and the only information which the book gives me under Hemerocallis, is that it means 'beautiful day' lily; and then, "This is an ornamental genus of the easiest culture. The species are remarkable among border flowers for their fine *orange, yellow,* or *blue* flowers. The Hemerocallis *ccerulea* has been considered a distinct genus by Mr. Salisbury, and called Sausurea." As I correct this sheet for press, however, I find that the Hemerocallis is now to be called 'Funkia,' "in honor of Mr. Funk, a Prussian apothecary."

All this while, meantime, I have a suspicion that my pet Savoy Lily is not, in existing classification, an Anthericum, nor a Hemerocallis, but a Lilium. It is, in fact, simply a Turk's cap which doesn't curl up. But on trying 'Lilium'

in Loudon, I find no mention whatever of any wild branched white lily.

I then try the next word in my specimen page of Curtis; but there is no 'Phalangium' at all in Loudon's index. And now I have neither time nor mind for more search, but will give, in due place, such account as I can of my own dwarf branched lily, which I shall call St. Bruno's, as well as this *Liliastrum*—no offense to the saint, I hope. For it grows very gloriously on the limestones of Savoy, presumably, therefore, at the Grande Chartreuse; though I did not notice it there, and made a very unmonkish use of it when I gathered it last:—There was a pretty young English lady at the table-d'hôte, in the Hôtel du Mont Blanc at St. Martin's,* and I wanted to get speech of her; and didn't know how. So all I could think of was to go half-way up the Aiguille de Varens, to gather St. Bruno's lilies; and I made a great cluster of them, and put wild roses all round them as I came down. I never saw anything so lovely; and I thought to present this to her before dinner,—but when I got down, she had gone away to Chamouni. My Fors always treated me like that, in affairs of the heart.

I had begun my studies of Alpine botany just eighteen years before, in 1842, by making a careful drawing of wood-sorrel at Chamouni; and bitterly sorry I am, now, that the work was interrupted. For I drew, then, very delicately; and should have made a pretty book if I could have got peace. Even yet, I can manage my point a little, and would far rather be making outlines of flowers than writing; and I meant to have drawn every English and Scottish wild flower, like this cluster of bog heather opposite,†—back, and profile, and front. But 'Blackwood's Magazine,' with its insults to Turner, dragged me into controversy; and I have not had,

* It was in the year 1860, in June.

† Admirably engraved by Mr. Burgess, from my pen drawing, now at Oxford. By comparing it with the plate of the same flower in Sowerby's work, the student will at once see the difference between attentive drawing, which gives the cadence and relation of masses in a group, and the mere copying of each flower in an unconsidered huddle.

properly speaking, a day's peace since; so that in 1868 my botanical studies were advanced only as far as the reader will see in next chapter; and now, in 1874, must end altogether; I suppose, heavier thoughts and work coming fast on me. So that, finding among my note-books, two or three, full of broken materials for the proposed work on flowers; and, thinking they may be useful even as fragments, I am going to publish them in their present state,—only let the reader note that while my other books endeavor, and claim, so far as they reach, to give trustworthy knowledge of their subjects, this one only shows how such knowledge may be obtained; and it is little more than a history of efforts and plans,—but of both, I believe, made in right methods.

One part of the book, however, will, I think, be found of permanent value. Mr. Burgess has engraved on wood, in reduced size, with consummate skill, some of the excellent old drawings in the *Flora Danica*, and has interpreted, and facsimilied, some of his own and my drawings from nature, with a vigor and precision unsurpassed in wood-cut illustration, which render these outlines the best exercises in black and white I have yet been able to prepare for my drawing pupils. The larger engravings by Mr. Allen may also be used with advantage as copies for drawings with pen or sepia.

ROME, 10th May (*my father's birthday*).

I found the loveliest blue asphodel I ever saw in my life, yesterday, in the fields beyond Monte Mario,—a spire two feet high, of more than two hundred stars, the stalks of them all deep blue, as well as the flowers. Heaven send all honest people the gathering of the like, in Elysian fields, some day!

CHAPTER I.

MOSS.

DENMARK HILL, 3d November, 1868.

1. It is mortifying enough to write,—but I think thus much ought to be written,—concerning myself, as ‘the author of Modern Painters.’ In three months I shall be fifty years old: and I don’t at this hour—ten o’clock in the morning of the two hundred and sixty-eighth day of my forty-ninth year—know what ‘moss’ is.

There is nothing I have more *intended* to know—some day or other. But the moss ‘would always be there’; and then it was so beautiful, and so difficult to examine, that one could only do it in some quite separated time of happy leisure—which came not. I never was like to have less leisure than now, but I *will* know what moss is, if possible, forthwith.

2. To that end I read preparatorily yesterday, what account I could find of it in all the botanical books in the house. Out of them all, I get this general notion of a moss,—that it has a fine fibrous root,—a stem surrounded with spirally set leaves,—and produces its fruit in a small case, under a cap. I fasten especially, however, on a sentence of Louis Figuier’s, about the particular species, *Hypnum*:—

“These mosses, which often form little islets of verdure at the feet of poplars and willows, are robust vegetable organisms, which do not decay.”*

3. “Qui ne pourrissent point.” What do they do with themselves, then?—it immediately occurs to me to ask. And, secondly,—If this immortality belongs to the *Hypnum* only?

It certainly does not, by any means: but, however modified

* *Histoire des Plantes.* Ed. 1865, p. 416.

or limited, this immortality is the first thing we ought to take note of in the mosses. They are, in some degree, what the 'everlasting' is in flowers. Those minute green leaves of theirs do not decay, nor fall.

But how do they die, or how stop growing, then?—it is the first thing I want to know about them. And from all the books in the house, I can't as yet find out this. Meanwhile I will look at the leaves themselves.

4. Going out to the garden, I bring in a bit of old brick, emerald green on its rugged surface, and a thick piece of mossy turf.

First, for the old brick: To think of the quantity of pleasure one has had in one's life from that emerald green velvet,—and yet that for the first time to-day I am verily going to look at it! Doing so, through a pocket lens of no great power, I find the velvet to be composed of small star-like groups of smooth, strong, oval leaves,—intensely green, and much like the young leaves of any other plant, except in this;—they all have a long brown spike, like a sting, at their ends.

5. Fastening on that, I take the *Flora Danica*,* and look through its plates of mosses, for their leaves only; and I find, first, that this spike, or strong central rib, is characteristic;—secondly, that the said leaves are apt to be not only spiked, but serrated, and otherwise angry-looking at the points;—thirdly that they have a tendency to fold together in the center (Fig. 1 †); and at last, after an hour's work at them, it strikes me suddenly that they are more like pineapple leaves than anything else.



FIG. 1.

And it occurs to me, very unpleasantly, at the same time, that I don't know what a pineapple is!

* Properly, *Floræ Danicæ*, but it is so tiresome to print the diphthongs that I shall always call it thus. It is a folio series, exquisitely begun, a hundred years ago; and not yet finished.

† Magnified about seven times. See note at end of this chapter.

Stopping to ascertain that, I am told that a pineapple belongs to the 'Bromeliaceæ'—(can't stop to find out what that means)—nay, that of these plants "the pineapple is the representative" (Loudon); "their habit is acid, their leaves rigid, and toothed with spines, their bracteas often colored with scarlet, and their flowers either white or blue"—(what are their flowers like?) But the two sentences that most interest me, are, that in the damp forests of Carolina, the *Tillandsia*, which is an 'epiphyte' (*i. e.*, a plant growing on other plants), "forms dense festoons among the branches of the trees, vegetating among the black mold that collects upon the bark of trees in hot damp countries; other species are inhabitants of deep and gloomy forests, and others form, with their spring leaves, an impenetrable herbage in the Pampas of Brazil." So they really seem to be a kind of moss, on a vast scale.

6. Next, I find in Gray,* Bromeliaceæ, and—the very thing I want—"Tillandsia, the black moss, or long moss, which, like most *Bromelias*, grows on the branches of trees." So the pineapple is really a moss; only it is a moss that flowers but 'imperfectly.' "The fine fruit is caused by the consolidation of the imperfect flowers." (I wish we could consolidate some imperfect English moss-flowers into little pineapples then,—though they were only as big as filberts.) But we cannot follow that farther now; nor consider when a flower is perfect, and when it is not, or we should get into morals, and I don't know where else; we will go back to the moss I have gathered, for I begin to see my way, a little, to understanding it.

7. The second piece I have on the table is a cluster—an inch or two deep—of the moss that grows everywhere, and that the birds use for nest-building, and we for packing, and the like. It is dry, since yesterday, and its fibers define themselves against the dark ground in warm green, touched with a glittering light. Note that burnished luster of the minute leaves; they are necessarily always relieved against

* American,—'System of Botany,' the best technical book I have.

dark hollows, and this luster makes them much clearer and brighter than if they were of dead green. In that luster—and it is characteristic of them—they differ wholly from the dead, aloe-like texture of the pineapple leaf; and remind me, as I look at them closely, a little of some conditions of chaff, as on heads of wheat after being threshed. I will hunt down that clue presently; meantime there is something else to be noticed on the old brick.

8. Out of its emerald green cushions of minute leaves, there rise, here and there, thin red threads, each with a little brown cap, or something like a cap, at the top of it. These red threads shooting up out of the green tufts, are, I believe, the fructification of the moss; fringing its surface in the woods, and on the rocks, with the small forests of brown stems, each carrying its pointed cap or crest—of infinitely varied 'mode,' as we shall see presently; and, which is one of their most blessed functions, carrying high the dew in the morning; every spear balancing its own crystal globe.

9. And now, with my own broken memories of moss, and this unbroken, though unfinished, gift of the noble labor of other people, the *Flora Danica*, I can generalize the idea of the precious little plant, for myself, and for the reader.

All mosses, I believe, (with such exceptions and collateral groups as we may afterwards discover, but they are not many,) that is to say, some thousands of species, are, in their strength of existence, composed of fibers surrounded by clusters of dry *spinous* leaves, set close to the fiber they grow on. Out of this leafy stem descends a fibrous root, and ascends, in its season, a capped seed.

We must get this very clearly into our heads. Fig. 2, A, is a little tuft of a common wood moss of Norway,* in its fruit season, of its real size; but at present I want to look at the central fiber and its leaves accurately, and understand that first.

10. Pulling it to pieces, we find it composed of seven little

* '*Dicranum cerviculatum*,' sequel to *Flora Danica*, Tab. MCCCX.

company-keeping fibers, each of which, by itself, appears as in Fig. 2, B: but as in this, its real size, it is too small, not indeed for our respect, but for our comprehension, we magnify it, Fig. 2, C, and thereupon perceive it to be indeed composed of, *a*, the small fibrous root which sustains the plant; *b*, the leaf-surrounded stem which is the actual being, and main creature, moss; and, *c*, the aspirant pillar, and cap, of its fructification.

11. But there is one minor division yet. You see I have drawn the central part of the moss plant (*b*, Fig. 2,) half in outline and half in black; and that, similarly, in the upper group, which is too small to show the real roots, the base of the cluster is black. And you remember, I doubt not, how often, in gathering what most invited gathering, of deep green, starry, perfectly soft and living wood-moss, you found it fall asunder in your hand into multitudes of separate threads, each with its bright green crest, and long root of blackness.

That blackness at the root—though only so notable in this wood-moss and collateral species, is indeed a general character of the mosses, with rare exceptions. It is their funeral blackness;—that, I perceive, is the way the moss leaves die. They do not fall—they do not visibly decay. But they decay invisibly, in continual secession, beneath the ascending crest. They rise to form that crest, all green and bright, and take the light and air from those out of which they grew;—and those, their ancestors, darken and die slowly, and at last become a mass of moldering ground. In fact, as I perceive farther, their final duty is so to die. The main work of other leaves is in their life,—but these have to form the earth out of which all other leaves are to grow. Not to cover the rocks with

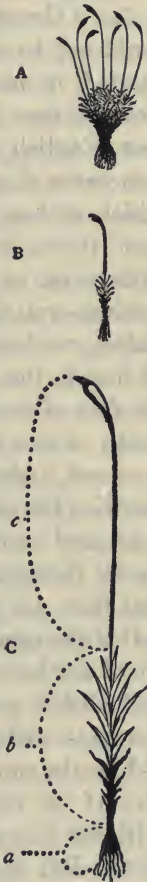


FIG. 2.

golden velvet only, but to fill their crannies with the dark earth, through which nobler creatures shall one day seek their being.

12. "Grant but as many sorts of mind as moss." Pope could not have known the hundredth part of the number of 'sorts' of moss there are; and I suppose he only chose the word because it was a monosyllable beginning with *m*, and the best English general expression for despised and minute structures of plants. But a fate rules the words of wise men, which makes their words truer, and worth more, than the men themselves know. No other plants have so endless variety on so similar a structure as the mosses; and none teach so well the Humility of Death. As for the death of our bodies, we have learned, wisely, or unwisely, to look the fact of that in the face. But none of us, I think, yet care to look the fact of the death of our minds in the face. I do not mean death of our souls, but of our mental work. So far as it is good *art*, indeed, and done in realistic form, it may perhaps not die; but so far as it was only good *thought*—good, for its time, and apparently a great achievement therein—that good, useful thought may yet in the future become a foolish thought, and then die quite away,—it, and the memory of it,—when better thought and knowledge come. But the better thought could not have come if the weaker thought had not come first, and died in sustaining the better. If we think honestly, our thoughts will not only live usefully, but even perish usefully—like the moss—and become dark, not without due service. But if we think dishonestly, or malignantly, our thoughts will die like evil fungi,—dripping corrupt dew.

13. But farther. If you have walked moorlands enough to know the look of them, you know well those flat spaces or causeways of bright green or golden ground between the heathy rock masses; which signify winding pools and inlets of stagnant water caught among the rocks;—pools which the deep moss that covers them—*blanched*, not black, at the root,—is slowly filling and making firm; whence generally the unsafe ground in the moorland gets known by being

mossy instead of heathy; and is at last called by its riders, briefly, 'the Moss': and as it is mainly at these same mossy places that the riding is difficult, and brings out the gifts of horse and rider, and discomfits all followers not similarly gifted, the skilled crosser of them got his name, naturally, of 'moss-rider,' or moss-trooper. In which manner the moss of Norway and Scotland has been a taskmaster and Maker of Soldiers, as yet, the strongest known among natural powers. The lightning may kill a man, or cast down a tower, but these little tender leaves of moss—they and their progenitors—have trained the Northern Armies.

14. So much for the human meaning of that decay of the leaves. Now to go back to the little creatures themselves. It seems that the upper part of the moss fiber is especially *undecaying* among leaves; and the lower part, especially *decaying*. That, in fact, a plant of moss fiber is a kind of persistent state of what is, in other plants, annual. Watch the year's growth of any luxuriant flower. First it comes out of the ground all fresh and bright; then, as the higher leaves and branches shoot up, those first leaves near the ground get brown, sickly, earthy,—remain forever degraded in the dust, and under the dashed slime in rain, staining, and grieving, and loading them with obloquy of envious earth, half-killing them,—only life enough left in them to hold on the stem, and to be guardians of the rest of the plant from all they suffer;—while, above them, the happier leaves, for whom they are thus oppressed, bend freely to the sunshine, and drink the rain pure.

The moss strengthens on a diminished scale, intensifies, and makes perpetual, these two states,—bright leaves above that never wither, leaves beneath, that exist only to wither.

15. I have hitherto spoken only of the fading moss as it is needed for change into earth. But I am not sure whether a yet more important office, in its days of age, be not its use as a color.

We are all thankful enough—as far as we ever are so—for green moss, and yellow moss. But we are never enough

grateful for black moss. The golden would be nothing without it, nor even the gray.

It is true that there are black lichens enough, and brown ones: nevertheless, the chief use of lichens is for silver and gold color on rocks; and it is the dead moss which gives the leopard-like touches of black. And yet here again—as to a thing I have been looking at and painting all my life—I am brought to pause, the moment I think of it carefully. The black moss which gives the precious Velasquez touches, lies, much of it, flat on the rocks; radiating from its centers—powdering in the fingers, if one breaks it off, like dry tea. Is it a black species? or a black-parched state of other species, perishing for the sake of Velasquez effects, instead of accumulation of earth? and, if so, does it die of drought, accidentally, or, in a sere old age, naturally? and how is it related to the rich green bosses that grow in deep velvet? And there again is another matter not clear to me. One calls them 'velvet' because they are all brought to an even surface at the top. Our own velvet is reduced to such trimness by cutting. But how is the moss trimmed? By what scissors? Carefullest Elizabethan gardener never shaped his yew hedge more daintily than the moss fairies smooth these soft rounded surfaces of green and gold. And just fancy the difference, if they were ragged! If the fibers had every one of them leave to grow at their own sweet will, and to be long or short as they liked, or, worse still, urged by fairy prizes into laboriously and agonizingly trying which could grow longest. Fancy the surface of a spot of competitive moss!

16. But how is it that they are subdued into that spherical obedience, like a crystal of wavellite? * Strange—that the vegetable creatures growing so fondly on rocks should form themselves in that mineral-like manner. It is true that the tops of all well-grown trees are rounded, on a large scale, as equally; but that is because they grow from a central stem, while these mossy mounds are made out of independent fila-

* The reader should buy a small specimen of this mineral; it is a useful type of many structures.

ments, each growing to exactly his proper height in the sphere—short ones outside, long in the middle. Stop, though; is that so? I am not even sure of that; perhaps they are built over a little dome of decayed moss below.* I must find out how every filament grows, separately—from root to cap, through the spirally set leaves. And meanwhile I don't know very clearly so much as what a root is—or what a leaf is. Before puzzling myself any further in examination either of moss or any other grander vegetable, I had better define these primal forms of all vegetation, as well as I can—or rather begin the definition of them, for future completion and correction. For, as my reader must already sufficiently perceive, this book is literally to be one of studies—not of statements. Some one said of me once, very shrewdly, When he wants to work out a subject, he writes a book on it. That is a very true saying in the main,—I work down or up to my mark, and let the reader see process and progress,

* LUCCA, *Aug. 9th*, 1874.—I have left this passage as originally written, but I believe the dome is of accumulated earth. Bringing home, here, evening after evening, heaps of all kinds of mosses from the hills among which the Archbishop Ruggieri was hunting the wolf and her whelps in Ugolino's dream, I am more and more struck, every day, with their special function as earth-gatherers, and with the enormous importance to their own brightness, and to our service, of that dark and degraded state of the inferior leaves. And it fastens itself in my mind mainly as their distinctive character, that as the leaves of a tree become wood, so the leaves of a moss become earth, while yet a normal part of the plant. Here is a cake in my hand weighing half a pound, bright green on the surface, with minute crisp leaves; but an inch thick beneath in what looks at first like clay, but is indeed knitted fiber of exhausted moss. Also, I don't at all find the generalization I made from the botanical books likely to have occurred to me from the real things. No moss leaves that I can find here give me the idea of resemblance to pineapple leaves; nor do I see any, through my weak lens, clearly serrated; but I do find a general tendency to run into a silky filamentous structure, and in some, especially on a small one gathered from the fissures in the marble of the cathedral, white threads of considerable length at the extremities of the leaves, of which threads I remember no drawing or notice in the botanical books. Figure 1 represents, magnified, a cluster of these leaves, with the germinating stalk springing from their center; but my scrawl was tired and careless, and for once Mr. Burgess has copied *too* accurately.

not caring to conceal them. But this book will be nothing but process. I don't mean to assert anything positively in it from the first page to the last. Whatever I say, is to be understood only as a conditional statement—liable to, and inviting, correction. And this the more because, as on the whole, I am at war with the botanists, I can't ask them to help me, and then call them names afterwards. I hope only for a contemptuous heaping of coals on my head by correction of my errors from them;—in some cases, my scientific friends will, I know, give me forgiving aid;—but, for many reasons, I am forced first to print the imperfect statement, as I can independently shape it; for if once I asked for, or received help, every thought would be frost-bitten into timid expression, and every sentence broken by apology. I should have to write a dozen of letters before I could print a line, and the line, at last, would be only like a bit of any other botanical book—trustworthy it might be, perhaps; but certainly unreadable. Whereas now, it will rather put things more forcibly in the reader's mind to have them retouched and corrected as we go on; and our natural and honest mistakes will often be suggestive of things we could not have discovered but by wandering.

On these guarded conditions, then, I proceed to study, with my reader, the first general laws of vegetable form.

CHAPTER II.

THE ROOT.

1. PLANTS in their perfect form consist of four principal parts,—the Root, Stem, Leaf, and Flower. It is true that the stem and flower are parts, and remnants, or altered states, of the leaves; and that, speaking with close accuracy, we might say, a perfect plant consists of leaf and root. But the division into these four parts is best for practical purposes, and it will be desirable to note a few general facts about each, before endeavoring to describe any one kind of plant. Only, because the character of the stem depends on the nature of the leaf and flower, we must put it last in order of examination; and trace the development of the plant first in root and leaf; then in the flower and its fruit; and lastly in the stem.

2. First, then, the Root.

Every plant is divided, as I just said, in the main, into two parts, and these have opposite natures. One part seeks the light; the other hates it. One part feeds on the air; the other on the dust.

The part that loves the light is called the Leaf. It is an old Saxon word; I cannot get at its origin. The part that hates the light is called the Root.

In Greek, *ρίζα*, Rhiza.*

In Latin, Radix, “the growing thing,” which shortens, in French, into Race, and then they put on the diminutive ‘ine,’ and get their two words, Race, and Racine, of which we keep Race for animals, and use for vegetables a word of our own

* Learn this word, at any rate; and if you know any Greek, learn also this group of words: “ὡς ρίζα ἐν γῆ διψοσῆ,” which you may chance to meet with, and even to think about, some day.

Saxon (and Dutch) dialect,—‘ root ’; (connected with Rood—an image of wood; whence at last the Holy Rood, or Tree).

3. The Root has three great functions:

1st. To hold the plant in its place.

2d. To nourish it with earth.

3d. To receive vital power for it from the earth.

With this last office is in some degree,—and especially in certain plants,—connected, that of reproduction.

But in all plants the root has these three essential functions.

First, I said, to hold the Plant in its place. The Root is its Fetter.

You think it, perhaps, a matter of course that a plant is not to be a crawling thing? It is not a matter of course at all. A vegetable might be just what it is now, as compared with an animal;—might live on earth and water instead of on meat,—might be as senseless in life, as calm in death, and in all its parts and apparent structure unchanged; and yet be a crawling thing. It is quite as easy to conceive plants moving about like lizards, putting forward first one root and then another, as it is to think of them fastened to their place. It might have been well for them, one would have thought, to have the power of going down to the streams to drink, in time of drought;—of migrating in winter with grim march from north to south of Dunsinane Hillside. But that is not their appointed Fate. They are—at least, all the noblest of them—rooted to their spot. Their honor and use is in giving immovable shelter,—in remaining landmarks, or lovemarks, when all else is changed:

“The cedars wave on Lebanon,
But Judah’s statelier maids are gone.”

4. Its root is thus a form of fate to the tree. It condemns, or indulges it, in its place. These semi-living creatures, come what may, shall abide, happy, or tormented. No doubt concerning “the position in which Providence has placed *them*,” is to trouble their minds, except so far as they

can mend it by seeking light, or shrinking from wind, or grasping at support, within certain limits. In the thoughts of men they have thus become twofold images,—on the one side, of spirits restrained and half destroyed, whence the fables of transformation into trees; on the other, of spirits patient and continuing, having root in themselves and in good ground, capable of all persistent effort and vital stability, both in themselves, and for the human States they form.

5. In this function of holding fast, roots have a power of grasp quite different from that of branches. It is not a grasp, or clutch by contraction, as that of a bird's claw, or of the small branches we call 'tendrils' in climbing plants. It is a dead, clumsy, but inevitable grasp, by swelling, *after* contortion. For there is this main difference between a branch and root, that a branch cannot grow vividly but in certain directions and relations to its neighbor branches; but a root can grow wherever there is earth, and can turn in any direction to avoid an obstacle.*

6. In thus contriving access for itself where it chooses, a root contorts itself into more serpent-like writhing than branches can; and when it has once coiled partly round a rock, or stone, it grasps it tight, necessarily, merely by swelling. Now a root has force enough sometimes to split rocks, but not to crush them; so it is compelled to grasp by *flattening* as it thickens; and, as it must have room somewhere, it alters its own shape as if it were made of dough, and holds the rock, not in a claw, but in a wooden cast or mold, adhering to its surface. And thus it not only finds its anchorage in the rock, but binds the rocks of its anchorage with a constrictor cable.

* "Duhamel, botanist of the last century, tells us that, wishing to preserve a field of good land from the roots of an avenue of elms which were exhausting it, he cut a ditch between the field and avenue to intercept the roots. But he saw with surprise those of the roots which had not been cut, go down behind the slope of the ditch to keep out of the light, go under the ditch, and into the field again." And the Swiss naturalist Bonnet said wittily, apropos of a wonder of this sort, "that sometimes it was difficult to distinguish a cat from a rose-bush."

7. Hence—and this is a most important secondary function—roots bind together the ragged edges of rocks as a hem does the torn edge of a dress: they literally stitch the stones together; so that, while it is always dangerous to pass under a treeless edge of overhanging crag, as soon as it has become beautiful with trees, it is safe also. The rending power of roots on rocks has been greatly overrated. Capillary attraction in a willow wand will indeed split granite, and swelling roots sometimes heave considerable masses aside, but on the whole, roots, small and great, bind, and do not rend.* The surfaces of mountains are dissolved and disordered, by rain, and frost, and chemical decomposition, into mere heaps of loose stones on their desolate summits; but, where the forests grow, soil accumulates and disintegration ceases. And by cutting down forests on great mountain slopes, not only is the climate destroyed, but the danger of superficial landslip fearfully increased.

8. The second function of roots is to gather for the plant the nourishment it needs from the ground. This is partly water, mixed with some kinds of air (ammonia, etc.), but the plant can get both water and ammonia from the atmosphere; and, I believe, for the most part does so; though, when it cannot get water from the air, it will gladly drink by its roots. But the things it cannot receive from the air at all are certain earthy salts, essential to it (as iron is essential in our own blood), and of which, when it has quite exhausted the earth, no more such plants can grow in that ground. On this subject you will find enough in any modern treatise on agriculture; all that I want you to note here is that this feeding function of the root is of a very delicate and discriminating kind, needing much searching and mining among the dust, to find what it wants. If it only wanted water, it could get most of that by spreading in mere soft senseless limbs, like sponge, as far, and as far down, as it could; but to get the

* As the first great office of the mosses is the gathering of earth, so that of the grasses is the binding of it. Theirs the Enchanter's toil, not in vain, —making ropes out of sea-sand,

salt out of the earth it has to *sift* all the earth, and taste and touch every grain of it that it can, with fine fibers. And therefore a root is not at all a merely passive sponge or absorbing thing, but an infinitely subtle tongue, or tasting and eating thing. That is why it is always so fibrous and divided and entangled in the clinging earth.

9. "Always fibrous and divided" ? But many roots are quite hard and solid!

No; the active part of the root is always, I believe, a fiber. But there is often a provident and passive part—a savings bank of root—in which nourishment is laid up for the plant, and which, though it may be underground, is no more to be considered its real root than the kernel of a seed is. When you sow a pea, if you take it up in a day or two, you will find the fiber below, which is root; the shoot above, which is plant; and the pea as a now partly exhausted storehouse, looking very woeful, and like the granaries of Paris after the fire. So, the round solid root of a cyclamen, or the conical one which you know so well as a carrot, are not properly roots, but permanent storehouses,—only the fibers that grow from them are roots. Then there are other apparent roots which are not even storehouses, but refuges; houses where the little plant lives in its infancy, through winter and rough weather. So that it will be best for you at once to limit your idea of a root to this,—that it is a group of growing fibers which taste and suck what is good for the plant out of the ground, and by their united strength hold it in its place; only remember the thick limbs of roots do not feed, but only the fine fibers at the ends of them which are something between tongues and sponges, and while they absorb moisture readily, are yet as particular about getting what they think nice to eat as any dainty little boy or girl; looking for it everywhere, and turning angry and sulky if they don't get it.

10. But the root has, it seems to me, one more function, the most important of all. I say, it seems to me, for observe, what I have hitherto told you is all (I believe) ascertained and admitted; this that I am going to tell you has not yet,

as far as I know, been asserted by men of science, though I believe it to be demonstrable. But you are to examine into it, and think of it for yourself.

There are some plants which appear to derive all their food from the air—which need nothing but a slight grasp of the ground to fix them in their place. Yet if we were to tie them into that place, in a framework, and cut them from their roots, they would die. Not only in these, but in all other plants, the vital power by which they shape and feed themselves, whatever that power may be, depends, I think, on that slight touch of the earth, and strange inheritance of its power. It is as essential to the plant's life as the connection of the head of an animal with its body by the spine is to the animal. Divide the feeble nervous thread, and all life ceases. Nay, in the tree the root is even of greater importance. You will not kill the tree, as you would an animal, by dividing its body or trunk. The part not severed from the root will shoot again. But in the root, and its touch of the ground, is the life of it. My own definition of a plant would be "a living creature whose source of vital energy is in the earth" (or in the water, as a form of the earth; that is, in inorganic substance). There is, however, one tribe of plants which seems nearly excepted from this law. It is a very strange one, having long been noted for the resemblance of its flowers to different insects; and it has recently been proved by Mr. Darwin to be dependent on insects for its existence. Doubly strange therefore, it seems, that in some cases this race of plants all but reaches the independent life of insects. It rather *settles* upon boughs than roots itself in them; half of its roots may wave in the air.

11. What vital power is, men of science are not a step nearer knowing than they were four thousand years ago. They are, if anything, farther from knowing now than then, in that they imagine themselves nearer. But they know more about its limitations and manifestations than they did. They have even arrived at something like a proof that there is a fixed quantity of it flowing out of things and into them.

But, for the present, rest content with the general and sure knowledge that, fixed or flowing, measurable or immeasurable—one with electricity or heat or light, or quite distinct from any of them—life is a delightful, and its negative death, a dreadful thing, to human creatures; and that you can give or gather a certain quantity of life into plants, animals, and yourself by wisdom and courage, and by their reverses can bring upon them any quantity of death you please, which is a much more serious point for you to consider than what life and death are.

12. Now, having got a quite clear idea of a root properly so called, we may observe what those storehouses, refuges, and ruins are, which we find connected with roots. The greater number of plants feed and grow at the same time; but there are some of them which like to feed first and grow afterwards. For the first year, or, at all events, the first period of their life, they gather material for their future life out of the ground and out of the air, and lay it up in a storehouse, as bees make combs. Of these stores—for the most part rounded masses tapering downwards into the ground—some are as good for human beings as honeycombs are; only not so sweet. We steal them from the plants, as we do from the bees, and these conical upside-down hives or treasuries of Atræus, under the names of carrots, turnips, and radishes, have had important influence on human fortunes. If we do not steal the store, next year the plant lives upon it, raises its stem, flowers and seeds out of that abundance, and having fulfilled its destiny, and provided for its successor, passes away, root and branch together.

13. There is a pretty example of patience for us in this; and it would be well for young people generally to set themselves to grow in a carrotty or turnippy manner, and lay up secret store, not caring to exhibit it until the time comes for fruitful display. But they must not, in after-life, imitate the spendthrift vegetable, and blossom only in the strength of what they learned long ago; else they soon come to contemptible end. Wise people live like laurels and cedars,

and go on mining in the earth, while they adorn and embalm the air.

14. Secondly, Refuges. As flowers growing on trees have to live for some time, when they are young, in their buds, so some flowers growing on the ground have to live for a while, when they are young, *in* what we call their roots. These are mostly among the Drosidæ* and other humble tribes, loving the ground; and, in their babyhood, liking to live quite down in it. A baby crocus has literally its own little dome—domus, or duomo—within which in early spring it lives a delicate convent life of its own, quite free from all worldly care and dangers, exceedingly ignorant of things in general, but itself brightly golden and perfectly formed before it is brought out. These subterranean palaces and vaulted cloisters, which we call bulbs, are no more roots than the blade of grass is a root, in which the ear of corn forms before it shoots up.

15. Thirdly, Ruins. The flowers which have these subterranean homes form one of many families whose roots, as well as seeds, have the power of reproduction. The succession of some plants is trusted much to their seeds: a thistle sows itself by its down, an oak by its acorns; the companies of flying emigrants settle where they may; and the shadowy tree is content to cast down its showers of nuts for swines' food with the chance that here and there one may become a ship's bulwark. But others among plants are less careless, or less proud. Many are anxious for their children to grow in the place where they grew themselves, and secure this not merely by letting their fruit fall at their feet, on the chance of its growing up beside them, but by closer bond, bud springing forth from roof, and the young plant being animated by the gradually surrendered life of its parent. Sometimes the young root is formed above the old one, as in the crocus, or beside it, as in the amaryllis, or beside it in a spiral succes-

* Drosidæ, in our school nomenclature, is the general name, including the four great tribes, iris, asphodel, amaryllis, and lily. See reason for this name given in the 'Queen of the Air,' Section II.

sion, as in the orchis; in these cases the old root always perishes wholly when the young one is formed; but in a far greater number of tribes, one root connects itself with another by a short piece of intermediate stem; and this stem does not at once perish when the new root is formed, but grows on at one end indefinitely, perishing slowly at the other, the scars or ruins of the past plants being long traceable on its sides. When it grows entirely underground it is called a root-stock. But there is no essential distinction between a root-stock and a creeping stem, only the root-stock may be thought of as a stem which shares the melancholy humor of a root in loving darkness, while yet it has enough consciousness of better things to grow towards, or near, the light. In one family it is even fragrant where the flower is not, and a simple houseleek is called '*rhodiola rosea*,' because its root-stock has the scent of a rose.

16. There is one very unusual condition of the root-stock which has become of much importance in economy, though it is of little in botany; the forming, namely, of knots at the ends of the branches of the underground stem, where the new roots are to be thrown out. Of these knots, or 'tubers,' (swollen things,) one kind, belonging to the tobacco tribe, has been singularly harmful, together with its pungent relative, to a neighboring country of ours, which perhaps may reach a higher destiny than any of its friends can conceive for it, if it can ever succeed in living without either the potato, or the pipe.

17. Being prepared now to find among plants many things which are like roots, yet are not, you may simplify and make fast your true idea of a root as a fiber or group of fibers, which fixes, animates, and partly feeds the leaf. Then practically, as you examine plants in detail, ask first respecting them: What kind of root have they? Is it large or small in proportion to their bulk, and why is it so? What soil does it like, and what properties does it acquire from it? The endeavor to answer these questions will soon lead you to a rational inquiry into the plant's history. You will first

ascertain what rock or earth it delights in, and what climate and circumstances; then you will see how its root is fitted to sustain it mechanically under given pressures and violences, and to find for it the necessary sustenance under given difficulties of famine or drought. Lastly you will consider what chemical actions appear to be going on in the root, or its store; what processes there are, and elements, which give pungency to the radish, flavor to the onion, or sweetness to the liquorice; and of what service each root may be made capable under cultivation, and by proper subsequent treatment, either to animals or men.

18. I shall not attempt to do any of this for you; I assume, in giving this advice, that you wish to pursue the science of botany as your chief study; I have only broken moments for it, snatched from my chief occupations, and I have done nothing myself of all this I tell you to do. But so far as you can work in this manner, even if you only ascertain the history of one plant, so that you know that accurately, you will have helped to lay the foundation of a true science of botany, from which the mass of useless nomenclature,* now mistaken for science, will fall away, as the husk of a poppy falls from the bursting flower.

* The only use of a great part of our existing nomenclature is to enable one botanist to describe to another, a plant which the other has not seen. When the science becomes approximately perfect, all known plants will be properly figured, so that nobody need describe them; and unknown plants be so rare that nobody will care to learn a new and difficult language, in order to be able to give an account of what in all probability he will never see.

CHAPTER III.

THE LEAF.

1. IN the first of the poems of which the English Government has appointed a portion to be sung every day for the instruction and pleasure of the people, there occurs this curious statement respecting any person who will behave himself rightly: "He shall be like a tree planted by the river side, that bears its fruit in its season. His leaf also shall not wither; and you will see that whatever he does will prosper."

I call it a curious statement, because the conduct to which this prosperity is promised is not that which the English, as a nation, at present think conducive to prosperity: but whether the statement be true or not, it will be easy for you to recollect the two eastern figures under which the happiness of the man is represented,—that he is like a tree bearing fruit "in its season"; (not so hastily as that the frost pinch it, nor so late that no sun ripens it;) and that "his leaf shall not fade." I should like you to recollect this phrase in the Vulgate—"folium ejus non defluet"—shall not fall *away*,—that is to say, shall not fall so as to leave any visible bareness in winter time, but only that others may come up in its place, and the tree be always green.

2. Now, you know, the fruit of the tree is either for the continuance of its race, or for the good, or harm, of other creatures. In no case is it a good to the tree itself. It is not indeed, properly, a part of the tree at all, any more than the egg is part of the bird, or the young of any creature part of the creature itself. But in the leaf is the strength of the tree itself. Nay, rightly speaking, the leaves *are* the tree itself. Its trunk sustains; its fruit burdens and exhausts;

but in the leaf it breathes and lives. And thus also, in the eastern symbolism, the fruit is the labor of men for others; but the leaf is their own life. "He shall bring forth fruit, in his time; and his own joy and strength shall be continual."

3. Notice next the word 'folium.' In Greek, *φυλλον*, 'phyllon.'

"The thing that is born," or "put forth." "When the branch is tender, and putteth forth her leaves, ye know that summer is nigh." The botanists say, "The leaf is an expansion of the bark of the stem." More accurately, the bark is a contraction of the tissue of the leaf. For every leaf is born out of the earth, and breathes out of the air; and there are many leaves that have no stems, but only roots. It is 'the springing thing'; this thin film of life; rising, with its *edge* out of the ground—infinately feeble, infinitely fair. With *Folium*, in Latin, is rightly associated the word *Flos*; for the flower is only a group of singularly happy leaves. From these two roots come *foglio*, *feuille*, *feuillage*, and *fleur*;—*blume*, *blossom*, and *bloom*; our *foliage*, and the borrowed *foil*, and the connected technical groups of words in architecture and the sciences.

4. This *thin* film, I said. That is the essential character of a leaf; to be thin,—widely spread out in proportion to its mass. It is the opening of the substance of the earth to the air, which is the giver of life. The Greeks called it, therefore, not only the born or blooming thing, but the spread or expanded thing—"πεταλον." Pindar calls the beginnings of quarrel, "petals of quarrel." Recollect, therefore, this form, *Petalos*; and connect it with *Petasos*, the expanded cap of Mercury. For one great use of both is to give shade. The root of all these words is said to be ΠΕΤ (*Pet*), which may easily be remembered in Greek, as it sometimes occurs in no unpleasant sense in English.

5. But the word 'petalos' is connected in Greek with another word, meaning, to fly,—so that you may think of a bird as spreading its petals to the wind; and with another, signifying Fate in its pursuing flight, the overtaking thing, or over-

flying Fate. Finally, there is another Greek word meaning 'wide,' *πλατυς* (*platys*); whence at last our 'plate'—a thing made broad or extended—but especially made broad or 'flat' out of the solid, as in a lump of clay extended on the wheel, or a lump of metal extended by the hammer. So the first we call Platter; the second Plate, when of the precious metals. Then putting *b* for *p*, and *d* for *t*, we get the blade of an oar, and blade of grass.

6. Now gather a branch of laurel, and look at it carefully. You may read the history of the being of half the earth in one of those green oval leaves—the things that the sun and the rivers have made out of dry ground. Daphne—daughter of Enipeus, and beloved by the Sun,—that fable gives you at once the two great facts about vegetation. Where warmth is, and moisture—there, also, the leaf. Where no warmth—there is no leaf; where there is no dew—no leaf.

7. Look, then, to the branch you hold in your hand. That you *can* so hold it, or make a crown of it, if you choose, is the first thing I want you to note of it;—the proportion of size, namely, between the leaf and *you*. Great part of your life and character, as a human creature, has depended on that. Suppose all leaves had been spacious, like some palm leaves; solid, like cactus stem; or that trees had grown, as they might of course just as easily have grown, like mushrooms, all one great cluster of leaf round one stalk. I do not say that they are divided into small leaves only for your delight, or your service, as if you were the monarch of everything—even in this atom of a globe. You are made of your proper size; and the leaves of theirs: for reasons, and by laws, of which neither the leaves nor you know anything. Only note the harmony between both, and the joy we may have in this division and mystery of the frivolous and tremulous petals, which break the light and the breeze,—compared to what, with the frivolous and tremulous mind which is in us, we could have had out of domes, or penthouses, or walls of leaf.

8. Secondly; think awhile of its dark clear green, and the good of it to you. Scientifically, you know green in leaves is owing to 'chlorophyll,' or, in English, to 'green-leaf.' It may be very fine to know that; but my advice to you, on the whole, is to rest content with the general fact that leaves are green when they do not grow in or near smoky towns; and not by any means to rest content with the fact that very soon there will not be a green leaf in England, but only greenish-black ones. And thereon resolve that you will yourself endeavor to promote the growing of the green wood, rather than of the black.

9. Looking at the back of your laurel-leaves, you see how the central rib or spine of each, and the lateral branchings, strengthen and carry it. I find much confused use, in botanical works, of the words Vein and Rib. For, indeed, there are veins *in* the ribs of leaves, as marrow in bones; and the projecting bars often gradually depress themselves into a transparent net of rivers. But the *mechanical* force of the framework in carrying the leaf-tissue is the point first to be noticed; it is that which admits, regulates, or restrains the visible motions of the leaf; while the system of circulation can only be studied through the microscope. But the ribbed leaf bears itself to the wind, as the webbed foot of a bird does to the water, and needs the same kind, though not the same strength, of support; and its ribs always are partly therefore constituted of strong woody substance, which is knit out of the tissue; and you can extricate this skeleton framework, and keep it, after the leaf-tissue is dissolved. So I shall henceforward speak simply of the leaf and its ribs,—only specifying the additional veined structure on necessary occasions.

10. I have just said that the ribs—and might have said, farther, the stalk that sustains them—are knit out of the *tissue* of the leaf. But what is the leaf-tissue itself knit out of? One would think that was nearly the first thing to be discovered, or at least to be thought of, concerning plants,—namely, how and of what they are made. We say they 'grow.' But you know that they can't grow out of nothing;



II.

Central, Type of Leaves.

COMMON BAY-LAUREL.

—this solid wood and rich tracery must be made out of some previously existing substance. What is the substance?—and how is it woven into leaves,—twisted into wood?

11. Consider how fast this is done, in spring. You walk in February over a slippery field, where, through hoar-frost and mud, you perhaps hardly see the small green blades of trampled turf. In twelve weeks you wade through the same field up to your knees in fresh grass; and in a week or two more, you mow two or three solid haystacks off it. In winter you walk by your currant-bush, or your vine. They are shriveled sticks—like bits of black tea in the canister. You pass again in May, and the currant-bush looks like a young sycamore tree; and the vine is a bower: and meanwhile the forests, all over this side of the round world, have grown their foot or two in height, with new leaves—so much deeper, so much denser than they were. Where has it all come from? Cut off the fresh shoots from a single branch of any tree in May. Weigh them; and then consider that so much weight has been added to every such living branch, everywhere, this side the equator, within the last two months. What is all that made of?

12. Well, this much the botanists really know, and tell us,—It is made chiefly of the breath of animals: that is to say, of the substance which, during the past year, animals have breathed into the air; and which, if they went on breathing, and their breath were not made into trees, would poison them, or rather suffocate them, as people are suffocated in uncleansed pits, and dogs in the Grotta del Cane. So that you may look upon the grass and forests of the earth as a kind of green hoar-frost, frozen upon it from our breath, as, on the window-panes, the white arborescence of ice.

13. But how is it made into wood?

The substances that have been breathed into the air are charcoal, with oxygen and hydrogen,—or, more plainly, charcoal and water. Some necessary earth,—in smaller quantity, but absolutely essential,—the trees get from the ground; but, I believe all the charcoal they want, and most of the water,

from the air. Now the question is, where and how do they take it in, and digest it into wood?

14. You know, in spring, and partly through all the year, except in frost, a liquid called 'sap' circulates in trees, of which the nature, one should have thought, might have been ascertained by mankind in the six thousand years they have been cutting wood. Under the impression always that it *had been* ascertained, and that I could at any time know all about it, I have put off till to-day, 19th October, 1869, when I am past fifty, the knowing anything about it at all. But I will really endeavor now to ascertain something, and take to my botanical books, accordingly, in due order.

(1) Dresser's "Rudiments of Botany." 'Sap,' not in the index; only Samara, and Sarcocarp,—about neither of which I feel the smallest curiosity. (2) Figuier's "Histoire des Plantes."* 'Sève,' not in index; only Serpolet, and Sherardia arvensis, which also have no help in them for me. (3) Balfour's "Manual of Botany." 'Sap,'—yes, at last. "Article 257. Course of fluids in exogenous stems." I don't care about the course just now: I want to know where the fluids come from. "If a plant be plunged into a weak solution of acetate of lead,"—I don't in the least want to know what happens. "From the minuteness of the tissue, it is not easy to determine the vessels through which the sap moves." Who said it was? If it had been easy, I should have done it myself. "Changes take place in the composition of the sap in its upward course." I dare say; but I don't know yet what its composition is before it begins going up. "The Elaborated Sap by Mr. Schultz has been called 'latex.'" I wish Mr. Schultz were in a hogshead of it, with the top on. "On account of these movements in the latex, the laticiferous vessels have been denominated cinenchymatous." I do not venture to print the expressions which I here mentally make use of.

15. Stay,—here, at last, in Article 264, is something to the purpose: "It appears then that, in the case of Exogenous

* An excellent book, nevertheless.

plants, the fluid matter in the soil, containing different substances in solution, is sucked up by the extremities of the roots." Yes, but how of the pine trees on yonder rock?—Is there any sap in the rock, or water either? The moisture must be seized during actual rain on the root, or stored up from the snow; stored up, any way, in a tranquil, not actively sappy, state, till the time comes for its change, of which there is no account here.

16. I have only one chance left now. Lindley's "Introduction to Botany." 'Sap,'—yes,—'General motion of.' II. 325. "The course which is taken by the sap, after entering a plant, is the first subject for consideration." My dear Doctor, I have learned nearly whatever I know of plant structure from you, and am grateful; and that it is little, is not your fault, but mine. But this—let me say it with all sincere respect—is not what you should have told me here. You know, far better than I, that 'sap' never does enter a plant at all; but only salt, or earth and water, and that the roots alone could not make it; and that, therefore, the course of it must be, in great part, the result or process of the actual making. But I will read now, patiently; for I know you will tell me much that is worth hearing, though not perhaps what I want.

Yes; now that I have read Lindley's statement carefully, I find it is full of precious things; and this is what, with thinking over it, I can gather for you.

17. First, towards the end of January,—as the light enlarges, and the trees revive from their rest,—there is a general liquefaction of the blood of St. Januarius in their stems; and I suppose there is really a great deal of moisture rapidly absorbed from the earth in most cases; and that this absorption is a great help to the sun in drying the winter's damp out of it for us: then, with that strange vital power,—which scientific people are usually as afraid of naming as common people are afraid of naming Death,—the tree gives the gathered earth and water a changed existence; and to this new-born liquid an upward motion from the earth, as our blood has from the heart; for the life of the tree is out of the earth;

and this upward motion has a mechanical power in pushing on the growth. "*Forced onward* by the current of sap, the plumule ascends," (Lindley, p. 132,)—this blood of the tree having to supply, exactly as our own blood has, not only the forming powers of substance, but a continual evaporation, "approximately seventeen times more than that of the human body," while the force of motion in the sap "is sometimes five times greater than that which impels the blood in the crural artery of the horse."

18. Hence generally, I think we may conclude thus much,—that at every pore of its surface, under ground and above, the plant in the spring absorbs moisture, which instantly disperses itself through its whole system "by means of some permeable quality of the membranes of the cellular tissue invisible to our eyes even by the most powerful glasses" (p. 326); that in this way subjected to the vital power of the tree, it becomes sap, properly so called, which passes downwards through this cellular tissue, slowly and secretly; and then upwards, through the great vessels of the tree, violently, stretching out the supple twigs of it as you see a flaccid water-pipe swell and move when the cock is turned to fill it. And the tree becomes literally a fountain, of which the springing streamlets are clothed with new-woven garments of green tissue, and of which the silver spray stays in the sky,—a spray, now, of leaves.

19. That is the gist of the matter; and a very wonderful gist it is, to my mind. The secret and subtle descent—the violent and exulting resilience of the tree's blood,—what guides it?—what compels? The creature has no heart to beat like ours; one cannot take refuge from the mystery in a 'muscular contraction.' Fountain without supply—playing by its own force, forever rising and falling all through the days of Spring, spending itself at last in gathered clouds of leaves, and iris of blossom.

Very wonderful; and it seems, for the present, that we know nothing whatever about its causes;—nay, the strangeness of the reversed arterial and vein motion, without a heart,

does not seem to strike anybody. Perhaps, however, it may interest you, as I observe it does the botanists, to know that the cellular tissue through which the motion is effected is called Parenchym, and the woody tissue, Bothrenchym; and that Parenchym is divided, by a system of nomenclature which "has some advantages over that more commonly in use,"* into merenchyma, conenchyma, ovenchyma, atractenchyma, cylindrenchyma, colpenchyma, cladenchyma, and prismenchyma.

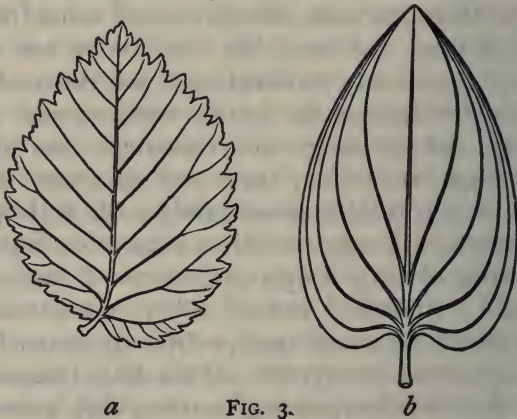
20. Take your laurel branch into your hand again. There are, as you must well know, innumerable shapes and orders of leaves;—there are some like paws, and some like claws; some like fingers, and some like feet; there are endlessly cleft ones, and endlessly clustered ones, and inscrutable divisions within divisions of the fretted verdure; and wrinkles, and ripples, and stitchings, and hemmings, and pinchings, and gatherings, and crumplings, and clippings, and what not. But there is nothing so constantly noble as the pure leaf of the laurel, bay, orange, and olive; numerable, sequent, perfect in setting, divinely simple and serene. I shall call these noble leaves 'Apolline' leaves. They characterize many orders of plants, great and small,—from the magnolia to the myrtle, and exquisite 'myrtille' of the hills (bilberry); but wherever you find them, strong, lustrous, dark green, simply formed, richly scented or stored,—you have nearly always kindly and lovely vegetation, in healthy ground and air.

21. The gradual diminution in rank beneath the Apolline leaf, takes place in others by the loss of one or more of the qualities above named. The Apolline leaf, I said, is strong, lustrous, full in its green, rich in substance, simple in form. The inferior leaves are those which have lost strength, and become thin, like paper; which have lost luster, and become dead by roughness of surface, like the nettle,—(an Apolline leaf may become dead by *bloom*, like the olive, yet not lose beauty); which have lost color, and become feeble in green,

* Lindley, 'Introduction to Botany,' vol. i., p. 21. The terms "wholly obsolete," says an authoritative botanical friend. Thank Heaven.

as in the poplar, or *crudely* bright, like rice; which have lost substance and softness, and have nothing to give in scent or nourishment; or become flinty or spiny; finally, which have lost simplicity, and become cloven or jagged. Many of these losses are partly atoned for by gain of some peculiar loveliness. Grass and moss, and parsley and fern, have each their own delightfulness; yet they are all of inferior power and honor, compared to the Apolline leaves.

22. You see, however, that though your laurel leaf has a central stem, and traces of ribs branching from it, in a ver-



a FIG. 3. *b*

tebrated manner, they are so faint that we cannot take it for a type of vertebrate structure. But the two figures of elm and alisma leaf, given in "Modern Painters" (vol. iii.), and now here repeated, Fig. 3, will clearly enough show the opposition between this vertebrate form, branching again usually at the edges, *a*, and the softly opening lines diffused at the stem, and gathered at the point of the leaf, *b*, which, as you almost without doubt know already, are characteristic of a vast group of plants, including especially all the lilies, grasses, and palms, which for the most part are the signs of local or temporary moisture in hot countries;—local, as of fountains and streams; temporary, as of rain or inundation.

But temporary, still more definitely in the day, than in the year. When you go out, delighted, into the dew of the morning, have you ever considered why it is so rich upon the grass;—why it is *not* upon the trees? It is partly on the trees, but yet your memory of it will be always chiefly of its gleam upon the lawn. On many trees you will find there is none at all. I cannot follow out here the many inquiries connected with this subject, but, broadly, remember the branched trees are fed chiefly by rain,—the unbranched ones by dew, visible or invisible; that is to say, at all events by moisture which they can gather for themselves out of the air; or else by streams and springs. Hence the division of the verse of the song of Moses: “My doctrine shall drop as the rain; my speech shall distill as the dew: as the *small* rain upon the tender *herb*, and as the showers upon the grass.”

23. Next, examining the direction of the veins in the leaf of the alisma, *b*, Fig. 3, you see they all open widely, as soon as they can, towards the thick part of the leaf; and then taper, apparently with reluctance, pushing each other outwards, to the point. If the leaf were a lake of the same shape, and its stem the entering river, the lines of the currents passing through it would, I believe, be nearly the same as that of the veins in the aquatic leaf. I have not examined the fluid law accurately, and I do not suppose there is more real correspondence than may be caused by the leaf's expanding in every permitted direction, as the water would, with all the speed it can; but the resemblance is so close as to enable you to fasten the relation of the unbranched leaves to streams more distinctly in your mind,—just as the toss of the palm leaves from their stem may, I think, in their likeness to the springing of a fountain, remind you of their relation to the desert, and their necessity, therein, to life of man and beast.

24. And thus, associating these grass and lily leaves always with fountains, or with dew, I think we may get a pretty general name for them also. You know that Cora, our Madonna of the flowers, was lost in Sicilian Fields: you know, also, that the fairest of Greek fountains, lost in Greece,

was thought to rise in a Sicilian islet; and that the real springing of the noble fountain in that rock was one of the causes which determined the position of the greatest Greek city of Sicily. So I think, as we call the fairest branched leaves 'Apolline,' we will call the fairest flowing ones 'Arethusan.' But remember that the Apolline leaf represents only the central type of land leaves, and is, within certain limits, of a fixed form; while the beautiful Arethusan leaves, alike in flowing of their lines, change their forms indefinitely,—some shaped like round pools, and some like winding currents, and many like arrows, and many like hearts, and otherwise varied and variable, as leaves ought to be,—that rise out of the waters, and float amidst the pausing of their foam.

25. Brantwood, *Easter Day*, 1875.—I don't like to spoil my pretty sentence, above; but on reading it over, I suspect I wrote it confusing the water-lily leaf, and other floating ones of the same kind, with the Arethusan forms. But the water-lily and water-ranunculus leaves, and such others, are to the orders of earth-loving leaves what ducks and swans are to birds; (the swan is the water-lily of birds;) they are *swimming* leaves; not properly watery-creatures, or able to live under water like fish, (unless when dormant), but just like birds that pass their lives on the surface of the waves—though they must breathe in the air.

And these natant leaves, as they lie on the water surface, do not want strong ribs to carry them,* but have very delicate ones beautifully branching into the orb'd space, to keep the tissue nice and flat; while, on the other hand, leaves that really have to grow under water, sacrifice their tissue, and keep only their ribs, like coral animals; ('Ranunculus heterophyllus,' 'other-leaved Frog-flower,' and its like,) just as, if you keep your own hands too long in water, they shrivel at the finger-ends.

26. So that you must not attach any great botanical im-

* "You should see the girders on under-side of the Victoria Water-lily, the most wonderful bit of engineering, of the kind, I know of."—('Botanical friend.')

portance to the characters of contrasted aspects in leaves, which I wish you to express by the words 'Apolline' and 'Arethusan'; but their mythic importance is very great, and your careful observance of it will help you completely to understand the beautiful Greek fable of Apollo and Daphne. There are indeed several Daphnes, and the first root of the name is far away in another field of thought altogether, connected with the Gods of Light. But etymology, the best of servants, is an unreasonable master; and Professor Max Müller trusts his deep-reaching knowledge of the first ideas connected with the names of Athena and Daphne, too implicitly, when he supposes this idea to be retained in central Greek theology. 'Athena' originally meant only the dawn, among nations who knew nothing of a Sacred Spirit. But the Athena who catches Achilles by the hair, and urges the spear of Diomed, has not, in the mind of Homer, the slightest remaining connection with the mere beauty of daybreak. Daphne chased by Apollo, may perhaps—though I doubt even this much of consistence in the earlier myth—have meant the Dawn pursued by the Sun. But there is no trace whatever of this first idea left in the fable of Arcadia and Thessaly.

27. The central Greek Daphne is the daughter of one of the great *river* gods of Arcadia; her mother is the Earth. Now Arcadia is the Oberland of Greece; and the crests of Cyllene, Erymanthus, and Mænalus* surround it, like the Swiss forest cantons, with walls of rock, and shadows of pine. And it divides itself, like the Oberland, into three regions: first, the region of rock and snow, sacred to Mercury and Apollo, in which Mercury's birth on Cyllene, his construction of the lyre, and his stealing the oxen of Apollo, are all expressions of the enchantments of cloud and sound, mingling with the sunshine, on the cliffs of Cyllene.

"While the mists
Flying, and rainy vapors, call out shapes
And phantoms from the crags and solid earth
As fast as a musician scatters sounds
Out of his instrument."

* Roughly, Cyllene 7,700 feet high; Erymanthus 7,000; Mænalus 6,000.

Then came the pine region, sacred especially to Pan and Mænalus, the son of Lycaon and brother of Callisto; and you had better remember this relationship carefully, for the sake of the meaning of the constellations of Ursa Major and the Mons Mænalius, and of their wolf and bear traditions; (compare also the strong impression on the Greek mind of the wild leafiness, nourished by snow, of the Bœotian Cithæron, —“ Oh, thou lake-hollow, full of divine leaves, and of wild creatures, nurse of the snow, darling of Diana,” (Phœnissæ, 801). How wild the climate of this pine region is, you may judge from the pieces in the note below* out of Colonel Leake’s diary in crossing the Mænalian range in spring. And then, lastly, you have the laurel and vine region, full of sweetness and Elysian beauty.

* *March 3d.*—We now ascend the roots of the mountain called Kastaniá, and begin to pass between it and the mountain of Alonístena, which is on our right. The latter is much higher than Kastaniá, and, like the other peaked summits of the Mænalian range, is covered with firs, and deeply at present with snow. The snow lies also in our pass. At a fountain in the road, the small village of Bazeniko is half a mile on the right, standing at the foot of the Mænalian range, and now covered with snow.

Saetà is the most lofty of the range of mountains, which are in face of Levidhi, to the northward and eastward; they are all a part of the chain which extends from Mount Khelmós, and connects that great summit with Artemisium, Parthenium, and Parnon. Mount Saetà is covered with firs. The mountain between the plain of Levidhi and Alonístena, or, to speak by the ancient nomenclature, that part of the Mænalian range which separates the Orchomenia from the valleys of Helisson and Methydrum, is clothed also with large forests of the same trees; the road across this ridge from Levidhi to Alonístena is now impracticable on account of the snow.

I am detained all day at Levidhi by a heavy fall of snow, which before the evening has covered the ground to half a foot in depth, although the village is not much elevated above the plain, nor in a more lofty situation than Tripolitzá.

March 4th.—Yesterday afternoon and during the night the snow fell in such quantities as to cover all the plains and adjacent mountains; and the country exhibited this morning as fine a snow-scene as Norway could supply. As the day advanced and the sun appeared, the snow melted rapidly, but the sky was soon overcast again, and the snow began to fall,

28. Now as Mercury is the ruling power of the hill enchantment, so Daphne of the leafy peace. She is, in her first life, the daughter of the mountain river, the mist of it filling the valley; the Sun, pursuing, and effacing it, from dell to dell, is, literally, Apollo pursuing Daphne, and *adverse* to her; (not, as in the earlier tradition, the Sun pursuing only his own light). Daphne, thus hunted, cries to her mother, the Earth, which opens, and receives her, causing the laurel to spring up in her stead. That is to say, wherever the rocks protect the mist from the sunbeam, and suffer it to water the earth, there the laurel and other richest vegetation fill the hollows, giving a better glory to the sun itself. For sunshine, on the torrent spray, on the grass of its valley, and entangled among the laurel stems, or glancing from their leaves, became a thousandfold lovelier and more sacred than the same sunbeams, burning on the leafless mountain-side.

And farther, the leaf, in its connection with the river, is typically expressive, not, as the flower was, of human fading and passing away, but of the perpetual flow and renewal of human mind and thought, rising "like the rivers that run among the hills"; therefore it was that the youth of Greece sacrificed their hair—the sign of their continually renewed strength,—to the rivers, and to Apollo. Therefore, to commemorate Apollo's own chief victory over death—over Python, the corrupter,—a laurel branch was gathered every ninth year in the vale of Tempe; and the laurel leaf became the reward or crown of all beneficent and enduring work of man—work of inspiration, born of the strength of the earth, and of the dew of heaven, and which can never pass away.

29. You may doubt at first, even because of its grace, this meaning in the fable of Apollo and Daphne; you will not doubt it, however, when you trace it back to its first eastern origin. When we speak carelessly of the traditions respecting the Garden of Eden, (or in Hebrew, remember, Garden of Delight,) we are apt to confuse Milton's descriptions with those in the book of Genesis. Milton fills his Paradise with flowers; but no flowers are spoken of in Genesis. We may

indeed conclude that in speaking of every herb of the field, flowers are included. But they are not named. The things that are *named* in the Garden of Delight are trees only.

The words are, "every tree that was pleasant to the sight and good for food;" and as if to mark the idea more strongly for us in the Septuagint, even the ordinary Greek word for tree is not used, but the word *ξύλον*,—literally, every 'wood,' every piece of *timber* that was pleasant or good. They are indeed the "vivi travi,"—living rafters,—of Dante's Apennine.

Do you remember how those trees were said to be watered? Not by the four rivers only. The rivers could not supply the place of rain. No rivers do; for in truth they are the refuse of rain. No storm-clouds were there, nor hidings of the blue by darkening veil; but there went up a *mist* from the earth, and watered the face of the ground,—or, as in Septuagint and Vulgate, "There went forth a fountain from the earth, and gave the earth to drink."

30. And now, lastly, we continually think of that Garden of Delight, as if it existed, or could exist, no longer; wholly forgetting that it is spoken of in Scripture as perpetually existent; and some of its fairest trees as existent also, or only recently destroyed. When Ezekiel is describing to Pharaoh the greatness of the Assyrians, do you remember what image he gives of them? "Behold, the Assyrian was a cedar in Lebanon, with fair branches; and his top was among the thick boughs; the waters nourished him, and the deep brought him up, with her rivers running round about his plants. Under his branches did all the beasts of the field bring forth their young; and under his shadow dwelt all great nations."

31. Now hear what follows. "The cedars *in the Garden of God* could not hide *him*. The fir trees were not like his boughs, and the chestnut trees were not like his branches: nor any tree in the Garden of God was like unto him in beauty."

So that you see, whenever a nation rises into consistent, vital, and, through many generations, enduring power, *there* is still the Garden of God; still it is the water of life which

feeds the roots of it; and still the succession of its people is imaged by the perennial leafage of trees of Paradise. Could this be said of Assyria, and shall it not be said of England? How much more, of lives such as ours should be,—just, laborious, united in aim, beneficent in fulfillment,—may the image be used of the leaves of the trees of Eden! Other symbols have been given often to show the evanescence and slightness of our lives—the foam upon the water, the grass on the housetop, the vapor that vanishes away; yet none of these are images of true human life. That life, when it is real, is *not* evanescent; is *not* slight; does *not* vanish away. Every noble life leaves the fiber of it interwoven forever in the work of the world; by so much, evermore, the strength of the human race has gained; more stubborn in the root, higher towards heaven in the branch; and, “as a teel tree, and as an oak,—whose substance is in them when they cast their leaves,—so the holy seed is in the midst thereof.”

32. Only remember on what conditions. In the great Psalm of life, we are told that everything that a man doeth shall prosper, so only that he delight in the law of his God, that he hath not walked in the counsel of the wicked, nor sat in the seat of the scornful. Is it among these leaves of the perpetual Spring,—helpful leaves for the healing of the nations,—that we mean to have our part and place, or rather among the “brown skeletons of leaves that lag, the forest brook along”? For other leaves there are, and other streams that water them,—not water of life, but water of Acheron. Autumnal leaves there are that strew the brooks, in Vallombrosa. Remember you how the name of the place was changed: “Once called ‘Sweet water’ (Aqua bella), now, the Shadowy Vale.” Portion in one or other name we must choose, all of us,—with the living olive, by the living fountains of waters, or with the wild fig trees, whose leafage of human soul is strewed along the brooks of death, in the eternal Vallombrosa.

CHAPTER IV.

THE FLOWER.

ROME, *Whit Monday*, 1874.

1. ON the quiet road leading from under the Palatine to the little church of St. Nereo and Achilleo, I met, yesterday morning, group after group of happy peasants heaped in pyramids on their triumphal carts, in Whit-Sunday dress, stout and clean, and gay in color; and the women all with bright artificial roses in their hair, set with true natural taste, and well becoming them. This power of arranging wreath or crown of flowers for the head, remains to the people from classic times. And the thing that struck me most in the look of it was not so much the cheerfulness, as the dignity;—in a true sense, the *becomingness* and decorousness of the ornament. Among the ruins of the dead city, and the worse desolation of the work of its modern rebuilders, here was one element at least of honor, and order;—and, in these, of delight.

And these are the real significances of the flower itself. It is the utmost purification of the plant, and the utmost discipline. Where its tissue is blanched fairest, dyed purest, set in strictest rank, appointed to most chosen office, there—and created by the fact of this purity and function—is the flower.

2. But created, observe, by the purity and order, more than by the function. The flower exists for its own sake,—not for the fruit's sake. The production of the fruit is an added honor to it—is a granted consolation to us for its death. But the flower is the end of the seed,—not the seed of the flower.

You are fond of cherries, perhaps; and think that the use of cherry blossom is to produce cherries. Not at all. The use of cherries is to produce cherry blossom; just as the use of bulbs is to produce hyacinths,—not of hyacinths to produce bulbs. Nay, that the flower can multiply by bulb, or root, or slip, as well as by seed, may show you at once how immaterial

the seed-forming function is to the flower's existence. A flower is to the vegetable substance what a crystal is to the mineral. "Dust of sapphire," writes my friend Dr. John Brown to me, of the wood hyacinths of Scotland in the spring. Yes, that is so,—each bud more beautiful, itself, than perfectest jewel—*this*, indeed, jewel "of purest ray serene;" but, observe you, the glory is in the purity, the serenity, the radiance,—not in the mere continuance of the creature.

3. It is because of its beauty that its continuance is worth Heaven's while. The glory of it is in being;—not in begetting; and in the spirit and substance,—not the change. For the earth also has its flesh and spirit. Every day of spring is the earth's Whit Sunday—Fire Sunday. The falling fire of the rainbow, with the order of its zones, and the gladness of its covenant,—you may eat of it, like Esdras; but you feed upon it only that you may see it. Do you think that flowers were born to nourish the blind?

Fasten well in your mind, then, the conception of order, and purity, as the essence of the flower's being, no less than of the crystal's. A ruby is not made bright to scatter round it child-rubies; nor a flower, but in collateral and added honor, to give birth to other flowers.

Two main facts, then, you have to study in every flower: the symmetry or order of it, and the perfection of its substance; first, the manner in which the leaves are placed for beauty of form; then the spinning and weaving and blanching of their tissue, for the reception of purest color, or refining to richest surface.

4. First, the order: the proportion, and answering to each other, of the parts; for the study of which it becomes necessary to know what its parts are; and that a flower consists essentially of—— Well, I really don't know what it consists essentially of. For some flowers have bracts, and stalks, and toruses, and calices, and corollas, and disks, and stamens, and pistils, and ever so many odds and ends of things besides, of no use at all, seemingly; and others have no bracts, and no stalks, and no toruses, and no calices, and no corollas, and

nothing recognizable for stamens or pistils,—only, when they come to be reduced to this kind of poverty, one doesn't call them flowers; they get together in knots, and one calls them catkins, or the like, or forgets their existence altogether;—I haven't the least idea, for instance, myself, what an oak blossom is like; only I know its bracts get together and make a cup of themselves afterwards, which the Italians call, as they do the dome of St. Peter's, 'cupola'; and that it is a great pity, for their own sake as well as the world's, that they were not content with their ilex cupolas, which were made to hold something, but took to building these big ones upside-down, which hold nothing—*less* than nothing,—large extinguishers of the flame of Catholic religion. And for farther embarrassment, a flower not only is without essential consistence of a given number of parts, but it rarely consists, alone, of *itself*. One talks of a hyacinth as of a flower; but a hyacinth is any number of flowers. One does not talk of 'a heather'; when one says 'heath,' one means the whole plant, not the blossom,—because heath-bells, though they grow together for company's sake, do so in a voluntary sort of way, and are not fixed in their places; and yet, they depend on each other for effect, as much as a bunch of grapes.

5. And this grouping of flowers, more or less waywardly, is the most subtle part of their order, and the most difficult to represent. Take that cluster of bog-heather bells, for instance, Line-study 1. You might think at first there were no lines in it worth study; but look at it more carefully. There are twelve bells in the cluster. There may be fewer, or more; but the bog-heath is apt to run into something near that number. They all grow together as close as they can, and on one side of the supporting branch only. The natural effect would be to bend the branch down; but the branch won't have that, and so leans back to carry them. Now you see the use of drawing the profile in the middle figure: it shows you the exactly balanced setting of the group,—not drooping, nor erect; but with a disposition to droop, tossed up by the leaning back of the stem. Then, growing as near as they can to each



Line Study. I.
ERICA TETRALIX.

other, those in the middle get squeezed. Here is another quite special character. Some flowers don't like being squeezed at all (fancy a squeezed convolvulus!); but these heather bells like it, and look all the prettier for it,—not the squeezed ones exactly, by themselves, but the cluster altogether, by their patience.

Then also the outside ones get pushed into a sort of star-shape, and in front show the color of all their sides, and at the back the rich green cluster of sharp leaves that hold them; all this order being as essential to the plant as any of the more formal structures of the bell itself.

6. But the bog-heath has usually only one cluster of flowers to arrange on each branch. Take a spray of ling (Frontispiece), and you will find that the richest piece of Gothic spire-sculpture would be dull and graceless beside the grouping of the floral masses in their various life. But it is difficult to give the accuracy of attention necessary to see their beauty without drawing them; and still more difficult to draw them in any approximation to the truth before they change. This is indeed the fatalest obstacle to all good botanical work. Flowers, or leaves,—and especially the last,—can only be rightly drawn as they grow. And even then, in their loveliest spring action, they grow as you draw them, and will not stay quite the same creatures for half an hour.

7. I said in my inaugural lectures at Oxford, § 107, that real botany is not so much the description of plants as their biography. Without entering at all into the history of its fruitage, the life and death of the blossom *itself* is always an eventful romance, which must be completely told, if well. The grouping given to the various states of form between bud and flower is always the most important part of the design of the plant; and in the modes of its death are some of the most touching lessons, or symbolisms, connected with its existence. The utter loss and far-scattered ruin of the cistus and wild rose,—the dishonored and dark contortion of the convolvulus,—the pale wasting of the crimson heath of Apennine, are strangely opposed by the quiet closing of the brown bells of

the ling, each making of themselves a little cross as they die; and so enduring into the days of winter. I have drawn the faded beside the full branch, and know not which is the more beautiful.

8. This grouping, then, and way of treating each other in their gathered company, is the first and most subtle condition of form in flowers; and, observe, I don't mean, just now, the appointed and disciplined grouping, but the wayward and accidental. Don't confuse the beautiful consent of the cluster in these sprays of heath with the legal strictness of a fox-glove,—though that also has its divinity; but of another kind. That legal order of blossoming—for which we may wisely keep the accepted name, 'inflorescence,'—is itself quite a separate subject of study, which we cannot take up until we know the still more strict laws which are set over the flower itself.

9. I have in my hand a small red poppy which I gathered on Whit Sunday on the palace of the Cæsars. It is an intensely simple, intensely floral, flower. All silk and flame: a scarlet cup, perfect-edged all round, seen among the wild grass far away, like a burning coal fallen from Heaven's altars. You cannot have a more complete, a more stainless, type of flower absolute; inside and outside, *all* flower. No sparing of color anywhere—no outside coarsenesses—no interior secrecies; open as the sunshine that creates it; finished on both sides, down to the extremest point of insertion on its narrow stalk; and robed in the purple of the Cæsars.

Literally so. That poppy scarlet, so far as it could be painted by mortal hand, for mortal King, stays yet, against the sun, and wind, and rain, on the walls of the house of Augustus, a hundred yards from the spot where I gathered the weed of its desolation.

10. A pure *cup*, you remember it is; that much at least you cannot but remember, of poppy-form among the cornfields; and it is best, in beginning, to think of every flower as essentially a cup. There are flat ones, but you will find that most of these are really groups of flowers, not single blossoms;

and there are out-of-the-way and quaint ones, very difficult to define as of any shape; but even these have a cup to begin with, deep down in them. You had better take the idea of a cup or vase, as the first, simplest, and most general form of true flower.

The botanists call it a corolla, which means a garland, or a kind of crown; and the word is a very good one, because it indicates that the flower-cup is made, as our clay cups are, on a potter's wheel; that it is essentially a *revolute* form—a whirl or (botanically) 'whorl' of leaves; in reality successive round the base of the urn they form.

11. Perhaps, however, you think poppies in general are not much like cups. But the flower in my hand is a—poverty-stricken poppy, I was going to write,—poverty-strengthened poppy, I mean. On richer ground, it would have gushed into flaunting breadth of untenable purple—flapped its inconsistent scarlet vaguely to the wind—dropped the pride of its petals over my hand in an hour after I gathered it. But this little rough-bred thing, a Campagna pony of a poppy, is as bright and strong to-day as yesterday. So that I can see exactly where the leaves join or lap over each other; and when I look down into the cup, find it to be composed of four leaves altogether,—two smaller, set within two larger.

12. Thus far (and somewhat farther) I had written in Rome; but now, putting my work together in Oxford, a sudden doubt troubles me, whether all poppies have two petals smaller than the other two. Whereupon I take down an excellent little school-book on botany—the best I've yet found, thinking to be told quickly; and I find a great deal about opium; and, apropos of opium, that the juice of common celandine is of a bright orange color; and I pause for a bewildered five minutes, wondering if a celandine is a poppy, and how many petals *it* has: going on again—because I must, without making up my mind, on either question—I am told to "observe the floral receptacle of the Californian genus *Eschscholtzia*." Now I can't observe anything of the sort, and I don't want to; and I wish California and all that's in it

were at the deepest bottom of the Pacific. Next I am told to compare the poppy and water-lily; and I can't do that, neither—though I should like to; and there's the end of the article; and it never tells me whether one pair of petals is always smaller than the other, or not. Only I see it says the corolla has four petals. Perhaps a celandine may be a double poppy, and have eight. I know they're tiresome irregular things, and I mustn't be stopped by them; *—at any rate, my Roman poppy knew what it was about, and had its two couples of leaves in clear subordination, of which at the time I went on to inquire farther, as follows.

13. The next point is, what shape are the petals of? And that is easier asked than answered; for when you pull them off, you find they won't lie flat, by any means, but are each of them cups, or rather shells, themselves; and that it requires as much conchology as would describe a cockle, before you can properly give account of a single poppy leaf. Or of a single *any* leaf—for all leaves are either shells, or boats, (or solid, if not hollow, masses,) and cannot be represented in flat outline. But, laying these as flat as they will lie on a sheet of paper, you will find the piece they hide of the paper they lie on can be drawn; giving approximately the shape of the outer leaf as at A, that of the inner as at B, Fig. 4; which you will find very

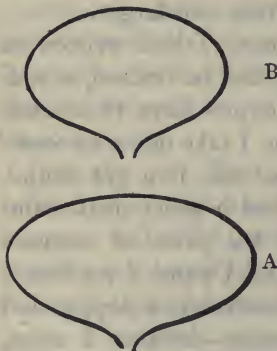


FIG. 4.

difficult lines to draw, for they are each composed of two curves, joined, as in Fig. 5; all above the line *ab* being the outer edge of the leaf, but joined so subtly to the side that the least break in drawing the line spoils the form.

14. Now every flower petal consists essentially of these two parts, variously proportioned and outlined.

* Just in time, finding a heap of gold under an oak tree some thousand years old, near Arundel, I've made them out: Eight, divided by three; that is to say, three couples of petals, with two odd little ones inserted for form's sake. No wonder I couldn't decipher them by memory.

It expands from C to $a b$; and closes in the external line, and for this reason.

Considering every flower under the type of a cup, the first part of the petal is that in which it expands from the bottom to the rim; the second part, that in which it terminates itself on reaching the rim. Thus let the three circles, A B C, Fig. 6, represent the undivided cups of the three great geometrical orders of flowers—trefoil, quatrefoil, and cinquefoil.

Draw in the first an equilateral triangle, in the second a square, in the third a pentagon; draw the dark lines from

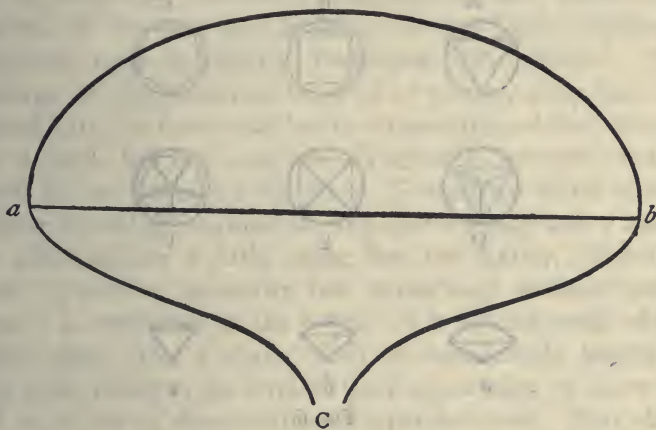


FIG. 5.

centers to angles; (D E F): then (a) the third part of D; (b) the fourth part of E, (c) the fifth part of F, are the normal outline forms of the petals of the three families; the relations between the developing angle and limiting curve being varied according to the depth of cup, and the degree of connection between the petals. Thus a rose folds them over one another, in the bud; a convolvulus twists them,—the one expanding into a flat cinquefoil of separate petals, and the other into a deep-welled cinquefoil of connected ones.

I find an excellent illustration in *Veronica Polita*, one of the most perfectly graceful of field plants because of the light

alternate flower stalks, each with its leaf at the base; the flower itself a quatrefoil, of which the largest and least petals are uppermost. Pull one off its calyx (draw, if you can, the outline of the striped blue upper petal with the jagged edge of pale gold below), and then examine the relative shapes of the lateral, and least upper petal. Their under surface is very curious, as if covered with white paint; the blue stripes above, in the direction of their growth, deepening the more delicate color with exquisite insistence.

A lilac blossom will give you a pretty example of the expan-

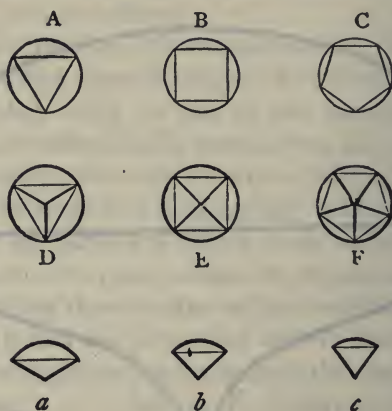


FIG. 6.

sion of the petals of a quatrefoil above the edge of the cup or tube; but I must get back to our poppy at present.

15. What outline its petals really have, however, is little shown in their crumpled fluttering; but that very crumpling arises from a fine floral character which we do not enough value in them. We usually think of the poppy as a coarse flower; but it is the most transparent and delicate of all the blossoms of the field. The rest—nearly all of them—depend on the *texture* of their surfaces for color. But the poppy is painted *glass*; it never glows so brightly as when the sun shines through it. Wherever it is seen—against the light or with the light—always, it is a flame, and warms the wind like a blown ruby.

In these two qualities, the accurately balanced form, and the perfectly infused color of the petals, you have, as I said, the central being of the flower. All the other parts of it are necessary, but we must follow them out in order.

16. Looking down into the cup, you see the green boss divided by a black star,—of six rays only,—and surrounded by a few black spots. My rough-nurtured poppy contents itself with these for its center; a rich one would have had the green boss divided by a dozen of rays, and surrounded by a dark crowd of crested threads.

This green boss is called by botanists the pistil, which word consists of the two first syllables of the Latin pistillum, otherwise more familiarly Englished into 'pestle.' The meaning of the botanical word is of course, also, that the central part of a flower-cup has to it something of the relations that a pestle has to a mortar! Practically, however, as this pestle has no pounding functions, I think the word is misleading as well as ungraceful; and that we may find a better one after looking a little closer into the matter. For this pestle is divided generally into three very distinct parts: there is a storehouse at the bottom of it for the seeds of the plant; above this, a shaft, often of considerable length in deep cups, rising to the level of their upper edge, or above it; and at the top of these shafts an expanded crest. This shaft the botanists call 'style,' from the Greek word for a pillar; and the crest of it—I do not know why—stigma, from the Greek word for 'spot.' The storehouse for the seeds they call the 'ovary,' from the Latin ovum, an egg. So you have two-thirds of a Latin word, (pistil)—awkwardly and disagreeably edged in between pestle and pistol—for the whole thing; you have an English-Latin word (ovary) for the bottom of it; an English-Greek word (style) for the middle; and a pure Greek word (stigma) for the top.

17. This is a great mess of language, and all the worse that the words style and stigma have both of them quite different senses in ordinary and scholarly English from this forced botanical one. And I will venture therefore, for my

own pupils, to put the four names altogether into English. Instead of calling the whole thing a pistil, I shall simply call it the pillar. Instead of 'ovary,' I shall say 'Treasury' (for a seed isn't an egg, but it *is* a treasure). The style I shall call the 'Shaft,' and the stigma the 'Volute.' So you will have your entire pillar divided into the treasury, at its base, the shaft, and the volute; and I think you will find these divisions easily remembered, and not unfitted to the sense of the words in their ordinary use.

18. Round this central, but, in the poppy, very stumpy, pillar, you find a cluster of dark threads, with dusty pendants or cups at their ends. For these the botanists' name 'stamens,' may be conveniently retained, each consisting of a 'filament,' or thread, and an 'anther,' or blossoming part.

And in this rich corolla, and pillar, or pillars, with their treasuries, and surrounding crowd of stamens, the essential flower consists. Fewer than these several parts, it cannot have, to be a flower at all; of these, the corolla leads, and is the object of final purpose. The stamens and the treasuries are only there in order to produce future corollas, though often themselves decorative in the highest degree.

These, I repeat, are all the essential parts of a flower. But it would have been difficult, with any other than the poppy, to have shown you them alone; for nearly all other flowers keep with them, all their lives, their nurse or tutor leaves,—the group which, in stronger and humbler temper, protected them in their first weakness, and formed them to the first laws of their being. But the poppy casts these tutorial leaves away. It is the finished picture of impatient and luxury-loving youth,—at first too severely restrained, then casting all restraint away,—yet retaining to the end of life unseemly and illiberal signs of its once compelled submission to laws which were only pain,—not instruction.

19. Gather a green poppy bud, just when it shows the scarlet line at its side; break it open and unpack the poppy. The whole flower is there complete in size and color,—its stamens full-grown, but all packed so closely that the fine silk

of the petals is crushed into a million of shapeless wrinkles. When the flower opens, it seems a deliverance from torture: the two imprisoning green leaves are shaken to the ground; the aggrieved corolla smooths itself in the sun, and comforts itself as it can; but remains visibly crushed and hurt to the end of its days.

20. Not so flowers of gracious breeding. Look at these four stages in the young life of a primrose, Fig. 7. First confined, as strictly as the poppy within five pinching green



FIG. 7.

leaves, whose points close over it, the little thing is content to remain a child, and finds its nursery large enough. The green leaves uncloseth their points,—the little yellow ones peep out, like ducklings. They find the light delicious, and open wide to it; and grow, and grow, and throw themselves wider at last into their perfect rose. But they never leave their old nursery for all that; it and they live on together; and the nursery seems a part of the flower.

21. Which is so, indeed, in all the loveliest flowers; and, in usual botanical parlance, a flower is said to consist of its calyx, (or *hiding* part—Calypso having rule over it,) and corolla, or garland part, Proserpina having rule over it. But

it is better to think of them always as separate; for this calyx, very justly so named from its main function of concealing the flower, in its youth is usually green, not colored, and shows its separate nature by pausing, or at least greatly lingering, in its growth, and modifying itself very slightly, while the corolla is forming itself through active change. Look at the two, for instance, through the youth of a pease blossom, Fig. 8.

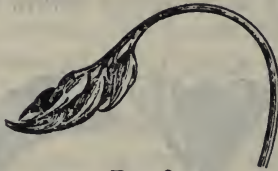


FIG. 8.

The entire cluster at first appears pendent in this manner, the stalk bending round on purpose to put it into that position. On which all the little buds, thinking themselves ill-treated, determine not to submit to anything of the sort, turn their points upwards persistently, and determine that—at any cost of trouble—they will get nearer the sun. Then they begin to open, and let out their corollas. I give the progress of one only (Fig. 9).* It chanced to be engraved the reverse way from the bud; but that is of no consequence.

At first, you see the long lower point of the calyx thought that *it* was going to be the head of the family, and curls upwards eagerly. Then the little corolla steals out; and soon does away with that impression on the mind of the calyx. The corolla soars up with widening wings, the abashed calyx retreats beneath; and finally the great upper leaf of corolla—not pleased at having its back still turned to the light, and its face down—throws itself entirely back, to look at the sky, and nothing else;—and your blossom is complete.

Keeping, therefore, the ideas of calyx and corolla entirely distinct, this one general point you may note of both: that,

* Figs. 8 and 9 are both drawn and engraved by Mr. Burgess.

as a calyx is originally folded tight over the flower, and has to open deeply to let it out, it is nearly always composed of sharp pointed leaves like the segments of a balloon; while corollas, having to open out as wide as possible to show themselves, are typically like cups or plates, only cut into their edges here and there, for ornamentation's sake.

22. And, finally, though the corolla is essentially the floral group of leaves, and usually receives the glory of color for itself only, this glory and delight may be given to any other part of the group; and, as if to show us that there is no really dishonored or degraded membership, the stalks and leaves in some plants, near the blossom, flush in sympathy with it, and become themselves a part of the effectively visible flower; — *Eryngo* — *Jura* hyacinth, (*comosus*,) and the edges of upper stems and leaves in many plants; while others, (*Geranium lucidum*,) are made to delight us with their leaves rather than their blossoms; only I suppose, in these, the scarlet leaf color is a kind of early autumnal glow,—a beautiful hectic, and foretaste, in sacred youth, of sacred death.

I observe, among the speculations of modern science, several, lately, not uningenious, and highly industrious, on the subject of the relation of color in flowers, to insects—to selective development, etc., etc. There *are* such relations, of course. So also, the blush of a girl, when she first perceives the faltering in her lover's step as he draws near, is related essentially to the existing state of her stomach; and to the



FIG. 9.

state of it through all the years of her previous existence. Nevertheless, neither love, chastity, nor blushing, are merely exponents of digestion.

All these materialisms, in their unclean stupidity, are essentially the work of human bats; men of semi-faculty or semi-education, who are more or less incapable of so much as seeing, much less thinking about, color; among whom, for one-sided intensity, even Mr. Darwin must be often ranked, as in his vespertilian treatise on the ocelli of the Argus pheasant, which he imagines to be artistically gradated, and perfectly imitative of a ball and socket. If I had him here in Oxford for a week, and could force him to try to copy a feather by Bewick, or to draw for himself a boy's-thumbed marble, his notions of feathers, and balls, would be changed for all the rest of his life. But his ignorance of good art is no excuse for the acutely illogical simplicity of the rest of his talk of color in the "Descent of Man." Peacocks' tails, he thinks, are the result of the admiration of blue tails in the minds of well-bred peahens,—and similarly, mandrills' noses the result of the admiration of blue noses in well-bred baboons. But it never occurs to him to ask why the admiration of blue noses is healthy in baboons, so that it develops their race properly, while similar maidenly admiration either of blue noses or red noses in men would be improper, and develop the race improperly. The word itself 'proper' being one of which he has never asked, or guessed, the meaning. And when he imagined the gradation of the cloudings in feathers to represent successive generation, it never occurred to him to look at the much finer cloudy gradations in the clouds of dawn themselves; and explain the modes of sexual preference and selective development which had brought *them* to their scarlet glory, before the cock could crow thrice.

Putting all these vespertilian speculations out of our way, the human facts concerning color are briefly these. Wherever men are noble, they love bright color; and wherever they can live healthily, bright color is given them—in sky, sea, flowers, and living creatures.

On the other hand, wherever men are ignoble and sensual, they endure without pain, and at last even come to like, (especially if artists,) mud-color and black, and to dislike rose-color and white. And wherever it is unhealthy for them to live, the poisonousness of the place is marked by some ghastly color in air, earth, or flowers.

There are, of course, exceptions to all such widely founded laws; there are poisonous berries of scarlet, and pestilent skies that are fair. But, if we once honestly compare a venomous wood-fungus, rotting into black dissolution of dripped slime at its edges, with a spring gentian; or a puff adder with a salmon trout, or a fog in Bermondsey with a clear sky at Berne, we shall get hold of the entire question on its right side; and be able afterwards to study at our leisure, or accept without doubt or trouble, facts of apparently contrary meaning. And the practical lesson which I wish to leave with the reader is, that lovely flowers, and green trees growing in the open air, are the proper guides of men to the places which their Maker intended them to inhabit; while the flowerless and treeless deserts—of reed, or sand, or rock,—are meant to be either heroically invaded and redeemed, or surrendered to the wild creatures which are appointed for them; happy and wonderful in their wild abodes.

Nor is the world so small but that we may yet leave in it also unconquered spaces of beautiful solitude; where the chamois and red deer may wander fearless,—nor any fire of avarice scorch from the Highlands of Alp, or Grampian, the rapture of the heath, and the rose.

CHAPTER V.

PAPAVER RHOEAS.

BRANTWOOD, *July 11th, 1875.*

1. CHANCING to take up yesterday a favorite old book, Mavor's *British Tourists*, (London, 1798,) I found in its fourth volume a delightful diary of a journal made in 1782 through various parts of England, by Charles P. Moritz of Berlin.

And in the fourteenth page of this diary I find the following passage, pleasantly complimentary to England:—

“The slices of bread and butter which they give you with your tea are as thin as poppy leaves. But there is another kind of bread and butter usually eaten with tea, which is toasted by the fire, and is incomparably good. This is called ‘toast.’”

I wonder how many people, nowadays, whose bread and butter was cut too thin for them, would think of comparing the slices to poppy leaves? But this was in the old days of traveling, when people did not whirl themselves past corn-fields, that they might have more time to walk on paving-stones; and understood that poppies did not mingle their scarlet among the gold, without some purpose of the poppy-Maker that they should be looked at.

Nevertheless, with respect to the good and polite German's poetically-contemplated, and finely æsthetic, tea, may it not be asked whether poppy leaves themselves, like the bread and butter, are not, if we may venture an opinion—*too* thin,—*improperly* thin? In the last chapter, my reader was, I hope, a little anxious to know what I meant by saying that modern

philosophers did not know the meaning of the word 'proper,' and may wish to know what I mean by it myself. And this I think it needful to explain before going farther.

2. In our English prayer-book translation, the first verse of the ninety-third Psalm runs thus: "The Lord is King; and hath put on glorious apparel." And although, in the future republican world, there are to be no lords, no kings, and no glorious apparel, it will be found convenient, for botanical purposes, to remember what such things once were; for when I said of the poppy, in last chapter, that it was "robed in the purple of the Cæsars," the words gave, to any one who had a clear idea of a Cæsar, and of his dress, a better, and even *stricter*, account of the flower than if I had only said, with Mr. Sowerby, "petals bright scarlet;" which might just as well have been said of a pimpernel, or scarlet geranium;—but of neither of these latter should I have said "robed in purple of Cæsars." What I meant was, first, that the poppy leaf looks dyed through and through, like glass, or Tyrian tissue; and not merely painted: secondly, that the splendor of it is proud,—almost insolently so. Augustus, in his glory, might have been clothed like one of these; and Saul; but not David, nor Solomon; still less the teacher of Solomon, when He puts on 'glorious apparel.'

3. Let us look, however, at the two translations of the same verse.

In the Vulgate it is "Dominus regnavit; decorem indutus est;" He has put on 'becomingness,'—decent apparel, rather than glorious.

In the Septuagint it is *ευπρεπειά*—*well-becomingness*; an expression which, if the reader considers, must imply certainly the existence of an opposite idea of possible '*ill-becomingness*,'—of an apparel which should, in just as accurate a sense, belong appropriately to the creature invested with it, and yet not be glorious, but inglorious, and not well-becoming, but ill-becoming. The mandrill's blue nose, for instance, already referred to,—can we rightly speak of this as '*ευπρεπειά*'? Or the stings, and minute, colorless blossoming

of the nettle? May we call these a glorious apparel, as we may the glowing of an alpine rose?

You will find on reflection, and find more convincingly the more accurately you reflect, that there is an absolute sense attached to such words as 'decent,' 'honorable,' 'glorious,' or 'καλος,' contrary to another absolute sense in the words 'indecent,' 'shameful,' 'vile,' or 'αἰσχρος.'

And that there is every degree of these absolute qualities visible in living creatures; and that the divinity of the Mind of man is in its essential discernment of what is *καλον* from what is *αἰσχρον*, and in his preference of the kind of creatures which are decent, to those which are indecent; and of the kinds of thoughts, in himself, which are noble, to those which are vile.

4. When therefore I said that Mr. Darwin, and his school,* had no conception of the real meaning of the word 'proper,' I meant that they conceived the qualities of things only as their 'properties,' but not as their 'becomingnesses;' and seeing that dirt is proper to a swine, malice to a monkey, poison to a nettle, and folly to a fool, they called a nettle *but* a nettle, and the faults of fools *but* folly; and never saw the difference between ugliness and beauty absolute, decency and indecency absolute, glory or shame absolute, and folly or sense absolute.

Whereas, the perception of beauty, and the power of defining physical character, are based on moral instinct, and on the power of defining animal or human character. Nor is it possible to say that one flower is more highly developed, or one animal of a higher order, than another, without the assumption of a divine law of perfection to which the one more conforms than the other.

5. Thus, for instance. That it should ever have been an open question with me whether a poppy had always two of its petals less than the other two, depended wholly on the hurry and imperfection with which the poppy carries out its

* Of Vespertilian science generally, compare 'Eagle's Nest,' pp. 15, and 109.

plan. It never would have occurred to me to doubt whether an iris had three of its leaves smaller than the other three, because an iris always completes itself to its own ideal.



FIG. 10.

Nevertheless, on examining various poppies, as I walked, this summer, up and down the hills between Sheffield and Wakefield, I find the subordination of the upper and lower petals entirely necessary and normal; and that the result of

it is to give two distinct profiles to the poppy cup, the difference between which, however, we shall see better in the yellow Welsh poppy, at present called *Meconopsis Cambrica*, but which, in the Oxford schools, will be 'Papaver cruciforme'—'Crosslet Poppy,'—first, because all our botanical names must be in Latin if possible; Greek only allowed when we can do no better; secondly, because *meconopsis* is barbarous Greek; thirdly, and chiefly, because it is little matter whether this poppy be Welsh or English; but very needful



FIG. 11.

that we should observe, wherever it grows, that the petals are arranged in what used to be, in my young days, called a diamond shape,* as at A, Fig. 10, the two narrow inner ones at right angles to, and projecting farther than, the two outside broad ones; and that the two broad ones, when the flower is seen in profile, as at B, show their margins folded back, as indicated by the thicker lines, and have a profile curve, which is only the softening, or melting away into each other, of two straight lines. Indeed, when the flower is younger, and quite strong, both its profiles, A and B,

Fig. 11, are nearly straight-sided; and always, be it young or old, one broader than the other, so as to give the flower, seen from above, the shape of a contracted cross, or crosslet.

6. Now I find no notice of this flower in Gerarde; and in Sowerby, out of eighteen lines of closely printed descriptive

* The mathematical term is 'rhomb.'

text, no notice of its crosslet form, while the petals are only stated to be "roundish-concave," terms equally applicable to at least one-half of all flower petals in the world. The leaves are *said* to be very deeply pinnately partite; but *drawn*—as neither pinnate nor partite!

And this is your modern cheap science, in ten volumes. Now I haven't a quiet moment to spare for drawing this morning; but I merely give the main relations of the petals, A, and blot in the wrinkles of one of the lower ones, B, Fig. 12; and yet in this rude sketch you will feel, I believe, there is something specific which could not belong to any other flower. But all proper description is impossible without careful profiles of each petal laterally and across it. Which I may not find time to draw for any poppy whatever, because they none of them have well-becomingness enough to make it worth my while, being all more or less weedy, and ungracious, and mingled of good and evil. Whereupon rises before me, ghostly and untenable, the general question, 'What is a weed?' and, impatient for answer, the particular question, 'What is a poppy?' I choose, for instance, to call this yellow flower a poppy, instead of a "likeness to poppy," which the botanists meant to call it, in their bad Greek. I choose also to call a poppy, what the botanists have called "glaucous thing," (*glau-cium*). But where and when shall I stop calling things poppies? This is certainly a question to be settled at once, with others appertaining to it.



A



B

FIG. 12.

7. In the first place, then, I mean to call every flower either one thing or another, and not an 'aceous' thing, only half something or half another. I mean to call this plant now in my hand, either a poppy or not a poppy; but not poppaceous. And this other, either a thistle or not a thistle; but not thistlaceous. And this other, either a nettle or not a nettle; but not nettlaceous. I know it will be very difficult to carry out this principle when tribes of plants are much extended and varied in type: I shall persist in it, however, as far as possible; and when plants change so much that one cannot with any conscience call them by their family name any more, I shall put them aside somewhere among families of poor relations, not to be minded for the present, until we are well acquainted with the better bred circles. I don't know, for instance, whether I shall call the Burnet 'Grass-rose,' or put it out of court for having no petals; but it certainly shall not be called rosaceous; and my first point will be to make sure of my pupils having a clear idea of the central and unquestionable forms of thistle, grass, or rose, and assigning to them pure Latin, and pretty English, names,—classical, if possible; and at least intelligible and decorous.

8. I return to our present special question, then, What is a poppy? and return also to a book I gave away long ago, and have just begged back again, Dr. Lindley's 'Ladies' Botany.' For without at all looking upon ladies as inferior beings, I dimly hope that what Dr. Lindley considers likely to be intelligible to *them*, may be also clear to their very humble servant.

The poppies, I find, (page 19, vol. i.) differ from crowfeet in being of a stupefying instead of a burning nature, and in generally having two sepals and twice two petals; "but as some poppies have three sepals, and twice three petals, the number of these parts is not sufficiently constant to form an essential mark." Yes, I know that, for I found a superb six-petaled poppy, spotted like a cistus, the other day in a friend's garden. But then, what makes it a poppy still? That it is of a stupefying nature, and itself so stupid that it

does not know how many petals it should have, is surely not enough distinction?

9. Returning to Lindley, and working the matter farther out with his help, I think this definition might stand. "A poppy is a flower which has either four or six petals, and two or more treasuries, united into one; containing a milky, stupefying fluid in its stalks and leaves, and always throwing away its calyx when it blossoms."

And indeed, every flower which unites all these characters, we shall, in the Oxford schools, call 'poppy,' and 'Papaver;' but when I get fairly into work, I hope to fix my definitions into more strict terms. For I wish all my pupils to form the habit of asking, of every plant, these following four questions, in order, corresponding to the subject of these opening chapters, namely, "What root has it? what leaf? what flower? and what stem?" And, in this definition of poppies, nothing whatever is said about the root; and not only I don't know myself what a poppy root is like, but in all Sowerby's poppy section, I find no word whatever about that matter.

10. Leaving, however, for the present, the root unthought of, and contenting myself with Dr. Lindley's characteristics, I shall place, at the head of the whole group, our common European wild poppy, *Papaver Rhoëas*, and, with this, arrange the nine following other flowers thus,—opposite.

I must be content at present with determining the Latin names for the Oxford schools; the English ones I shall give as they chance to occur to me, in Gerarde and the classical poets who wrote before the English revolution. When no satisfactory name is to be found, I must try to invent one; as, for instance, just now, I don't like Gerarde's 'Corn-rose' for *Papaver Rhoëas*, and must coin another; but this can't be done by thinking; it will come into my head some day, by chance. I might try at it straightforwardly for a week together, and not do it.

The Latin names must be fixed at once, somehow; and therefore I do the best I can, keeping as much respect for the old nomenclature as possible, though this involves the illogi-

cal practice of giving the epithet sometimes from the flower, (violaceum, cruciforme), and sometimes from the seed vessel, (elatum, echinosum, corniculatum). Guarding this distinction, however, we may perhaps be content to call the six last of the group, in English, Urchin Poppy, Violet Poppy, Crosslet Poppy, Horned Poppy, Beach Poppy, and Welcome Poppy. I don't think the last flower pretty enough to be connected more directly with the swallow, in its English name.

11. I shall be well content if my pupils know these ten poppies rightly; all of them at present wild in our own country, and, I believe, also European in range: the head and type of all being the common wild poppy of our corn-fields for which the name 'Papaver Rhoëas,' given it by Dioscorides, Gerarde, and Linnæus, is entirely authoritative, and we will therefore at once examine the meaning, and reason, of that name.

12. Dioscorides says the name belongs to it "διὰ τὸ ταχέως τὸ ἄνθος ἀποβάλλειν," "because it casts off its bloom quickly," from *ῥέω*, (rheo) in the sense of shedding.* And this indeed it does,—first calyx, then corolla;—you may translate it 'swiftly ruinous' poppy, but notice, in connection with this idea, how it droops its head *before* blooming; an action which, I doubt not, mingled in Homer's thought with the image of its depression when filled by rain, in the passage of the Iliad, which, as I have relieved your memory of three unnecessary names of poppy families, you have memory to spare for learning.

“ μῆκων δ' ὡς ἐτέρωσε κάρη βάλεν, ἦτ' ἐνὶ κήπῳ
καρπῷ βριθομένη, νοτιῆσι τε εἰάρυνῆσιν
ὡς ἐτέρωσ' ἤμυσσε κάρη πῆληκὶ βαρυνθέν.”

“And as a poppy lets its head fall aside, which in a garden is loaded with its fruit, and with the soft rains of spring, so the youth drooped his head on one side; burdened with the helmet.”

* It is also used sometimes of the garden poppy, says Dioscorides, “διὰ τὸ ρεῖν ἐξ αὐτῆς τὸν ὀπὸν”—because the sap, opium, flows from it.”

NAME IN OXFORD CATALOGUE.	DIOSCORIDES.	IN PRESENT BOTANY.
1. Papaver Rhoeas . . .	μηγκων ροιας	Papaver Rhoeas
2. P. Hortense	μ. κηπευτη*	P. Hortense
3. P. Elatum	μ. θυλακίτις†	P. Lamottei
4. P. Argemone . . . . .	. . . . .	P. Argemone
5. P. Echinusum . . . . .	. . . . .	P. Hybridum
6. P. Violaceum . . . . .	. . . . .	Roemeria Hybrida
7. P. Cruciforme . . . . .	. . . . .	Meconopsis Cambrica
8. P. Corniculatum	μ. κεραπίτις	Glaucium Corniculatum
9. P. Littorale	μ. παραλιος	Glaucium Luteum
10. P. Chelidonium . . . . .	. . . . .	Chelidonium Majus

* ἤς τὸ σπέρμα ἀρτοποιεῖται.

† ἐπίμικτες ἔχουσα τὸ κεφάλιον. Dioscorides makes no effort to distinguish species, but gives the different names as if merely used in different places.

And now you shall compare the translations of this passage, with its context, by Chapman and Pope—(or the school of Pope), the one being by a man of pure English temper, and able therefore to understand pure Greek temper; the other infected with all the faults of the falsely classical school of the Renaissance.

First I take Chapman:—

“His shaft smit fair Gorgythion; of Priam’s princely race,
Who in Æpina was brought forth, a famous town in Thrace,
By Castianeira, that for form was like celestial breed.
And as a crimson poppy-flower, surcharged with his seed,
And vernal humors falling thick, declines his heavy brow,
So, a-oneside, his helmet’s weight his fainting head did bow.”

Next, Pope:—

“He missed the mark; but pierced Gorgythio’s heart,
And drenched in royal blood the thirsty dart:
(Fair Castianeira, nymph of form divine,
This offspring added to King Priam’s line).
As full-blown poppies, overcharged with rain,
Decline the head, and drooping kiss the plain,
So sinks the youth: his beauteous head, depressed
Beneath his helmet, drops upon his breast.”

13. I give you the two passages in full, trusting that you may so feel the becomingness of the one, and the gracelessness of the other. But note farther, in the Homeric passage, one subtlety which cannot enough be marked even in Chapman’s English, that his second word, ἤμωσε, is employed by him both of the stooping of ears of corn, under wind, and of Troy stooping to its ruin;* and otherwise, in good Greek writers, the word is marked as having such specific sense of men’s drooping under weight; or towards death, under the burden of fortune which they have no more strength to sustain;† compare the passage I quoted from Plato,

* See all the passages quoted by Liddell.

† I find this chapter rather tiresome on re-reading it myself, and cancel some farther criticism of the imitation of this passage by Virgil, one of

(‘Crown of Wild Olive,’ p. 95 of the “Revised Series,” and p. 111 of the small edition): “And bore lightly the burden of gold and of possessions.” And thus you will begin to understand how the poppy became in the heathen mind the type at once of power, or pride, and of its loss; and therefore, both

the few pieces of the *Æneid* which are purely and vulgarly imitative, rendered also false as well as weak by the introducing sentence, “*Volvitur Euryalus leto*,” after which the simile of the drooping flower is absurd. Of criticism, the chief use of which is to warn all sensible men from such business, the following abstract of Diderot’s notes on the passage, given in the ‘Saturday Review’ for April 29, 1871, is worth preserving. (Was the French critic really not aware that Homer *had* written the lines his own way?)

“Diderot illustrates his theory of poetical hieroglyphs by no quotations, but we can show the manner of his minute and sometimes fanciful criticism by repeating his analysis of the passage of Virgil wherein the death of Euryalus is described:—

‘*Pulchrosque per artus
It cruor, inque humeros cervix collapsa recumbit;
Purpureus veluti cum flos succisus aratro
Languescit moriens; lassove papavera collo
Demisere caput, pluvia cum forte gravantur.*’

“The sound of ‘*It cruor*,’ according to Diderot, suggests the image of a jet of blood; ‘*cervix collapsa recumbit*,’ the fall of a dying man’s head upon his shoulder; ‘*succisus*’ imitates the use of a cutting scythe (not plow); ‘*demisere*’ is as soft as the eye of a flower; ‘*gravantur*,’ on the other hand, has all the weight of a calyx, filled with rain; ‘*collapsa*’ marks an effort and a fall, and similar double duty is performed by ‘*papavera*,’ the first two syllables symbolizing the poppy upright, the last two the poppy bent. While thus pursuing his minute investigations, Diderot can scarcely help laughing at himself, and candidly owns that he is open to the suspicion of discovering in the poem beauties which have no existence. He therefore qualifies his eulogy by pointing out two faults in the passage. ‘*Gravantur*,’ notwithstanding the praise it has received, is a little too heavy for the light head of a poppy, even when filled with water. As for ‘*aratro*,’ coming as it does after the hiss of ‘*succisus*,’ it is altogether abominable. Had Homer written the lines, he would have ended with some hieroglyph, which would have continued the hiss or described the fall of a flower. To the hiss of ‘*succisus*,’ Diderot is warmly attached. Not by mistake, but in order to justify the sound, he ventures to translate ‘*aratum*’ into ‘*scythe*,’ boldly and rightly declaring in a marginal note that this is not the meaning of the word.”

while Virgil represents the white nymph Nais, “*pallentes violas, et summa papavera carpens,*”—gathering the pale flags, and the highest poppies,—and the reason for the choice of this rather than any other flower, in the story of Tarquin’s message to his son.

14. But you are next to remember the word *Rhoeas* in another sense. Whether originally intended or afterwards caught at, the resemblance of the word to ‘*Rhoea*,’ a pomegranate, mentally connects itself with the resemblance of the poppy head to the pomegranate fruit.

And if I allow this flower to be the first we take up for careful study in *Proserpina*, on account of its simplicity of form and splendor of color, I wish you also to remember, in connection with it, the cause of *Proserpine*’s eternal captivity—her having tasted a pomegranate seed,—the pomegranate being in Greek mythology what the apple is in the Mosaic legend; and, in the whole worship of *Demeter*, associated with the poppy by a multitude of ideas which are not definitely expressed, but can only be gathered out of Greek art and literature, as we learn their symbolism. The chief character on which these thoughts are founded is the fullness of seed in the poppy and pomegranate, as an image of life; then the forms of both became adopted for beads or bosses in ornamental art; the pomegranate remains more distinctly a Jewish and Christian type, from its use in the border of *Aaron*’s robe, down to the fruit in the hand of *Angelico*’s and *Botticelli*’s *Infant Christs*; while the poppy is gradually confused by the Byzantine Greeks with grapes; and both of these with palm fruit. The palm, in the shorthand of their art, gradually becomes a symmetrical branched ornament with two pendent bosses; this is again confused with the Greek *iris*, (*Homer*’s blue *iris*, and *Pindar*’s water-flag,)—and the *Florentines* in adopting Byzantine ornament, read it into their own *Fleur-de-lys*; but insert two poppy heads on each side of the entire foil, in their finest heraldry.

15. Meantime the definitely intended poppy, in late Christian Greek art of the twelfth century, modifies the form of the

Acanthus leaf with its own, until the northern twelfth century workman takes the thistle-head for the poppy, and the thistle-leaf for acanthus. The true poppy-head remains in the south, but gets more and more confused with grapes, till the Renaissance carvers are content with any kind of boss full of seed, but insist on such boss or bursting globe as some essential part of their ornament;—the bean-pod for the same reason (not without Pythagorean notions, and some of republican election) is used by Brunelleschi for main decoration of the lantern of Florence Duomo; and, finally, the ornamentation gets so shapeless, that M. Viollet-le-Duc, in his 'Dictionary of Ornament,' loses trace of its origin altogether, and fancies the later forms were derived from the spadix of the arum.

16. I have no time to enter into farther details; but through all this vast range of art, note this singular fact, that the wheat-ear, the vine, the fleur-de-lys, the poppy, and the jagged leaf of the acanthus-weed, or thistle, occupy the entire thoughts of the decorative workmen trained in classic schools, to the exclusion of the rose, true lily, and the other flowers of luxury. And that the deeply underlying reason of this is in the relation of weeds to corn, or of the adverse powers of nature to the beneficent ones, expressed for us readers of the Jewish scriptures, centrally in the verse, "thorns also, and thistles, shall it bring forth to thee; and thou shalt eat the herb of the field" (*χορτος*, grass or corn), and exquisitely symbolized throughout the fields of Europe by the presence of the purple 'corn-flag,' or gladiolus, and 'corn-rose' (Gerarde's name for Papaver Rhoëas), in the midst of carelessly tended corn; and in the traditions of the art of Europe by the springing of the acanthus round the basket of the canephora, strictly the basket *for bread*, the idea of bread including all sacred things carried at the feasts of Demeter, Bacchus, and the Queen of the Air. And this springing of the thorny weeds round the basket of reed, distinctly taken up by the Byzantine Italians in the basket-work capital of the twelfth century, (which I have already illustrated at length in the

‘Stones of Venice,’) becomes the germ of all capitals whatsoever, in the great schools of Gothic, to the end of Gothic time, and also of all the capitals of the pure and noble Renaissance architecture of Angelico and Perugino, and all that was learned from them in the north, while the introduction of the rose, as a primal element of decoration, only takes place when the luxury of English decorated Gothic, the result of that licentious spirit in the lords which brought on the Wars of the Roses, indicates the approach of destruction to the feudal, artistic, and moral power of the northern nations.

For which reason, and many others, I must yet delay the following out of our main subject, till I have answered the other question, which brought me to pause in the middle of this chapter, namely, ‘What is a weed?’

CHAPTER VI.

THE PARABLE OF JOASH.

1. SOME ten or twelve years ago, I bought—three times (twelve are thirty-six—of a delightful little book by Mrs. Gatty, called ‘Aunt Judy’s Tales’—whereof to make presents to my little lady friends. I had, at that happy time, perhaps from four-and-twenty to six-and-thirty—I forget exactly how many—very particular little lady friends; and greatly wished Aunt Judy to be the thirty-seventh,—the kindest, wittiest, prettiest girl one had ever read of, at least in so entirely proper and orthodox literature.

2. Not but that it is a suspicious sign of infirmity of faith in our modern moralists to make their exemplary young people always pretty; and dress them always in the height of the fashion. One may read Miss Edgeworth’s ‘Harry and Lucy,’ ‘Frank and Mary,’ ‘Fashionable Tales,’ or ‘Parents’ Assistant,’ through, from end to end with extremest care; and never find out whether Lucy was tall or short, nor whether Mary was dark or fair; nor how Miss Annaly was dressed, nor—which was my own chief point of interest—what was the color of Rosamond’s eyes. Whereas Aunt Judy, in charming position after position, is shown to have expressed all her pure evangelical principles with the prettiest of lips; and to have had her gown, though puritanically plain, made by one of the best modistes in London.

3. Nevertheless, the book is wholesome and useful; and the nicest story in it, as far as I recollect, is an inquiry into the subject which is our present business, ‘What is a weed?’—in which, by many pleasant devices, Aunt Judy leads her little brothers and sisters to discern that a weed is ‘a plant in the wrong place.’

'Vegetable' in the wrong place, by the way, I think Aunt Judy says, being a precisely scientific little aunt. But I can't keep it out of my own less scientific head that 'vegetable' means only something going to be boiled. I like 'plant' better for general sense, besides that it's shorter.

Whatever we call them, Aunt Judy is perfectly right about them as far as she has gone; but, as happens often even to the best of evangelical instructresses, she has stopped just short of the gist of the whole matter. It is entirely true that a weed is a plant that has got into a wrong place; but it never seems to have occurred to Aunt Judy that some plants never *do!*

Who ever saw a wood anemone or a heath blossom in the wrong place? Who ever saw nettle or hemlock in a right one? And yet, the difference between flower and weed, (I use, for convenience' sake, these words in their familiar opposition,) certainly does not consist merely in the flowers being innocent, and the weed stinging and venomous. We do not call the nightshade a weed in our hedges, nor the scarlet agaric in our woods. But we do the corncockle in our fields.

4. Had the thoughtful little tutress gone but one thought farther, and instead of "a vegetable in a wrong place," (which it may happen to the innocentest vegetable sometimes to be, without turning into a weed, therefore,) said, "A vegetable which has an innate disposition to *get* into the wrong place," she would have greatly furthered the matter for us; but then she perhaps would have felt herself to be uncharitably dividing with vegetables her own little evangelical property of original sin.

5. This, you will find, nevertheless, to be the very essence of weed character—in plants, as in men. If you glance through your botanical books, you will see often added after certain names—"a troublesome weed." It is not its being venomous, or ugly, but its being impertinent—thrusting itself where it has no business, and hinders other people's business—that makes a weed of it. The most accursed of all vegetables, the one that has destroyed for the present even the possi-

bility of European civilization, is only called a weed in the slang of its votaries;* but in the finest and truest English we call so the plant which has come to us by chance from the same country, the type of mere senseless prolific activity, the American water-plant, choking our streams till the very fish that leap out of them cannot fall back, but die on the clogged surface; and indeed, for this unrestrainable, unconquerable insolence of uselessness, what name can be enough dishonorable?

6. I pass to vegetation of nobler rank.

You remember, I was obliged in the last chapter to leave my poppy, for the present, without an English specific name, because I don't like Gerarde's 'Corn-rose,' and can't yet think of another. Nevertheless, I would have used Gerarde's name, if the corn-rose were as much a rose as the corn-flag is a flag. But it isn't. The rose and lily have quite different relations to the corn. The lily is grass in loveliness, as the corn is grass in use; and both grow together in peace—gladiolus in the wheat, and narcissus in the pasture. But the rose is of another and higher order than the corn, and you never saw a cornfield overrun with sweetbrier or apple-blossom.

They have no mind, they, to get into the wrong place.

What is it, then, this temper in some plants—malicious as it seems—intrusive, at all events, or erring,—which brings them out of their places—thrusts them where they thwart us and offend?

7. Primarily, it is mere hardihood and coarseness of make. A plant that can live anywhere, will often live where it is not wanted. But the delicate and tender ones keep at home. You have no trouble in 'keeping down' the spring gentian. It rejoices in its own Alpine home, and makes the earth as like heaven as it can, but yields as softly as the air, if you want it to give place. Here in England, it will only

* And I have too harshly called our English vines, 'wicked weeds of Kent,' in Fors Clavigera, xxvii. 11. Much may be said for Ale, when we brew it for our people honestly.

grow on the loneliest moors, above the high force of Tees; its Latin name, for *us* (I may as well tell you at once) is to be 'Lucia verna;' and its English one, Lucy of Teesdale.

8. But a plant may be hardy, and coarse of make, and able to live anywhere, and yet be no weed. The coltsfoot, so far as I know, is the first of large-leaved plants to grow afresh on ground that has been disturbed: fall of Alpine débris, run of railroad embankment, waste of drifted slime by flood, it seeks to heal and redeem; but it does not offend us in our gardens, nor impoverish us in our fields.

Nevertheless, mere coarseness of structure, indiscriminate hardihood, is at least a point of some unworthiness in a plant. That it should have no choice of home, no love of native land, is ungentle; much more if such discrimination as it has, be immodest, and incline it, seemingly, to open and much-traversed places, where it may be continually seen of strangers. The tormentilla gleams in showers along the mountain turf; her delicate crosslets are separate, though constellate, as the rubied daisy. But the king-cup—(blessing be upon it always no less)—crowds itself sometimes into too burnished flame of inevitable gold. I don't know if there was anything in the darkness of this last spring to make it brighter in resistance; but I never saw any spaces of full warm yellow, in natural color, so intense as the meadows between Reading and the Thames; nor did I know perfectly what purple and gold meant, till I saw a field of park land enbrodered a foot deep with king-cup and clover—while I was correcting my last notes on the spring colors of the Royal Academy—at Aylesbury.

9. And there are two other questions of extreme subtlety connected with this main one. What shall we say of the plants whose entire destiny is parasitic—which are not only sometimes, and *impertinently*, but always, and *pertinently*, out of place; not only out of the right place, but out of any place of their own? When is mistletoe, for instance, in the right place, young ladies, think you? On an apple-tree, or on a ceiling? When is ivy in the right place?—when wall-

flower? The ivy has been torn down from the towers of Kenilworth; the weeds from the arches of the Coliseum, and from the steps of the Araceli,—irreverently, vilely, and in vain; but how are we to separate the creatures whose office it is to abate the grief of ruin by their gentleness,

“ wafting wallflower scents
From out the crumbling ruins of fallen pride,
And chambers of transgression, now forlorn,”

from those which truly resist the toil of men, and conspire against their fame; which are cunning to consume, and prolific to incumber; and of whose perverse and unwelcome sowing we know, and can say assuredly, “An enemy hath done this.”

10. Again. The character of strength which gives prevalence over others to any common plant, is more or less consistently dependent on woody fiber in the leaves; giving them strong ribs and great expanding extent; or spinous edges, and wrinkled or gathered extent.

Get clearly into your mind the nature of these two conditions. When a leaf is to be spread wide, like the Burdock, it is supported by a framework of extending ribs like a Gothic roof. The supporting function of these is geometrical; every one is constructed like the girders of a bridge, or beams of a floor, with all manner of science in the distribution of their substance in the section, for narrow and deep strength; and the shafts are mostly hollow. But when the extending space of a leaf is to be enriched with fullness of folds, and become beautiful in wrinkles, this may be done either by pure undulation as of a liquid current along the leaf edge, or by sharp ‘drawing’—or ‘gathering’ I believe ladies would call it—and stitching of the edges together. And this stitching together, if to be done very strongly, is done round a bit of stick, as a sail is reefed round a mast; and this bit of stick needs to be compactly, not geometrically strong; its function is essentially that of starch,—not to hold the leaf up off the ground against gravity; but to stick the edges out, stiffly, in a crimped frill. And in beautiful work of this kind, which we

are meant to study, the stays of the leaf—or stay-bones—are finished off very sharply and exquisitely at the points; and indeed so much so, that they prick our fingers when we touch them; for they are not at all meant to be touched, but admired.

11. To be admired,—with qualification, indeed, always, but with extreme respect for their endurance and orderliness. Among flowers that pass away, and leaves that shake as with ague, or shrink like bad cloth,—these, in their sturdy growth and enduring life, we are bound to honor; and, under the green holly, remember how much softer friendship was failing, and how much of other loving, folly. And yet,—you are not to confuse the thistle with the cedar that is in Lebanon; nor to forget—if the spinous nature of it become too cruel to provoke and offend—the parable of Joash to Amaziah, and its fulfillment: “There passed by a wild beast that was in Lebanon, and trode down the thistle.”

12. Then, lastly, if this rudeness and insensitiveness of nature be gifted with no redeeming beauty; if the boss of the thistle lose its purple, and the star of the Lion’s tooth, its light; and, much more, if service be perverted as beauty is lost, and the honeyed tube, and medicinal leaf, change into mere swollen emptiness, and salt brown membrane, swayed in nerveless languor by the idle sea,—at last the separation between the two natures is as great as between the fruitful earth and fruitless ocean; and between the living hands that tend the Garden of Herbs where Love is, and those unclasped, that toss with tangle and with shells.

* * * * * * *

13. I had a long bit in my head, that I wanted to write, about St. George of the Seaweed, but I’ve no time to do it; and those few words of Tennyson’s are enough, if one thinks of them: only I see, in correcting press, that I’ve partly misapplied the idea of ‘gathering’ in the leaf edge. It would be more accurate to say it was gathered at the central rib; but there is nothing in needlework that will represent the actual excess by lateral growth at the edge, giving three or four inches of edge for one of center. But the stiffening of the



III

Acanthoid Leaves

NORTHERN ATTIC TYPE.



IV. CRESTED LEAVES. LETTUCE-THISTLE.

fold by the thorn which holds it out is very like the action of a ship's spars on its sails; and absolutely in many cases like that of the spines in a fish's fin, passing into the various conditions of serpentine and dracontic crest, connected with all the terrors and adversities of nature; not to be dealt with in a chapter on weeds.

14. Here is a sketch of a crested leaf of less adverse temper, which may as well be given, together with Plate III., in this number, these two engravings being meant for examples of two different methods of drawing, both useful according to character of subject. Plate III. is sketched first with a finely-pointed pen, and common ink, on white paper: then washed rapidly with color, and retouched with the pen to give sharpness and completion. This method is used because the thistle leaves are full of complex and sharp sinuosities, and set with intensely sharp spines passing into hairs, which require many kinds of execution with the fine point to imitate at all. In the drawing there was more look of the bloom or wooliness on the stems, but it was useless to try for this in the mezzotint, and I desired Mr. Allen to leave his work at the stage where it expressed as much form as I wanted. The leaves are of the common marsh thistle, of which more anon; and the two long lateral ones are only two different views of the same leaf, while the central figure is a young leaf just opening. It beat me, in its delicate bossing, and I had to leave it, discontentedly enough.

Plate IV. is much better work, being of an easier subject, adequately enough rendered by perfectly simple means. Here I had only a succulent and membranous surface to represent, with definite outlines, and merely undulating folds; and this is sufficiently done by a careful and firm pen outline on gray paper, with a slight wash of color afterwards, reënfined in the darks; then marking the lights with white. This method is classic and authoritative, being used by many of the greatest masters, (by Holbein continually;) and it is much the best which the general student can adopt for expression of the action and muscular power of plants.

The goodness or badness of such work depends absolutely on the truth of the single line. You will find a thousand botanical drawings which will give you a delicate and deceptive resemblance of the leaf, for one that will give you the right convexity in its backbone, the right perspective of its peaks when they foreshorten, or the right relation of depth in the shading of its dimples. On which, in leaves as in faces, no little expression of temper depends.

Meantime we have yet to consider somewhat more touching that temper itself, in next chapter.

CHAPTER VII.

THE PARABLE OF JOTHAM.

1. I do not know if my readers were checked, as I wished them to be, at least for a moment, in the close of the last chapter, by my talking of thistles and dandelions changing into seaweed, by gradation of which, doubtless, Mr. Darwin can furnish us with specious and sufficient instances. But the two groups will not be contemplated in our Oxford system as in any parental relations whatsoever.

We shall, however, find some very notable relations existing between the two groups of the wild flowers of dry land, which represent, in the widest extent, and the distinctest opposition, the two characters of material serviceableness and unserviceableness; the groups which in our English classification will be easily remembered as those of the Thyme, and the Daisy.

The one, scented as with incense—medicinal—and in all gentle and humble ways, useful. The other, scentless—helpless for ministry to the body; infinitely dear as the bringer of light, ruby, white and gold; the three colors of the Day, with no hue of shade in it. Therefore I take it on the coins of St. George for the symbol of the splendor or light of heaven, which is dearest where humblest.

2. Now these great two orders—of which the types are the thyme and the daisy—you are to remember generally as the 'Herbs' and the 'Sunflowers.' You are not to call them Lipped flowers, nor Composed flowers; because the first is a vulgar term; for when you once come to be able to draw a lip, or, in noble duty, to kiss one, you will know that no other flower in earth is like that: and the second is an indefinite term; for a foxglove is as much a 'composed' flower as a

daisy; but it is composed in the shape of a spire, instead of the shape of the sun. And again a thistle, which common botany calls a composed flower, as well as a daisy, is composed in quite another shape, being, on the whole, bossy instead of flat; and of another temper, or composition of mind, also, being connected in that respect with butterburs, and a vast company of rough, knotty, half-black or brown, and generally unluminous—flowers I can scarcely call them—and weeds I will not,—creatures, at all events, in nowise to be gathered under the general name ‘Composed,’ with the stars that crown Chaucer’s Alcestitis, when she returns to the day from the dead.

But the wilder and stronger blossoms of the Hawk’s-eye—again you see I refuse for them the word weed;—and the waste-loving Chicory, which the Venetians call ‘Sponsa solis,’ are all to be held in one class with the Sunflowers; but dedicate,—the daisy to Alcestitis alone; others to Clytia, or the Physician Apollo himself: but I can’t follow their mythology yet awhile.

3. Now in these two families you have typically Use opposed to Beauty in *wildness*; it is their wildness which is their virtue;—that the thyme is sweet where it is unthought of, and the daisies red, where the foot despises them: while, in other orders, wildness is their crime,—“Wherefore, when I looked that it should bring forth grapes, brought it forth wild grapes?” But in all of them you must distinguish between the pure wildness of flowers and their distress. It may not be our duty to tame them; but it must be, to relieve.

4. It chanced, as I was arranging the course of these two chapters, that I had examples given me of distressed and happy wildness, in immediate contrast. The first, I grieve to say, was in a bit of my own brushwood, left uncared-for evidently many a year before it became mine. I had to cut my way into it through a mass of thorny ruin; black, bird’s-nest like, entanglement of brittle spray round twisted stems of ill-grown birches strangling each other, and changing half into roots among the rock clefts; knotted stumps of never-blossoming blackthorn, and choked stragglings of holly, all laced

and twisted and tethered round with an untouchable, almost unhewable, thatch, a foot thick, of dead bramble and rose, laid over rotten ground through which the water soaked ceaselessly, undermining it into merely unctuous clods and clots, knitted together by mossy sponge. It was all Nature's free doing! she had had her way with it to the uttermost; and clearly needed human help and interference in her business; and yet there was not one plant in the whole ruinous and deathful riot of the place, whose nature was not in itself wholesome and lovely; but all lost for want of discipline.

5. The other piece of wild growth was among the fallen blocks of limestone under Malham Cove. Sheltered by the cliff above from stress of wind, the ash and hazel wood spring there in a fair and perfect freedom, without a diseased bough, or an unwholesome shade. I do not know why mine is all incumbered with overgrowth, and this so lovely that scarce a branch could be gathered but with injury;—while underneath, the oxalis, and the two smallest geraniums (*Lucidum* and *Herb-Robert*) and the mossy saxifrage, and the cross-leaved bedstraw, and the white pansy, wrought themselves into wreaths among the fallen crags, in which every leaf rejoiced, and was at rest.

6. Now between these two states of equally natural growth, the point of difference that forced itself on me (and practically enough, in the work I had in my own wood), was not so much the withering and waste of the one, and the life of the other, as the thorniness and cruelty of the one, and the softness of the other. In Malham Cove, the stones of the brook were softer with moss than any silken pillow—the crowded oxalis leaves yielded to the pressure of the hand, and were not felt—the cloven leaves of the *Herb-Robert* and orbed clusters of its companion overflowed every rent in the rude crags with living balm; there was scarcely a place left by the tenderness of the happy things, where one might not lay down one's forehead on their warm softness, and sleep. But in the waste and distressed ground, the distress had changed itself to cruelty. The leaves had all perished, and the bending sap-

lings, and the wood of trust;—but the thorns were there, immortal, and the gnarled and sapless roots, and the dusty treacheries of decay.

7. Of which things you will find it good to consider also otherwise than botanically. For all these lower organisms suffer and perish, or are gladdened and flourish, under conditions which are in utter precision symbolical, and in utter fidelity representative, of the conditions which induce adversity and prosperity in the kingdoms of men: and the Eternal Demeter,—Mother, and Judge,—brings forth, as the herb yielding seed, so also the thorn and the thistle, not to herself, but *to thee*.

8. You have read the words of the great Law often enough;—have you ever thought enough of them to know the difference between these two appointed means of Distress? The first, the Thorn, is the type of distress *caused by crime*, changing the soft and breathing leaf into inflexible and wounding stubbornness. The second is the distress appointed to be the means and herald of good,—Thou shalt see the stubborn thistle bursting into glossy purple, which outreddens all voluptuous garden roses.

9. It is strange that, after much hunting, I cannot find authentic note of the day when Scotland took the thistle for her emblem; and I have no space (in this chapter at least) for tradition; but, with whatever lightness of construing we may receive the symbol, it is actually the truest that could have been found, for some conditions of the Scottish mind. There is no flower which the Proserpina of our Northern Sicily cherishes more dearly: and scarcely any of us recognize enough the beautiful power of its close-set stars, and rooted radiance of ground leaves; yet the stubbornness and ungraceful rectitude of its stem, and the besetting of its wholesome substance with that fringe of offense, and the forwardness of it, and dominance,—I fear to lacerate some of my dearest friends if I went on:—let them rather, with Bailie Jarvie's true conscience,* take their Scott from the inner shelf in

* Has my reader ever thought,—I never did till this moment,—how it

their heart's library, which all true Scotsmen give him, and trace, with the swift reading of memory, the characters of Fergus M'Ivor, Hector M'Intyre, Mause Headrigg, Alison Wilson, Richie Moniplies, and Andrew Fairservice; and then say, if the faults of all these, drawn as they are with a precision of touch like a Corinthian sculptor's of the acanthus leaf, can be found in anything like the same strength in other races, or if so stubbornly folded and starched moni-plies of irritating kindness, selfish friendliness, lowly conceit, and intolerable fidelity, are native to any other spot of the wild earth of the habitable globe.

10. Will you note also—for this is of extreme interest—that these essential faults are all mean faults;—what we may call ground-growing faults; conditions of semi-education, of hardily-treated home-life, or of coarsely-minded and wandering prosperity? How literally may we go back from the living soul symbolized, to the strangely accurate earthly symbol, in the prickly weed. For if, with its bravery of endurance, and carelessness in choice of home, we find also definite faculty and habit of migration, volant mechanism for choiceless journey, not divinely directed in pilgrimage to known shrines; but carried at the wind's will by a spirit which listeth *not*,—it will go hard but that the plant shall become, if not dreaded, at least despised; and, in its wandering and reckless splendor, disgrace the garden of the sluggard, and possess the inheritance of the prodigal: until even its own nature seems contrary to good, and the invocation of the just man be made to it as the executor of Judgment, "Let thistles grow instead of wheat, and cockle instead of barley."

perfects the exquisite character which Scott himself loved, as he invented, till he changed the form of the novel, that his habitual interjection should be this word?—not but that the oath, by conscience, was happily still remaining then in Scotland, taking the place of the mediæval 'by St. Andrew,' we in England, long before the Scot, having lost all sense of the Puritanical appeal to private conscience, as of the Catholic oath, 'by St. George;' and our uncanonized 'by George' in sonorous rudeness, ratifying, not now our common conscience, but our individual opinion,

11. Yet to be despised—either for men or flowers—may be no ill-fortune; the real ill-fortune is only to be despicable. These faults of human character, wherever found, observe, belong to it as ill-trained—incomplete; confirm themselves only in the vulgar. There is no base pertinacity, no overweening conceit, in the Black Douglas, or Claverhouse, or Montrose; in these we find the pure Scottish temper, of heroic endurance and royal pride; but, when, in the pay, and not deceived, but purchased, idolatry of Mammon, the Scottish persistence and pride become knit and vested in the spleuchan, and your stiff Covenanter makes his covenant with Death, and your Old Mortality deciphers only the senseless legends of the eternal gravestone,—you get your weed, earth-grown, in bitter verity, and earth-devastating, in bitter strength.

12. I have told you elsewhere, we are always first to study national character in the highest and purest examples. But if our knowledge is to be complete, we have to study also the special diseases of national character. And in exact opposition to the most solemn virtue of Scotland, the domestic truth and tenderness breathed in all Scottish song, you have this special disease and mortal cancer, this woody-fibriness, literally, of temper and thought: the consummation of which into pure lignite, or rather black Devil's charcoal—the sap of the birks of Aberfeldy become cinder, and the blessed juices of them, deadly gas,—you may know in its pure blackness best in the work of the greatest of these ground-growing Scotchmen, Adam Smith.

13.^o No man of like capacity, I believe, born of any other nation, could have deliberately, and with no momentary shadow of suspicion or question, formalized the spinous and monstrous fallacy that human commerce and policy are *naturally* founded on the desire of every man to possess his neighbor's goods.

This is the 'release unto us Barabbas,' with a witness; and the deliberate systematization of that cry, and choice, for perpetual repetition and fulfillment in Christian statesmanship,

has been, with the strange precision of natural symbolism and retribution, signed, (as of old, by strewing of ashes on Kidron,) by strewing of ashes on the brooks of Scotland; waters once of life, health, music, and divine tradition; but to whose festering scum you may now set fire with a candle; and of which, round the once excelling palace of Scotland, modern sanitary science is now helplessly contending with the poisonous exhalation.

14. I gave this chapter its heading, because I had it in my mind to work out the meaning of the fable in the ninth chapter of Judges, from what I had seen on that thorny ground of mine, where the bramble was king over all the trees of the wood. But the thoughts are gone from me now; and as I re-read the chapter of Judges,—now, except in my memory, unread, as it chances, for many a year,—the sadness of that story of Gideon fastens on me, and silences me. *This* the end of his angel visions, and dream-led victories, the slaughter of all his sons but this youngest,*—and he never again heard of in Israel!

You Scottish children of the Rock, taught through all your once pastoral and noble lives by many a sweet miracle of dew on fleece and ground,—once servants of mighty kings, and keepers of sacred covenant; have you indeed dealt truly with your warrior kings, and prophet saints, or are these ruins of their homes, and shrines, dark with the fire that fell from the curse of Jerubbaal?

* 'Jotham,' 'Sum perfectio eorum,' or 'Consummatio eorum.' (Interpretation of name in Vulgate Index.)

CHAPTER VIII.

THE STEM.

1. As I read over again, with a fresh mind, the last chapter, I am struck by the opposition of states which seem best to fit a weed for a weed's work,—stubbornness, namely, and flaccidity. On the one hand, a sternness and a coarseness of structure which changes its stem into a stake, and its leaf into a spine; on the other, an utter flaccidity and ventosity of structure, which changes its stem into a ribbon, and its leaf into a bubble. And before we go farther—for we are not yet at the end of our study of these obnoxious things—we had better complete an examination of the parts of a plant in general, by ascertaining what a Stem proper is; and what makes it stiffer, or hollower, than we like it;—how, to wit, the gracious and generous strength of ash differs from the spinous obstinacy of blackthorn,—and how the geometric and enduring hollowness of a stalk of wheat differs from the soft fullness of that of a mushroom. To which end, I will take up a piece of study, not of black, but white, thorn, written last spring.

2. I suppose there is no question but that all nice people like hawthorn blossom.

I want, if I can, to find out to-day, 25th May, 1875, what it is we like it so much for: holding these two branches of it in my hand,—one full out, the other in youth. This full one is a mere mass of symmetrically balanced—snow, one was going vaguely to write, in the first impulse. But it is nothing of the sort. White,—yes, in a high degree; and pure, totally; but not at all dazzling in the white, nor pure in an insultingly rivalless manner, as snow would be; yet pure somehow, certainly; and white, absolutely, in spite of what might be

thought failure,—imperfection—nay, even distress and loss in it. For every little rose of it has a green darkness in the center—not even a pretty green, but a faded, yellowish, glutinous, unaccomplished green; and round that, all over the surface of the blossom, whose shell-like petals are themselves deep sunk, with gray shadows in the hollows of them—all above this already subdued brightness, are strewn the dark points of the dead stamens—manifest more and more, the longer one looks, as a kind of gray sand, sprinkled without sparing over what looked at first unspotted light. And in all the ways of it the lovely thing is more like the spring frock of some prudent little maid of fourteen, than a flower;—frock with some little spotty pattern on it to keep it from showing an unintended and inadvertent spot—if Fate should ever inflict such a thing! Undeveloped, thinks Mr. Darwin,—the poor shortcoming, ill-blanchéd thorn blossom—going to be a Rose, some day soon; and, what next?—who knows?—perhaps a Peony!

3. Then this next branch, in dawn and delight of youth, set with opening clusters of yet numerable blossom, four, and five, and seven, edged, and islanded, and ended, by the sharp leaves of freshest green, deepened under the flowers, and studded round with bosses, better than pearl beads of St. Agnes' rosary,—folded, over and over, with the edges of their little leaves pouting, as the very softest waves do on flat sand where one meets another; then opening just enough to show the violet color within—which yet isn't violet color, nor even "meno che le rose," but a different color from every other lilac that one ever saw;—faint and faded even before it sees light, as the filmy cup opens over the depth of it, then broken into purple motes of tired bloom, fading into darkness, as the cup extends into the perfect rose.

This, with all its sweet change that one would so fain stay, and soft effulgence of bud into softly falling flower, one has watched—how often; but always with the feeling that the blossoms are thrown over the green depth like white clouds,—never with any idea of so much as asking what holds the cloud

there. Have each of the innumerable blossoms a separate stalk; and, if so, how is it that one never thinks of the stalk, as one does with currants?

4. Turn the side of the branch to you;—Nature never meant you to see it so; but now it is all stalk below and stamens above,—the petals nothing, the stalks all tiny trees, always dividing their branches mainly into three—one in the center short, and the two lateral, long, with an intermediate extremely long one, if needed, to fill a gap, so contriving that the flowers shall all be nearly at the same level, or at least surface of ball, like a guelder rose. But the cunning with which the tree conceals its structure till the blossom is fallen, and then—for a little while, we had best look no more at it, for it is all like grape-stalks with no grapes.

These, whether carrying hawthorn blossom and haw, or grape blossom and grape, or peach blossom and peach, you will simply call the ‘stalk,’ whether of flower or fruit. A ‘stalk’ is essentially round, like a pillar; and has, for the most part, the power of first developing, and then shaking off, flower and fruit from its extremities. You can pull the peach from its stalk, the cherry, the grape. Always at some time of its existence, the flower-stalk lets fall something of what is sustained, petal or seed.

In late Latin it is called ‘petiolus,’ the little foot; because the expanding piece that holds the grape, or olive, is a little like an animal’s foot. Modern botanists have misapplied the word to the *leaf*-stalk, which has no resemblance to a foot at all. We must keep the word to its proper meaning, and, when we want to write Latin, call it ‘petiolus;’ when we want to write English, call it ‘stalk,’ meaning always fruit or flower stalk.

I cannot find when the word ‘stalk’ first appears in English:—its derivation will be given presently.

5. Gather next a hawthorn leaf. That also has a stalk; but you can’t shake the leaf off it. It, and the leaf, are essentially one; for the sustaining fiber runs up into every ripple or jag of the leaf’s edge; and its section is different

from that of the flower-stalk; it is no more round, but has an upper and under surface, quite different from each other. It will be better, however, to take a larger leaf to examine this structure in. Cabbage, cauliflower, or rhubarb, would any of them be good, but don't grow wild in the luxuriance I want. So, if you please, we will take a leaf of burdock, (*Arctium Lappa*,) the principal business of that plant being clearly to grow leaves wherewith to adorn foregrounds.*

6. The outline of it in Sowerby is not an intelligent one, and I have not time to draw it but in the rudest way myself; Fig. 13, *a*; with perspectives of the elementary form below, *b*, *c*, and *d*. By help of which, if you will construct a burdock leaf in paper, my rude outline (*a*) may tell the rest of what I want you to see.

Take a sheet of stout note paper, Fig. 14, *A*, double it sharply down the center, by the dotted line, then give it the two cuts at *a* and *b*, and double those pieces sharply back, as at *B*; then, opening them again, cut the whole into the form *C*; and then, pulling up the corners *c d*, stitch them

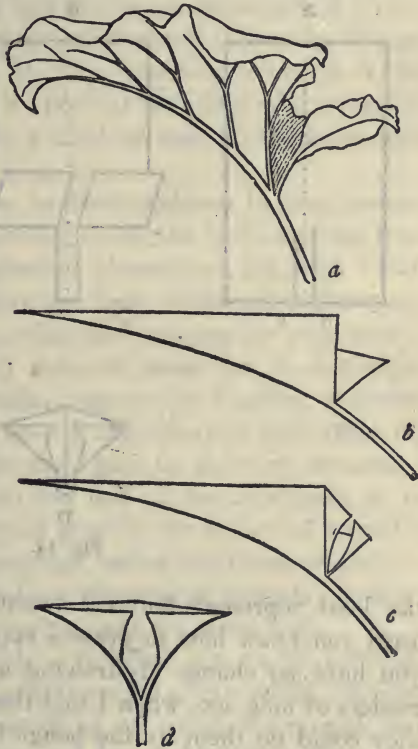


Fig. 13.

together with a loose thread so that the points *c* and *d* shall be within half an inch of each other; and you will have a

* If you will look at the engraving, in the England and Wales series, of Turner's Oakhampton, you will see its use.

kind of triangular scoop, or shovel, with a stem, by which you can sufficiently hold it, D.

7. And from this easily constructed and tenable model, you may learn at once these following main facts about all leaves.

[I.] That they are not flat, but, however slightly, always hollowed into craters, or raised into hills, in one or another direction; so that any drawable outline of them does not in

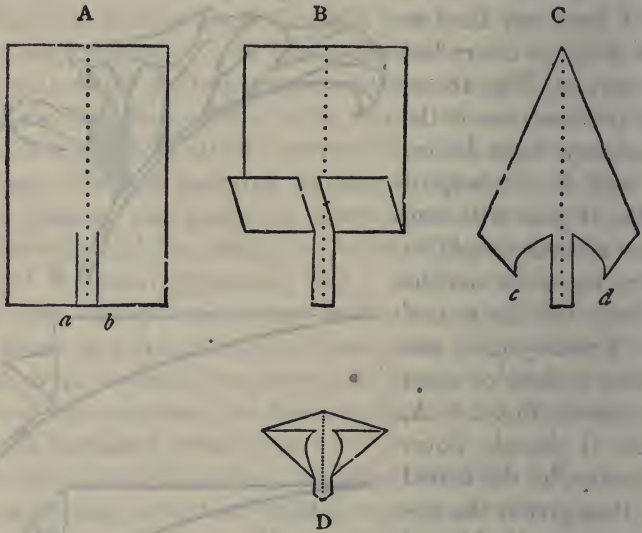


Fig. 14.

the least represent the real extent of their surfaces; and until you know how to draw a cup, or a mountain, rightly, you have no chance of drawing a leaf. My simple artist readers of long ago, when I told them to draw leaves, thought they could do them by the bough-full, whenever they liked. Alas, except by old William Hunt, and Burne Jones, I've not seen a leaf painted, since those burdocks of Turner's; far less sculptured—though one would think at first that was easier! Of which we shall have talk elsewhere; here I must go on to note fact number two, concerning leaves.

8. [II.] The strength of their supporting stem consists not merely in the gathering together of all the fibers, but in gathering them essentially into the profile of the letter V, which you will see your doubled paper stem has; and of which you can feel the strength and use, in your hand, as you hold it. Gather a common plantain leaf, and look at the way it puts its round ribs together at the base, and you will understand the matter at once. The arrangement is modified and disguised in every possible way, according to the leaf's need: in the aspen, the leaf-stalk becomes an absolute vertical plank; and in the large trees is often almost rounded into the likeness of a fruit-stalk;—but, in all,* the essential structure is this doubled one; and in all, it opens at the place where the leaf joins the main stem, into a kind of cup, which holds next year's bud in the hollow of it.

9. Now there would be no inconvenience in your simply getting into the habit of calling the round petiole of the fruit the 'stalk,' and the contracted channel of the leaf, 'leaf-stalk.' But this way of naming them would not enforce, nor fasten in your mind, the difference between the two, so well as if you have an entirely different name for the leaf-stalk. Which is the more desirable, because the limiting character of the leaf, botanically, is—(I only learned this from my botanical friend the other day, just in the very moment I wanted it,)—that it holds the bud of the new stem in its own hollow, but cannot itself grow in the hollow of anything else;—or, in botanical language, leaves are never axillary,—don't grow in armpits, but are themselves armpits; hollows, that is to say, where they spring from the main stem.

10. Now there is already a received and useful botanical word, 'cyme' (which we shall want in a little while,) derived from the Greek *κῆμα*, a swelling or rising wave, and used to express a swelling cluster of foamy blossom. Connected with that word, but in a sort the reverse of it, you have the Greek '*κύμβη*,' the *hollow* of a cup, or bowl; whence *κύβαλον*,

* General assertions of this kind must always be accepted under indulgence,—exceptions being made afterwards.

cymbal,—that is to say, a musical instrument owing its tone to its *hollowness*. These words become in Latin, *cymba*, and *cymbalum*; and I think you will find it entirely convenient and advantageous to call the leaf-stalk distinctively the ‘*cymba*,’ retaining the mingled idea of cup and boat, with respect at least to the part of it that holds the bud; and understanding that it gathers itself into a V-shaped, or even narrowly vertical, section, as a boat narrows to its bow, for strength to sustain the leaf.

With this word you may learn the Virgilian line, that shows the final use of iron—or iron-darkened—ships:

“*Et ferrugineâ subvectat corpora cymbâ.*”

The “*subvectat corpora*” will serve to remind you of the office of the leafy *cymba* in carrying the bud; and make you thankful that the said leafy vase is not of iron; and is a ship of Life instead of Death.

11. Already, not once, nor twice, I have had to use the word ‘stem,’ of the main round branch from which both stalk and *cymba* spring. This word you had better keep for all growing, or advancing, shoots of trees, whether from the ground, or from central trunks and branches. I regret that the words multiply on us; but each that I permit myself to use has its own proper thought or idea to express, as you will presently perceive; so that true knowledge multiplies with true words.

12. The ‘stem,’ you are to say, then, when you mean the *advancing* shoot,—which lengthens annually, while a stalk ends every year in a blossom, and a *cymba* in a leaf. A stem is essentially round,* square, or regularly polygonal; though, as a *cymba* may become exceptionally round, a stem may become exceptionally flat, or even mimic the shape of a leaf. Indeed I should have liked to write “a stem is essentially round, and constructively, on occasion, square,”—but it would have been too grand. The fact is, however, that a stem is really a roundly minded thing, throwing off its branches in

* I use ‘round’ rather than ‘cylindrical,’ for simplicity’s sake.

circles as a trundled mop throws off drops, though it can always order the branches to fly off in what order it likes,—two at a time, opposite to each other; or three, or five, in a spiral coil; or one here and one there, on this side and that; but it is always twisting, in its own inner mind and force; hence it is especially proper to use the word ‘stem’ of it—*στέμμα*, a twined wreath; properly, twined round a staff, or scepter: therefore, learn at once by heart these lines in the opening Iliad:

“Στέμματ’ ἔχων ἐν χερσὶν ἐκηβόλου Ἀπόλλωνος,
Χρυσέψ ἀνὰ σκήπτρῳ.”

And recollect that a scepter is properly a staff to lean upon; and that as a crown or diadem is first a binding thing, a ‘scepter’ is first a *supporting* thing, and it is in its nobleness, itself made of the stem of a young tree. You may just as well learn also this:

“Ναὶ μὰ τόδε σκήπτρον, τὸ μὲν οὔποτε φύλλα καὶ ὄζους
Φύσει, ἐπειδὴ πρῶτα τομὴν ἐν ὄρεσσι λέλοιπεν,
Οὐδ’ ἀναθλήσει· περὶ γάρ ῥά ἐ χαλκὸς ἔλεψε
Φύλλα τε καὶ φλοιάν· νῦν αὖτε μιν υἴες Ἀχαιῶν
Ἐν παλάμῃ φορέουσι δικασπόλοι, οἳ τε θέμιστας
Πρὸς Διὸς εἰρύεται.”

“Now, by this sacred scepter hear me swear
Which never more shall leaves or blossoms bear,
Which, severed from the trunk, (as I from thee,)
On the bare mountains left its parent tree;
This scepter, formed by tempered steel to prove
An ensign of the delegates of Jove,
From whom the power of laws and justice springs
(Tremendous oath, inviolate to Kings).”

13. The supporting power in the tree itself is, I doubt not, greatly increased by this spiral action; and the fine instinct of its being so, caused the twisted pillar to be used in the Lombardic Gothic,—at first, merely as a pleasant variety of form, but at last constructively and universally, by Giotto,

and all the architects of his school. Not that the spiral form actually adds to the strength of a Lombardic pillar, by imitating contortions of wood, any more than the fluting of a Doric shaft adds to its strength by imitating the canaliculation of a reed; but the perfect action of the imagination, which had adopted the encircling acanthus for the capital, adopted the twining stemma for the shaft; the pure delight of the eye being the first condition in either case: and it is inconceivable how much of the pleasure taken both in ornament and in natural form is founded elementarily on groups of spiral line. The study, in our fifth plate, of the involucre of the waste-thistle,* is as good an example as I can give of the more subtle and concealed conditions of this structure.

14. Returning to our present business of nomenclature, we find the Greek word, 'stemma,' adopted by the Latins, becoming the expression of a growing and hereditary race; and the branched tree, the natural type, among all nations, of multiplied families. Hence the entire fitness of the word for our present purposes; as signifying, "a spiral shoot extending itself by branches." But since, unless it is spiral, it is not a stem, and unless it has branches, it is not a stem, we shall still want another word for the sustaining 'scepter' of a foxglove, or cowslip. Before determining that, however, we must see what need there may be of one familiar to our ears until lately, although now, I understand, falling into disuse.

15. By our definition, a stem is a spirally bent, essentially living and growing, shoot of vegetation. But the branch of a tree, in which many such stems have their origin, is not,

* *Carduus Arvensis*. 'Creeping Thistle,' in Sowerby; why, I cannot conceive, for there is no more creeping in it than in a furzebush. But it especially haunts foul and neglected ground; so I keep the Latin name, translating 'Waste-Thistle.' I could not show the variety of the curves of the involucre without enlarging; and if, on this much increased scale, I had tried to draw the flower, it would have taken Mr. Allen and me a good month's more work. And I had no more a month than a life, to spare: so the action only of the spreading flower is indicated, but the involucre drawn with precision.



V.

Occult Spiral Action.
WASTE-THISTLE.

except in a very subtle and partial way, spiral; nor except in the shoots that spring from it, progressive forwards; it only receives increase of thickness at its sides. Much more, what used to be called the *trunk* of a tree, in which many branches are united, has ceased to be, except in mere tendency and temper, spiral; and has so far ceased from growing as to be often in a state of decay in its interior, while the external layers are still in serviceable strength.

16. If, however, a trunk were only to be defined as an arrested stem, or a cluster of arrested stems, we might perhaps refuse, in scientific use, the popular word. But such a definition does not touch the main idea. Branches usually begin to assert themselves at a height above the ground approximately fixed for each species of tree,—low in an oak, high in a stone pine; but, in both, marked as a point of *structural change in the direction of growing force*, like the spring of a vault from a pillar; and as the tree grows old, some of its branches getting torn away by winds or falling under the weight of their own fruit, or load of snow, or by natural decay, there remains literally a ‘truncated’ mass of timber, still bearing irregular branches here and there, but inevitably suggestive of resemblance to a human body, after the loss of some of its limbs.

And to prepare trees for their practical service, what age and storm only do partially, the first rough process of human art does completely. The branches are lopped away, leaving literally the ‘truncus’ as the part of the tree out of which log and rafter can be cut. And in many trees, it would appear to be the chief end of their being to produce this part of their body on a grand scale, and of noble substance; so that, while in thinking of vegetable life without reference to its use to men or animals, we should rightly say that the essence of it was in leaf and flower—not in trunk or fruit; yet for the sake of animals, we find that some plants, like the vine, are apparently meant chiefly to produce fruit; others, like laurels, chiefly to produce leaves; others chiefly to produce flowers; and others to produce permanently serviceable and sculp-

turable wood; or, in some cases, merely picturesque and monumental masses of vegetable rock, "intertwisted fibers serpentine,"—of far nobler and more pathetic use in their places, and their enduring age, than ever they could be for material purpose in human habitation. For this central mass of the vegetable organism, then, the English word 'trunk' and French 'tronc' are always in accurate scholarship to be retained—meaning the part of a tree which remains when its branches are lopped away.

17. We have now got distinct ideas of four different kinds of stem, and simple names for them in Latin and English,—Petiolus, Cymba, Stemma, and Truncus; Stalk, Leaf-stalk, Stem, and Trunk; and these are all that we shall commonly need. There is, however, one more that will be sometimes necessary, though it is ugly and difficult to pronounce, and must be as little used as we can.

And here I must ask you to learn with me a little piece of Roman history. I say, to *learn* with me, because I don't know any Roman history except the two first books of Livy, and little bits here and there of the following six or seven. I only just know enough about it to be able to make out the bearings and meaning of any fact that I now learn. The greater number of modern historians know, (if honest enough even for that,) the facts, or something that may possibly be like the facts, but haven't the least notion of the meaning of them. So that, though I have to find out everything that I want in Smith's Dictionary, like any schoolboy, I can usually tell you the significance of what I so find, better than perhaps even Mr. Smith himself could.

18. In the 586th page of Mr. Smith's volume, you have it written that 'Calvus,' bald-head, was the name of a family of the Licinia gens; that the man of whom we hear earliest, as so named, was the first plebeian elected to military tribuneship in B.C. 400; and that the fourth of whom we hear, was surnamed 'Stolo,' because he was so particular in pruning away the Stolons (stolones), or useless young shoots, of his vines.

We must keep this word 'stolon,' therefore, for these young suckers springing from an old root. Its derivation is uncertain; but the main idea meant by it is one of uselessness—sprouting without occasion or fruit; and the words 'stolidus' and 'stolid' are really its derivatives, though we have lost their sense in English by partly confusing them with 'solid,' which they have nothing to do with. A 'stolid' person is essentially a 'useless sucker' of society; frequently very leafy and graceful, but with no good in him.

19. Nevertheless, I won't allow our vegetable 'stolons' to be despised. Some of quite the most beautiful forms of leafage belong to them;—even the foliage of the olive itself is never seen to the same perfection on the upper branches as in the young ground-rods in which the dual groups of leaves crowd themselves in their haste into clusters of three.

But, for our point of Latin history, remember always that in 400 B. C., just a year before the death of Socrates at Athens, this family of Stolid persons manifested themselves at Rome, shooting up from plebeian roots into places where they had no business; and preparing the way for the degradation of the entire Roman race under the Empire; their success being owed, remember also, to the faults of the patricians, for one of the laws passed by Calvus Stolo was that the Sibylline books should be in custody of ten men, of whom five should be plebeian, "that no falsifications might be introduced in favor of the patricians."

20. All this time, however, we have got no name for the prettiest of all stems,—that of annual flowers growing high from among their ground leaves, like lilies of the valley, and saxifrages, and the tall prim-

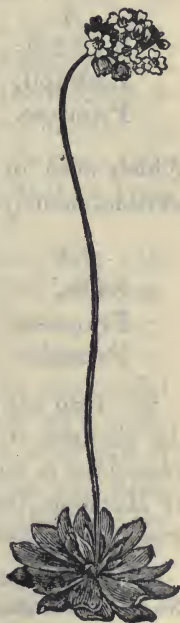


Fig. 15.

ulas—of which this pretty type, Fig. 15, was cut for me by Mr. Burgess years ago; admirable in its light outline of the foamy globe of flowers, supported and balanced in the meadow breezes on that elastic rod of slenderest life.

What shall we call it? We had better rest from our study of terms a little, and do a piece of needful classifying, before we try to name it.

21. My younger readers will find it easy to learn, and convenient to remember, for a beginning of their science, the names of twelve great families of cinquefoiled flowers,* of which the first group of three, is for the most part golden, the second, blue, the third, purple, and the fourth, red.

And their names, by simple lips, can be pleasantly said, or sung, in this order, the two first only being a little difficult to get over.

1	2	3	4
Roof-foil,	Lucy,	Pea,	Pink,
Rock-foil,	Blue-bell,	Pansy,	Peach,
Primrose.	Bindweed.	Daisy.	Rose.

Which even in their Latin magniloquence will not be too terrible, namely,—

1	2	3	4
Stella,	Lucia,	Alata,	Clarissa,
Francesca,	Campanula,	Viola,	Persica,
Primula.	Convoluta.	Margarita.	Rosa.

22. I do not care much to assert or debate my reasons for the changes of nomenclature made in this list. The most gratuitous is that of 'Lucy' for 'Gentian,' because the King of Macedon, from whom the flower has been so long named, was by no means a person deserving of so consecrated memory.

* The florets gathered in the daisy are cinquefoils, examined closely. No system founded on color can be very general or unexceptionable: but the splendid purples of the pansy, and thistle, which will be made one of the lower composite groups under Margarita, may justify the general assertion of this order's being purple.

I conceive no excuse needed for rejecting Caryophyll, one of the crudest and absurdest words ever coined by unscholarly men of science; or Papilionaceæ, which is unendurably long for pease; and when we are now writing Latin, in a sentimental temper, and wish to say that we gathered a daisy, we shall not any more be compelled to write that we gathered a 'Bellidem perennem,' or, an 'Oculum Diei.'

I take the pure Latin form, Margarita, instead of Margareta, in memory of Margherita of Cortona,* as well as of the great saint: also the tiny scatterings and sparklings of the daisy on the turf may remind us of the old use of the word 'Margaritæ,' for the minute particles of the Host sprinkled on the patina—"Has particulas *μερίδας* vocat Euchologium, *μαργαρίτας* Liturgia Chrysostomi."† My young German readers will, I hope, call the flower Gretschen, —unless they would uproot the daisies of the Rhine, lest French girls should also count their love-lots by the Marguerite. I must be so ungracious to my fair young readers, however, as to warn them that this trial of their lovers is a very favorable one, for, in nine blossoms out of ten, the leaves of the Marguerite are odd, so that, if they are only gracious enough to begin with the supposition that he loves them, they must needs end in the conviction of it.

23. I am concerned, however, for the present, only with my first or golden order, of which the Roof-foil, or house-leek, is called in present botany, Sedum, 'the squatter,' because of its way of fastening itself down on stones, or roof, as close as it can sit. But I think this an ungraceful notion of its behavior; and as its blossoms are, of all flowers, the most sharply and distinctly star-shaped, I shall call it 'Stella' (providing otherwise, in due time, for the poor little chickweed;) and the common stoncrop will therefore be 'Stella domestica.'

* See Miss Yonge's exhaustive account of the name, 'History of Christian Names,' vol. i. p. 265.

† (Du Cange.) The word 'Margarete' is given as heraldic English for pearl, by Lady Juliana Berners, in the book of St. Albans.

The second tribe, (at present saxifraga,) growing for the most part wild on rocks, may, I trust, even in Protestant botany, be named Francesca, after St. Francis of Assisi; not only for its modesty, and love of mountain ground, and poverty of color and leaf; but also because the chief element of its decoration, seen close, will be found in its spots, or stigmata.

In the nomenclature of the third order I make no change.

24. Now all this group of golden-blossoming plants agree in general character of having a rich cluster of radical leaves, from which they throw up a single stalk bearing clustered blossoms; for which stalk, when entirely leafless, I intend always to keep the term 'virgula,' the 'little rod'—not painfully caring about it, but being able thus to define it with precision, if required. And these are connected with the stems of branching shrubs through infinite varieties of structure, in which the first steps of transition are made by carrying the cluster of radical leaves up, and letting them expire gradually from the rising stem: the changes of form in the leaves as they rise higher from the ground being one of quite the most interesting specific studies in every plant. I had set myself once, in a bye-study for foreground drawing, hard on this point; and began, with Mr. Burgess, a complete analysis of the foliation of annual stems; of which Line-studies II., III., and IV., are examples; reduced copies, all, from the beautiful Flora Danica. But after giving two whole lovely long summer days, under the Giesbach, to the blue scabious, ('Devil's bit,') and getting in that time, only half-way up it, I gave in; and must leave the work to happier and younger souls.

25. For these flowering stems, therefore, possessing nearly all the complex organization of a tree, but not its permanence, we will keep the word 'virga;' and 'virgula' for those that have no leaves. I believe, when we come to the study of leaf-order, it will be best to begin with these annual virgæ, in which the leaf has nothing to do with preparation for a next year's branch. And now the remaining terms commonly



Line Study. II.



Line Study. III.



Line Study IV

applied to stems may be for the most part dispensed with; but several are interesting, and must be examined before dismissal.

26. Indeed, in the first place, the word we have to use so often, 'stalk,' has not been got to the roots of, yet. It comes from the Greek *στéλεχος*, (*stelechos*,) the 'holding part' of a tree, that which is like a handle to all its branches; 'stock' is another form in which it has come down to us: with some notion of its being the mother of branches: thus, when Athena's olive was burnt by the Persians, two days after, a shoot a cubit long had sprung from the 'stelechos' of it.

27. Secondly. Few words are more interesting to the modern scholarly and professional mind than 'stipend.' (I have twice a year at present to consider whether I am worth mine, sent with compliments from the Curators of the University chest.) Now, this word comes from 'stips,' small pay, which itself comes from 'stipo,' to press together, with the idea of small coin heaped up in little towers or piles. But with the idea of lateral pressing together, instead of downward, we get 'stipes,' a solid log; in Greek, with the same sense, *στύπος*, (*stupos*,) whence, gradually, with help from another word meaning to beat, (and a side-glance at beating of hemp,) we get our 'stupid,' the German stumph, the Scottish sumph, and the plain English 'stump.'

Refining on the more delicate sound of stipes, the Latins got 'stipula,' the thin stem of straw: which rustles and ripples daintily in verse, associated with *spica* and *spiculum*, used of the sharp pointed ear of corn, and its fine processes of fairy shafts.

28. There are yet two more names of stalk to be studied, though, except for particular plants, not needing to be used,—namely, the Latin *cau-dex*, and *cau-lis*, both connected with the Greek *καυλός*, properly meaning a solid stalk like a handle, passing into the sense of the hilt of a sword, or quill of a pen. Then, in Latin, *caudex* passes into the sense of log, and so, of cut plank or tablet of wood; thus finally becoming the classical 'codex' of writings engraved on such

wooden tablets, and therefore generally used for authoritative manuscripts.

Lastly, 'caulis,' retained accurately in our cauliflower, contracted in 'colewort,' and refined in 'kail,' softens itself into the French 'chou,' meaning properly the whole family of thick-stalked eatable salads with spreading heads; but these being distinguished explicitly by Pliny as 'Capitati,' 'salads with a head,' or 'Captain salads,' the mediæval French softened the 'caulis capitatus' into 'chou cabus;'—or, to separate the round or apple-like mass of leaves from the flowery foam, 'cabus' simply, by us at last enriched and emphasized into 'cabbage.'

29. I believe we have now got through the stiffest piece of etymology we shall have to master in the course of our botany; but I am certain that young readers will find patient work, in this kind, well rewarded by the groups of connected thoughts which will thus attach themselves to familiar names; and their grasp of every language they learn must only be esteemed by them secure when they recognize its derivatives in these homely associations, and are as much at ease with the Latin or French syllables of a word as with the English ones; this familiarity being above all things needful to cure our young students of their present ludicrous impression that what is simple, in English, is knowing, in Greek; and that terms constructed out of a dead language will explain difficulties which remained insoluble in a living one. But Greek is *not* yet dead: while if we carry our unscholarly nomenclature much further, English soon will be; and then doubtless botanical gentlemen at Athens will for some time think it fine to describe what we used to call caryophyllaceæ, as the *ἑδληφιδες*.

30. For indeed we are all of us yet but schoolboys, clumsily using alike our lips and brains; and with all our mastery of instruments and patience of attention, but few have reached, and those dimly, the first level of science,—wonder.

For the first instinct of the stem,—unnamed by us yet—unthought of,—the instinct of seeking light, as of the root to



Line Study. V.

seek darkness,—what words can enough speak the wonder of it!

Look. Here is the little thing, Line-study V. (A), in its first birth to us: the stem of stems; the one of which we pray that it may bear our daily bread. The seed has fallen in the ground with the springing germ of it downwards; with heavenly cunning the taught stem curls round, and seeks the never-seen light. Veritable 'conversion,' miraculous, called of God. And here is the oat germ, (B)—after the wheat, most vital of divine gifts; and assuredly, in days to come, fated to grow on many a naked rock in hitherto lifeless lands, over which the glancing sheaves of it will shake sweet treasure of innocent gold.

And who shall tell us how they grow; and the fashion of their rustling pillars—bent, and again erect, at every breeze. Fluted shaft or clustered pier, how poor of art, beside this grass-shaft—built, first to sustain the food of men, then to be strewn under their feet!

We must not stay to think of it, yet, or we shall get no farther till harvest has come and gone again. And having our names of stems now determined enough, we must in next chapter try a little to understand the different kinds of them.

The following notes, among many kindly sent me on the subject of Scottish Heraldry, seem to be the most trustworthy:—

“The earliest known mention of the thistle as the national badge of Scotland is in the inventory of the effects of James III.; who probably adopted it as an appropriate illustration of the royal motto, *In defence*.

“Thistles occur on the coins of James IV., Mary, James V., and James VI.; and on those of James VI. they are for the first time accompanied by the motto, *Nemo me impune lacesset*.

“A collar of thistles appears on the gold bonnet-pieces of James V. of 1539; and the royal ensigns, as depicted in Sir David Lindsay's armorial register of 1542, are surrounded by a collar formed entirely of golden thistles, with an oval badge attached.

“This collar, however, was a mere device until the institution, or, as it is generally but inaccurately called, the revival, of the order of the Thistle by James VII. (II. of England), which took place on May 29, 1687.”

Date of James III.'s reign 1460—1488.

CHAPTER IX.

OUTSIDE AND IN.

1. THE elementary study of methods of growth, given in the following chapter, has been many years written, (the greater part soon after the fourth volume of 'Modern Painters'); and ought now to be rewritten entirely; but having no time to do this, I leave it with only a word or two of modification, because some truth and clearness of incipient notion will be conveyed by it to young readers, from which I can afterwards lop the errors, and into which I can graft the finer facts, better than if I had a less blunt embryo to begin with.

2. A stem, then, broadly speaking, (I had thus began the old chapter,) is the channel of communication between the leaf and root; and if the leaf can grow directly from the root, there is no stem: so that it is well first to conceive of all plants as consisting of leaves and roots only, with the condition that each leaf must have its own quite particular root * somewhere. Let a b c, Fig. 16, be three leaves, each, as you



FIG. 16.

see, with its own root, and by no means dependent on other leaves for its daily bread; and let the horizontal line be the surface of the ground. Then the plant has no stem, or an underground one. But if the three leaves rise above the ground, as in Fig. 17, they must reach their roots by elongating their stalks, and this elongation is the stem of the

* Recent botanical research makes this statement more than dubitable. Nevertheless, on no other supposition can the forms and action of tree-branches, so far as at present known to me, be yet clearly accounted for.

plant. If the outside leaves grow last and are therefore youngest, the plant is said to grow from the outside. You know that 'ex' means out, and that 'gen' is the first syllable of Genesis (or creation), therefore the old botanists, putting an o between the two syllables, called plants whose outside leaves grew last, Ex-o-gens. If the inside leaf grows last, and is youngest, the plant was said to grow from the inside, and from the Greek Endon, within, called an 'Endo-gen.' If these names are persisted in, the Greek botanists, to return the compliment, will of course call Endogens Ἰνσειδ-



FIG. 17.

βορνιδες, and Exogens Ὀυτσειδβορνιδες. In the Oxford school, they will be called simply Inlaid and Outlaid.

3. You see that if the outside leaves are to grow last, they may conveniently grow two at a time; which they accordingly do, and exogens always start with two little leaves from their roots, and may therefore conveniently be called two-leaved; which, if you please, we will for our parts call them. The botanists call them 'two-suckered,' and can't be content to call them *that* in English; but drag in a long Greek word, meaning the fleshy sucker of the sea-devil,—'cotyledon,' which, however, I find is practically getting shortened into 'cot,' and that they will have to end by calling endogens, monocots, and exogens, bicots. I mean steadily to call them one-leaved and two-leaved, for this further reason, that they differ not merely in the single or dual springing of first leaves from the seed; but in the distinctly single or dual arrangement of leaves afterwards on the stem; so that, through all the complexity obtained by alternate and spiral placing, every bicot or two-leaved flower or tree is in reality composed of dual groups of leaves, separated by a given length of stem; as, most characteristically in this pure mountain type of the Ragged Robin (*Clarissa laciniosa*), Fig. 18; and compare A, and B, Line-study II.; while, on the other hand, the monocot plants are by close analysis, I think, always resolvable into successively climbing leaves, sessile on one another, and send-

ing their roots, or processes, for nourishment, down through one another, as in Fig. 19.

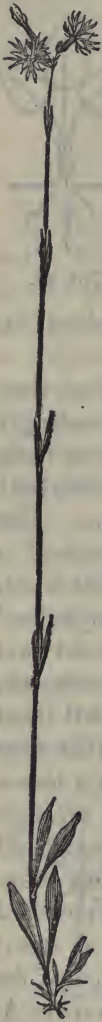


FIG. 18.

be one plant more than another in which the pith is defined, it is the common Rush; while the nobler families of true herbs derive their principal character

4. Not that I am yet clear, at all, myself; but I do think it's more the botanist's fault than mine, what 'cotyledonous' structure there may be at the outer base of each successive bud; and still less, how the intervenient length of stem, in the bicots, is related to their power, or law, of branching. For not only the two-leaved tree is outlaid, and the one-leaved inlaid, but the two-leaved tree is branched, and the one-leaved tree is not branched. This is a most vital and important distinction, which I state to you in very bold terms, for though there are some apparent exceptions to the law, there are, I believe, no real ones, if we define a branch rightly. Thus, the head of a palm tree is merely a cluster of large leaves; and the spike of a grass, a clustered blossom. The stem, in both, is unbranched; and we should be able in this respect to classify plants very simply indeed, but for a provoking species of intermediate creatures whose branching is always in the manner of corals, or sponges, or arborescent minerals, irregular and accidental, and essentially, therefore, distinguished from the systematic anatomy of a truly branched tree. Of these presently; we must go on by very short steps: and I find no step can be taken without check from existing generalizations. Sowerby's definition of Monocotyledons, in his ninth volume, begins thus: "Herbs, (or rarely, and only in exotic genera,) trees, in which the wood, pith, and bark are indistinguishable." Now if there

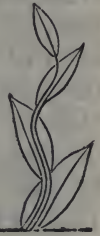


FIG. 19.

from being pithless altogether! We cannot advance too slowly.

5. In the families of one-leaved plants in which the young leaves grow directly out of the old ones, it becomes a grave question for them whether the old ones are to lie flat or edge-ways, and whether they must therefore grow out of their faces or their edges. And we must at once understand the way they contrive it, in either case.

Among the many forms taken by the Arethusan leaf, one of the commonest is long and gradually tapering,—much broader at the base than the point. We will take such an one for examination, and suppose that it is growing on the ground as in Fig. 20, with a root to its every fiber. Cut out a piece of strong paper roughly into the shape of this Arethusan leaf, a, Fig. 21. Now suppose the next young leaf has to spring out of the front of this one, at about the middle of its height. Give it two nicks with the scissors at b b; then roll up the lower part into a cylinder, (it will overlap a good deal at the bottom,) and tie it fast with a fine thread: so, you will get the form at c. Then bend the top of it back, so that, seen sideways, it appears as at d, and you see you have made quite a little flower-pot to plant your new leaf in, and perhaps it may occur to you that you have seen something like this before. Now make another, a little less wide, but with the part for the cylinder twice as long, roll it up in the same way, and slip it inside the other, with the flat part turned the other way, e. Surely this reminds you now of something you have seen? Or must I draw the something (Fig. 22)?



FIG. 20.

6. All grasses are thus constructed, and have their leaves set thus, opposite, on the sides of their tubular stems, alternately, as they ascend. But in most of them there is also a peculiar construction, by which, at the base of the sheath, or inclosing tube, each leaf articulates itself with the rest of the stem at a ringed knot, or joint.

Before examining these, remember there are mainly two sorts of joints in the framework of the bodies of animals. One is that in which the bone is thick at the joints and thin between them, (see the bone of the next chicken leg you eat,) the other is that of animals that have shells or horny coats, in which characteristically the shell is thin at the joints, and thick between them (look at the next lobster's claw you can see, without eating). You know, also, that though the crus-

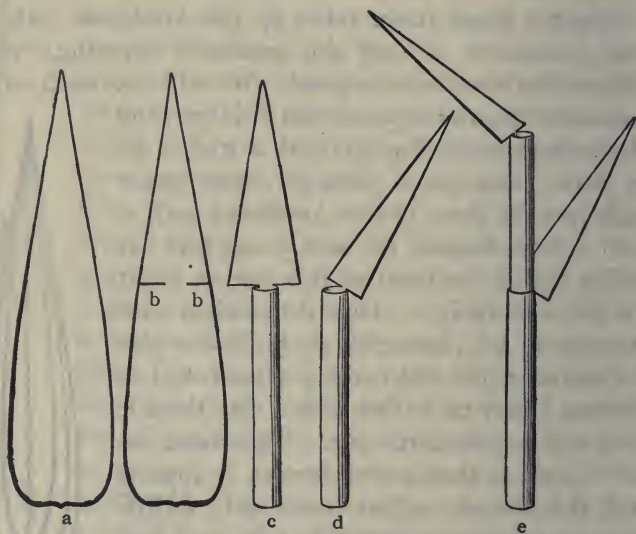


FIG. 21.

taceous are titled only from their crusts, the name 'insect' is given to the whole insect tribe, because they are farther jointed almost into *sections*; it is easily remembered, also, that the projecting joint means strength and elasticity in the creature, and that all its limbs are useful to it, and cannot conveniently be parted with; and that the incised, sectional, or insectile joint means more or less weakness,* and necklace-like laxity or license in the creature's make; and an ignoble power of shaking off its legs or arms on occasion, coupled also with modes of growth involving occasionally quite astonishing

* Not always in muscular power; but the framework on which strong muscles are to act, as that of an insect's wing, or its jaw, is never insectile.

transformations, and beginnings of new life under new circumstances; so that, until very lately, no mortal knew what a crab was like in its youth, the very existence of the creature, as well as its legs, being jointed, as it were, and made in separate pieces with the narrowest possible thread of connection between them; and its principal, or stomachic, period of life, connected with its sentimental period by as thin a thread as a wasp's stomach is with its thorax.

7. Now in plants, as in animals, there are just the same opposed aspects of joint, with this specialty of difference in function, that the animal's limb bends at the joints, but the vegetable limb stiffens. And when the articulation projects, as in the joint of a cane, it means not only that the strength of the plant is well carried through the junction, but is carried farther and more safely than it could be without it: a cane is stronger, and can stand higher than it could otherwise because of its joints. Also, this structure implies that the plant has a will of its own, and a position which on the whole it will keep, however it may now and then be bent out of it; and that it has a continual battle, of a healthy and human-like kind, to wage with surrounding elements.

But the crabby, or insect-like, joint, which you get in seaweeds and cacti, means either that the plant is to be dragged and wagged here and there at the will of waves, and to have no spring nor mind of its own; or else that it has at least no springy intention and elasticity of purpose, but only a knobby, knotty, prickly, malignant stubbornness, and incoherent opiniativeness; crawling about, and coggling, and groveling, and aggregating anyhow, like the minds of so many people whom one knows!

8. Returning then to our grasses, in which the real rooting and junction of the leaves with each other is at these joints; we find that therefore every leaf of grass may be thought of as consisting of two main parts, for which we shall want two



FIG. 22.

separate names. The lowest part, which wraps itself round to become strong, we will call the 'staff,' and for the free-floating outer part we will take specially the name given at present carelessly to a large number of the plants themselves, 'flag.' This will give a more clear meaning to the words 'rod' (*virga*), and 'staff' (*baculus*), when they occur together, as in the 23d Psalm; and remember the distinction is that a rod bends like a switch, but a staff is stiff. I keep the well-known name 'blade' for grass-leaves in their fresh green state.

9. You felt, as you were bending down the paper into the form d, Fig. 21, the difficulty and awkwardness of the transition from the tubular form of the staff to the flat one of the flag. The mode in which this change is effected is one of the most interesting features in plants, for you will find presently that the leaf-stalk in ordinary leaves is only a means of accomplishing the same change from round to flat. But you know I said just now that some leaves were not flat, but set upright, edgeways.

It is not a common position in two-leaved trees; but if you can run out and look at an *arbor vitæ*, it may interest you to see its hatchet-shaped vertically crested cluster of leaves transforming themselves gradually downwards into branches; and in one-leaved trees the vertically edged group is of great importance.

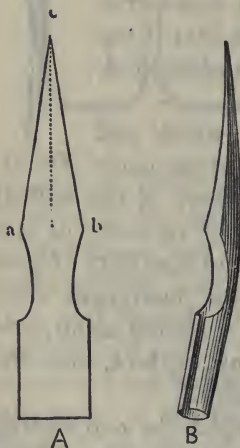


FIG. 23.

10. Cut out another piece of paper like a in Fig. 21, but now, instead of merely giving it nicks at a, b, cut it into the shape A, Fig. 23. Roll the lower part up as before, but instead of pulling the upper part down, pinch its back at the dotted line, and bring the two points, a and b, forward, so that they may touch each other. B shows the look of the thing half-done, before the points a and b have

quite met. Pinch them close, and stitch the two edges neatly together, all the way from a to the point c; then roll and tie up the lower part as before. You will find then that the back or spinal line of the whole leaf is bent forward, as at B. Now go out to the garden and gather the green leaf of a fleur-de-lys, and look at it and your piece of disciplined paper together; and I fancy you will probably find out several things for yourself that I want you to know.

11. You see, for one thing, at once, how *strong* the fleur-de-lys leaf is, and that it is just twice as strong as a blade of grass, for it is the substance of the staff, with its sides flattened together, while the grass blade is a staff cut open and flattened out. And you see that as a grass blade necessarily flaps down, the fleur-de-lys leaf as necessarily curves up, owing to that inevitable bend in its back. And you see, with its keen edge, and long curve, and sharp point, how like a sword it is. The botanists would for once have given a really good and right name to the plants which have this kind of leaf, 'Ensataë,' from the Latin 'ensis,' a sword; if only sata had been properly formed from sis. We can't let the rude Latin stand, but you may remember that the fleur-de-lys, which is the flower of chivalry, has a sword for its leaf, and a lily for its heart.

12. In case you cannot gather a fleur-de-lys leaf, I have drawn for you, in Plate VI., a cluster of such leaves, which are as pretty as any, and so small that, missing the points of a few, I can draw them of their actual size. You see the pretty alternate interlacing at the bottom, and if you can draw at all, and will try to outline their curves, you will find what subtle lines they are. I did not know this name for the strong-edged grass leaves when I wrote the pieces about shield and sword leaves in 'Modern Painters'; I wish I had chanced in those passages on some other similitude, but I can't alter them now, and my trustful pupils may avoid all confusion of thought by putting gladius for ensis, and translating it by the word 'scimiter,' which is also more accurate in expressing the curvature blade. So we will call the ensa-

tæ, instead, 'gladiolæ,' translating, 'scimiter-grasses.' And having now got at some clear idea of the distinction between outlaid and inlaid growth in the stem, the reader will find the elementary analysis of forms resulting from outlaid growth in 'Modern Painters'; and I mean to republish it in the sequel of this book, but must go on to other matters here. The growth of the inlaid stem we will follow as far as we need, for English plants, in examining the grasses.

FLORENCE, 11th September, 1874.

As I correct this chapter for press, I find it is too imperfect to be let go without a word or two more. In the first place, I have not enough, in distinguishing the nature of the living yearly shoot, with its cluster of fresh leafage, from that of the accumulated mass of perennial trees, taken notice of the similar power even of the annual shoot, to obtain some manner of immortality for itself, or at least of usefulness, *after* death. A Tuscan woman stopped me on the path up to Fiesole last night, to beg me to buy her plaited straw. I wonder how long straw lasts, if one takes care of it? A Leghorn bonnet, (if now such things are,) carefully put away,—even properly taken care of when it is worn,—how long will it last, young ladies?

I have just been reading the fifth chapter of II. Esdras, and am fain to say, with less discomfort than otherwise I might have felt, (the example being set me by the archangel Uriel,) "I am not sent to tell thee, for I do not know." How old is the oldest straw known? the oldest linen? the oldest hemp? We have mummy wheat,—cloth of papyrus, which is a kind of straw. The paper reeds by the brooks, the flax-flower in the field, leave such imperishable frame behind them. And Ponte-della-Paglia, in Venice; and Straw Street, of Paris, remembered in Heaven,—there is no occasion to change their names, as one may have to change 'Waterloo Bridge,' or the 'Rue de l'Impératrice.' Poor Empress! Had she but known that her true dominion was in the straw streets of her fields; not in the stone streets of her cities!

But think how wonderful this imperishableness of the stem of many plants is, even in their annual work: how much more in their perennial work! The noble stability between death and life, of a piece of perfect wood? It cannot grow, but will not decay; keeps record of its years of life, but surrenders them to become a constantly serviceable thing: which may be sailed in, on the sea, built with, on the land, carved by Donatello, painted on by Fra Angelico. And it is not the wood's fault, but the fault of Florence in not taking proper care of it, that the panel of Sandro Botticelli's loveliest picture has cracked, (not with heat, I believe, but blighting frost,) a quarter of an inch wide through the Madonna's face.

But what is this strange state of undecaying wood? What sort of latent life has it, which it only finally parts with when it rots?

Nay, what is the law by which its natural life is measured? What makes a tree 'old'? One sees the Spanish-chestnut trunks among the Apennines growing into caves, instead of logs. Vast hollows, confused among the recessed darknesses of the marble crags, surrounded by mere laths of living stem, each with its coronal of glorious green leaves. Why can't the tree go on, and on,—hollowing itself into a Fairy—no—a Dryad, Ring,—till it becomes a perfect Stonehenge of a tree? Truly, "I am not sent to tell thee, for I do not know."

The worst of it is, however, that I don't know one thing which I ought very thoroughly to have known at least thirty years ago, namely, the true difference in the way of building the trunk in outlaid and inlaid wood. I have an idea that the stem of a palm-tree is only a heap of leaf-roots built up like a tower of bricks, year by year, and that the palm-tree really grows on the top of it, like a bunch of fern; but I've no books here, and no time to read them if I had. If only I were a strong giant, instead of a thin old gentleman of fifty-five, how I should like to pull up one of those little palm-trees by the roots—(by the way, what are the roots of a palm like? and, how does it stand in sand, where it is wanted to stand,

mostly? Fancy, not knowing that, at fifty-five!)—that grow all along the Riviera; and snap its stem in two, and cut it down the middle. But I suppose there are sections enough now in our grand botanical collections, and you can find it all out for yourself. That you should be able to ask a question clearly, is two-thirds of the way to getting it answered; and I think this chapter of mine will at least enable you to ask some questions about the stem, though what a stem *is*, truly, “I am not sent to tell thee, for I do not know.”

KNARESBOROUGH, 30th April, 1876.

I see by the date of last paragraph that this chapter has been in my good Aylesbury printer's type for more than a year and a half. At this rate, Proserpina has a distant chance of being finished in the spirit-land, with more accurate information derived from the archangel Uriel himself, (not that he is likely to know much about the matter, if he keeps on letting himself be prevented from ever seeing foliage in spring-time by the black demon-winds,) about the year 2000. In the meantime feeling that perhaps I *am* sent to tell my readers a little more than is above told, I have had recourse to my botanical friend, good Mr. Oliver of Kew, who has taught me, first, of palms, that they actually stitch themselves into the ground, with a long dipping loop, up and down, of the root fibers, concerning which seamstress-work I shall have a month's puzzlement before I can report on it; secondly, that all the increment of tree stem is, by division and multiplication of the cells of the wood, a process not in the least to be described as ‘sending down roots from the leaf to the ground.’ I suspected as much in beginning to revise this chapter; but hold to my judgment in not canceling it. For this multiplication of the cells is at least compelled by an influence which passes from the leaf to the ground, and vice versâ; and which is at present best conceivable to me by imagining the continual and invisible descent of lightning from electric cloud by a conducting rod, endowed with the power of softly splitting the rod into two rods, each as thick

as the original one. Studying microscopically, we should then see the molecules of copper, as we see the cells of the wood, dividing and increasing, each one of them into two. But the visible result, and mechanical conditions of growth, would still be the same as if the leaf actually sent down a new root fiber; and, more than this, the currents of accumulating substance, marked by the grain of the wood, are, I think, quite plainly and absolutely those of streams flowing only from the leaves downwards; never from the root up, nor of mere lateral increase. I must look over all my drawings again, and at tree stems again, with more separate study of the bark and pith in those museum sections, before I can assert this; but there will be no real difficulty in the investigation. If the increase of the wood is lateral only, the currents round the knots will be compressed at the sides, and open above and below; but if downwards, compressed above the knot and open below it. The nature of the force itself, and the manner of its ordinances in direction, remain, and must forever remain, inscrutable as our own passions, in the hand of the God of all Spirits, and of all Flesh.

“Drunk is each ridge, of thy cup drinking,
 Each clod relenteth at thy dressing,
 Thy cloud-borne waters inly sinking,
 Fair spring sproutes forth, blest with thy blessing;
 The fertile year is with thy bounty crowned,
 And where thou go'st, thy goings fat the ground.

Plenty bedews the desert places,
 A hedge of mirth the hills incloseth.
 The fields with flockes have hid their faces,
 A robe of corn the valleys clotheth.
 Deserts and hills and fields and valleys all,
 Rejoice, shout, sing, and on thy name do call.”

CHAPTER X.

THE BARK.

1. PHILOLOGISTS are continually collecting instances, like our friend the French critic of Virgil, of the beauty of finished language, or the origin of unfinished, in the imitation of natural sounds. But such collections give an entirely false idea of the real power of language, unless they are balanced by an opponent list of the words which signally fail of any such imitative virtue, and whose sound, if one dwelt upon it, is destructive of their meaning.

2. For instance. Few sounds are more distinct in their kind, or one would think more likely to be vocally reproduced in the word which signified them, than that of a swift rent in strongly woven cloth; and the English words 'rag' and ragged, with the Greek *ρήγνυμι*, do indeed in a measure recall the tormenting effect upon the ear. But it is curious that the verb which is meant to express the actual origination of rags, should rhyme with two words entirely musical and peaceful—words, indeed, which I always reserve for final resource in passages which I want to be soothing as well as pretty,—'fair,' and 'air'; while, in its orthography, it is identical with the word representing the bodily sign of tenderest passion, and grouped with a multitude of others,* in which the mere insertion of a consonant makes such wide difference of sentiment as between 'dear' and 'drear,' or 'pear' and 'spear.' The Greek root, on the other hand, has persisted in retaining some vestige of its excellent dis-

* It is one of the three cadences, (the others being of the words rhyming to 'mind' and 'way,') used by Sir Philip Sidney in his marvelous paraphrase of the 55th Psalm.

sonance, even where it has parted with the last vestige of the idea it was meant to convey; and when Burns did his best,—and his best was above most men's,—to gather pleasant liquid and labial syllabbling round gentle meaning, in

“ Bonnie lassie, will ye go,
Will ye go, will ye go,
Bonnie lassie, will ye go,
To the birks of Aberfeldy ? ”

he certainly had little thought that the delicately crisp final *k*, in *birk*, was the remnant of a magnificent Greek effort to express the rending of the earth by earthquake, in the wars of the giants. In the middle of that word ‘*esmaragese*,’ we get our own beggar’s ‘*rag*’ for a pure root, which afterwards, through the Latin *frango*, softens into our ‘*break*,’ and ‘*bark*,’—the ‘*broken thing*’; that idea of its rending around the tree’s stem having been, in the very earliest human efforts at botanical description, attached to it by the pure Aryan race, watching the strips of rosy satin break from the birch stems, in the Aberfeldys of Imaus.

3. That this tree should have been the only one which “the Aryans, coming as conquerors from the North, were able to recognize in Hindostan,”* and should therefore also be “the only one whose name is common to Sanskrit, and to the languages of Europe,” delighted me greatly, for two reasons: the first, for its proof that in spite of the development of species, the sweet gleaming of birch stem has never changed its argent and sable for any unchecked heraldry; and the second, that it gave proof of a much more important fact, the keenly accurate observation of Aryan foresters at that early date; for the fact is that the breaking of the thin-beaten silver of the birch trunk is so delicate, and its smoothness so graceful, that until I painted it with care, I was not altogether clear-headed myself about the way in which the checkering was done: nor until Fors to-day brought me to

* Lectures on the Families of Speech, by the Rev. F. Farrer. Longman, 1870. Page 81.

the house of one of my father's friends at Carshalton, and gave me three birch stems to look at just outside the window, did I perceive it to be a primal question about them, what it is that blanches that dainty dress of theirs, or, anticipatorily, weaves. What difference is there between the making of the corky excrecence of other trees, and of this almost transparent fine white linen? I perceive that the older it is, within limits, the finer and whiter; hoary tissue, instead of hoary air—honoring the tree's aged body; the outer sprays have no silvery light on their youth. Does the membrane thin itself into whiteness merely by stretching, or produce an outer film of new substance? *

4. And secondly, this investiture, why is it transverse to the trunk,—swathing it, as it were, in bands? Above all,—when it breaks,—why does it break round the tree instead of down? All other bark breaks as anything would, naturally, round a swelling rod, but this, as if the stem were growing longer; until, indeed, it reaches farthest heroic old age, when the whiteness passes away again, and the rending is like that of other trees, downwards. So that, as it were in a changing language, we have the great botanical fact twice taught us, by this tree of Eden, that the skins of trees differ from the skins of the higher animals in that, for the most part, they won't stretch, and must be worn torn.

So that in fact the most popular arrangement of vegetative adult costume is Irish; a normal investiture in honorable rags; and decorousness of tattering, as of a banner borne in splendid ruin through storms of war.

5. Now therefore, if we think of it, we have five distinct orders of investiture for organic creatures; first, mere secretion of mineral substance, chiefly lime, into a hard shell, which, if broken, can only be mended, like china—by sticking it together; secondly, organic substance of armor which grows into its proper shape at once for good and all, and can't

* I only profess, you will please to observe, to ask questions in Proserpina. Never to answer any. But of course this chapter is to introduce some further inquiry in another place.

be mended at all, if broken, (as of insects); thirdly, organic substance of skin, which stretches, as the creature grows, by cracking, over a fresh skin which is supplied beneath it, as in bark of trees; fourthly, organic substance of skin cracked symmetrically into plates or scales which can increase all round their edges, and are connected by softer skin, below, as in fish and reptiles, (divided with exquisite luster and flexibility, in feathers of birds); and lastly, true elastic skin, extended in soft unison with the creature's growth,—blushing with its blood, fading with its fear; breathing with its breath, and guarding its life with sentinel beneficence of pain.

6. It is notable, in this higher and lower range of organic beauty, that the decoration, by pattern and color, which is almost universal in the protective coverings of the middle ranks of animals, should be reserved in vegetables for the most living part of them, the flower only: and that among animals, few but the malignant and senseless are permitted, in the corrugation of their armor, to resemble the half-dead trunk of the tree, as they float beside it in the tropical river. I must, however, leave the scale patterns of the palms and other inlaid tropical stems for after-examination,—content, at present, with the general idea of the bark of an outlaid tree as the successive accumulation of the annual protecting film, rent into ravines of slowly increasing depth, and colored, like the rock, whose stability it begins to emulate, with the gray or gold of clinging lichen and embroidering moss.

CHAPTER XI.

GENEALOGY.

1. RETURNING, after more than a year's sorrowful interval, to my Sicilian fields,—not incognizant, now, of some of the darker realms of Proserpina; and with feebler heart, and, it may be, feebler wits, for wandering in her brighter ones,—I find what I had written by way of sequel to the last chapter, somewhat difficult, and extremely tiresome. Not the less, after giving fair notice of the difficulty, and asking due pardon for the tiresomeness, I am minded to let it stand; trusting to end, with it, once for all, investigations of the kind. But in finishing this first volume of my *School Botany*, I must try to give the reader some notion of the plan of the book, as it now, during the time for thinking over it which illness left me, has got itself arranged in my mind, within limits of possible execution. And this the rather, because I wish also to state, somewhat more gravely than I have yet done, the grounds on which I venture here to reject many of the received names of plants; and to substitute others for them, relating to entirely different attributes from those on which their present nomenclature is confusedly edified.

I have already in some measure given the reasons for this change; * but I feel that, for the sake of those among my scholars who have laboriously learned the accepted names, I ought now also to explain its method more completely.

2. I call the present system of nomenclature *confusedly* edified, because it introduces,—without, apparently, any consciousness of the inconsistency, and certainly with no apology for it,—names founded sometimes on the history of plants, sometimes on their qualities, sometimes on their forms, some-

* See Introduction, pp. 4-6.



Radical Insertion of Leaves of *Ensatae*.
Iris Germanica.

times on their products, and sometimes on their poetical associations.

On their history—as ‘Gentian’ from King Gentius, and ‘Funkia’ from Dr. Funk.

On their qualities—as ‘Scrophularia’ from its (quite uncertified) use in scrofula.

On their forms—as the ‘Caryophylls’ from having petals like husks of nuts.

On their products—as ‘Cocos nucifera’ from its nuts.

And on their poetical associations,—as the ‘Star of Bethlehem’ from its imagined resemblance to the light of that seen by the Magi.

3. Now, this variety of grounds for nomenclature might patiently, and even with advantage, be permitted, provided the grounds themselves were separately firm, and the inconsistency of method advisedly allowed, and, in each case, justified. If the histories of King Gentius and Dr. Funk are indeed important branches of human knowledge;—if the Scrophulariaceæ do indeed cure King’s Evil;—if pinks be best described in their likeness to nuts;—and the Star of Bethlehem verily remind us of Christ’s Nativity,—by all means let these and other such names be evermore retained. But if Dr. Funk be not a person in any special manner needing either stellification or florification; if neither herb nor flower can avail, more than the touch of monarchs, against hereditary pain; if it be no better account of a pink to say it is nut-leaved, than of a nut to say it is pink-leaved; and if the modern mind, incurious respecting the journeys of wise men, has already confused, in its Bradshaw’s Bible, the station of Bethlehem with that of Bethel,* it is certainly time to take some order with the partly false, partly useless, and partly forgotten literature of the Fields; and, before we bow our children’s memories to the burden of it, insure that there shall be matter worth carriage in the load.

4. And farther, in attempting such a change, we must be clear in our own minds whether we wish our nomenclature

* See Sowerby’s nomenclature of the flower, vol. ix., plate 1703.

to tell us something about the plant itself, or only to tell us the place it holds in relation to other plants: as, for instance, in the Herb-Robert, would it be well to christen it, shortly, 'Rob Roy,' because it is præminently red, and so have done with it;—or rather to dwell on its family connections, and call it 'Macgregoraceous'?

5. Before we can wisely decide this point, we must resolve whether our botany is intended mainly to be useful to the vulgar, or satisfactory to the scientific élite. For if we give names characterizing individuals, the circle of plants which any country possesses may be easily made known to the children who live in it: but if we give names founded on the connection between these and others at the Antipodes, the parish schoolmaster will certainly have double work; and it may be doubted greatly whether the parish schoolboy, at the end of the lecture, will have half as many ideas.

6. Nevertheless, when the features of any great order of plants are constant, and, on the whole, represented with great clearness both in cold and warm climates, it may be desirable to express this their citizenship of the world in definite nomenclature. But my own method, so far as hitherto developed, consists essentially in fastening the thoughts of the pupil on the special character of the plant, in the place where he is likely to see it; and therefore, in expressing the power of its race and order in the wider world, rather by reference to mythological associations than to botanical structure.

7. For instance, Plate VII. represents, of its real size, an ordinary spring flower in our English mountain fields. It is an average example,—not one of rare size under rare conditions,—rather smaller than the average, indeed, that I might get it well into my plate. It is one of the flowers whose names I think good to change; but I look carefully through the existing titles belonging to it and its fellows, that I may keep all I expediently can. I find, in the first place, that Linnæus called one group of its relations, Ophryds, from Ophrys,—Greek for the eyebrow,—on account of their resemblance to the brow of an animal frowning, or to the over-



VII.

CONTORTA PURPUREA.
PURPLE WREATH-WORT

shadowing casque of a helmet. I perceive this to be really a very general aspect of the flower; and therefore, no less than in respect to Linnæus, I adopt this for the total name of the order, and call them ‘Ophrydæ,’ or, shortly, ‘Ophryds.’

8. Secondly: so far as I know these flowers myself, I perceive them to fall practically into three divisions,—one, growing in English meadows and Alpine pastures, and always adding to their beauty; another, growing in all sorts of places, very ugly itself, and adding to the ugliness of its indiscriminated haunts; and a third, growing mostly up in the air, with as little root as possible, and of gracefully fantastic forms, such as this kind of nativity and habitation might presuppose. For the present, I am satisfied to give names to these three groups only. There may be plenty of others which I do not know, and which other people may name, according to their knowledge. But in all these three kinds known to me, I perceive one constant characteristic to be *some* manner of *distortion*; and I desire that fact,—marking a spiritual (in my sense of the word) character of extreme mystery,—to be the first enforced on the mind of the young learner. It is exhibited to the English child, primarily, in the form of the stalk of each flower, attaching it to the central virga. This stalk is always twisted once and a half round, as if somebody had been trying to wring the blossom off; and the name of the family, in Proserpina, will therefore be ‘Contorta’* in Latin, and ‘Wreathe-wort’ in English.

Farther: the beautiful power of the one I have drawn in its spring life, is in the opposition of its dark purple to the primrose in England, and the pale yellow anemone in the Alps. And its individual name will be, therefore, ‘Contorta purpurea’—*Purple Wreathe-wort*.

And in drawing it, I take care to dwell on the strength of its color, and to show thoroughly that it is a *dark* blossom,† before I trouble myself about its minor characters.

* Linnæus used this term for the Oleanders; but evidently with less accuracy than usual.

† “ἀνθη πορφυροειδῆ” says Dioscorides, of the race generally,—but “ἀνθη δὲ ὑποπόρφυρα” of this particular one.

9. The second group of this kind of flowers live, as I said, in all sorts of places; but mostly, I think, in disagreeable ones,—torn and irregular ground, under alternations of unwholesome heat and shade, and among swarms of nasty insects. I cannot yet venture on any bold general statement about them, but I think that is mostly their way; and at all events, they themselves are in the habit of dressing in livid and unpleasant colors; and are distinguished from all other flowers by twisting, not only their stalks, but one of their petals, not once and a half only, but two or three times round, and putting it far out at the same time, as a foul jester would put out his tongue: while also the singular power of grotesque mimicry, which, though strong also in the other groups of their race, seems in the others more or less playful, is, in these, definitely degraded, and, in aspect, malicious.

10. Now I find the Latin name 'Satyrium' attached already to one sort of these flowers; and we cannot possibly have a better one for all of them. It is true that, in its first Greek form, Dioscorides attaches it to a white, not a livid, flower; and I dare say there are some white ones of the breed: but, in its full sense, the term is exactly right for the entire group of ugly blossoms of which the characteristic is the spiral curve and protraction of their central petal: and every other form of Satyric ugliness which I find among the Ophryds, whatever its color, will be grouped with them. And I make them central, because this humor runs through the whole order, and is, indeed, their distinguishing sign.

11. Then the third group, living actually in the air, and only holding fast by, without nourishing itself from, the ground, rock, or tree-trunk on which it is rooted, may of course most naturally and accurately be called 'Aeria,' as it has long been popularly known in English by the name of Air-plant.

Thus we have one general name for all these creatures, 'Ophryd'; and three family or group names, Contorta, Satyrium, and Aeria,—every one of these titles containing as much accurate fact about the thing named as I can possibly

get packed into their syllables: and I will trouble my young readers with no more divisions of the order. And if their parents, tutors, or governors, after this fair warning, choose to make them learn, instead, the seventy-seven different names with which botanist-heraldries have beautifully ennobled the family,—all I can say is, let them at least begin by learning them themselves. They will be found in due order in pages 1084, 1085 of Loudon's Cyclopaedia.*

12. But now, farther: the student will observe that the name of the total order is Greek; while the three family ones are Latin, although the central one is originally Greek also.

I adopt this as far as possible for a law through my whole plant nomenclature.

13. Farther: the terminations of the Latin family names will be, for the most part, of the masculine, feminine, and neuter forms, *us*, *a*, *um*, with these following attached conditions.

(I.) Those terminating in '*us*,' though often of feminine words, as the central *Arbor*, will indicate either real masculine strength (*quercus*, *laurus*), or conditions of dominant majesty (*cedrus*), of stubbornness and enduring force (*crataegus*), or of peasant-like commonalty and hardship (*juncus*); softened, as it may sometimes happen, into gentleness and beneficence (*thymus*). The occasional forms in '*er*' and '*il*' will have similar power (*acer*, *basil*).

(II.) Names with the feminine termination '*a*,' if they are real names of girls, will always mean flowers that are perfectly pretty and perfectly good, (*Lucia*, *Viola*, *Margarita*, *Clarissa*). Names terminating in '*a*' which are not also accepted names of girls, may sometimes be none the less

* I offer a sample of two dozen for good papas and mammas to begin with:—

Angraecum.	Corallorrhiza.	Ornithidium.	Prescotia.
Anisopetalum.	Cryptarrhena.	Ornithocephalus.	Renanthera.
Brassavola.	Eulophia.	Platanthera.	Rodriguezia.
Brassia.	Gymnadenia.	Pleurothallis.	Stenorhyncus.
Caclogyne.	Microstylis.	Pogonia.	Trizeuxis.
Calopogon.	Octomeria.	Polystachya.	Xylobium.

honorable, (*Primula*, *Campanula*,) but for the most part will signify either plants that are only good and worthy in a nursery sort of way, (*Salvia*,) or that are good without being pretty, (*Lavandula*,) or pretty without being good, (*Kalmia*). But no name terminating in 'a' will be attached to a plant that is neither good nor pretty.

(III.) The neuter names terminating in 'um' will always indicate some power either of active or suggestive evil, (*Conium*, *Solanum*, *Satyrium*,) or a relation, more or less definite, to death; but this relation to death may sometimes be noble, or pathetic,—“which to-day is, and to-morrow is cast into the oven,”—*Lilium*.

But the leading position of the neuters in the plant's double name must be noticed by students unacquainted with Latin, in order to distinguish them from plural genitives, which will always, of course, be the second word (*Francesca Fontium*, *Francesca of the Springs*).

14. Names terminating in 'is' and 'e,' if definitely names of women, (*Iris*, *Amaryllis*, *Alcestis*, *Daphne*,) will always signify flowers of great beauty, and noble historic association. If not definitely names of women, they will yet indicate some specialty of sensitiveness, or association with legend (*Berberis*, *Clematis*). No neuters in 'e' will be admitted.

15. Participial terminations (*Impatiens*), with neuters in 'en' (*Cyclamen*), will always be descriptive of some special quality or form,—leaving it indeterminate if good or bad, until explained. It will be manifestly impossible to limit either these neuters or the feminines in 'is' to Latin forms; but we shall always know by their termination that they cannot be generic names, if we are strict in forming these last on a given method.

16. How little method there is in our present formation of them, I am myself more and more surprised as I consider. A child is shown a rose, and told that he is to call every flower like that, 'Rosaceous';* he is next shown a lily, and told that he is to call every flower like that, 'Liliaceous';—so

* Compare Chapter V., § 7.

far well; but he is next shown a daisy, and is not at all allowed to call every flower like that, 'Daisaceous,' but he must call it, like the fifth order of architecture, 'Composite'; and being next shown a pink, he is not allowed to call other pinks 'Pinkaceous,' but 'Nut-leaved'; and being next shown a pease-blossom, he is not allowed to call other pease-blossoms 'Peasaceous,' but, in a brilliant burst of botanical imagination, he is incited to call it by two names instead of one, 'Butterfly-aceous' from its flower, and 'Pod-aceous' from its seed;—the inconsistency of the terms thus enforced upon him being perfected in their inaccuracy, for a daisy is not one whit more composite than Queen of the Meadow, or Jura Jacinth;* and 'legumen' is not Latin for a pod, but 'siliqua,'—so that no good scholar could remember Virgil's 'siliqua quassante legumen,' without overthrowing all his Pisan nomenclature.

17. Farther. If we ground our names of the higher orders on the distinctive characters of *form* in plants, these are so many, and so subtle, that we are at once involved in more investigations than a young learner has ever time to follow successfully, and they must be at all times liable to dislocations and rearrangements on the discovery of any new link in the infinitely entangled chain. But if we found our higher nomenclature at once on historic fact, and relative conditions of climate and character, rather than of form, we may at once distribute our flora into unalterable groups, to which we may add at our pleasure, but which will never need disturbance; far less, reconstruction.

18. For instance,—and to begin,—it is an historical fact that for many centuries the English nation believed that the Founder of its religion, spiritually, by the mouth of the King who spake of all herbs, had likened Himself to two flowers,—the Rose of Sharon, and Lily of the Valley. The fact of this belief is one of the most important in the history of England,—that is to say, of the mind or heart of England: and it is

* 'Jacinthus Jurae,' changed from 'Hyacinthus Comosus.'

connected solemnly with the heart of Italy also, by the closing cantos of the *Paradiso*.

I think it well therefore that our two first generic, or at least commandant, names heading the out-laid and in-laid divisions of plants, should be of the rose and lily, with such meaning in them as may remind us of this fact in the history of human mind.

It is also historical that the personal appearing of this Master of our religion was spoken of by our chief religious teacher in these terms: "The Grace of God, that bringeth salvation, hath appeared unto all men." And it is a constant fact that this 'grace' or 'favor' of God is spoken of as "giving us to eat of the Tree of Life."

19. Now, comparing the botanical facts I have to express, with these historical ones, I find that the rose tribe has been formed among flowers, not in distant and monstrous geologic eras, but in the human epoch;—that its 'grace' or favor has been in all countries so felt as to cause its acceptance everywhere for the most perfect physical type of womanhood;—and that the characteristic fruit of the tribe is so sweet, that it has become symbolic at once of the subtlest temptation, and the kindest ministry to the earthly passion of the human race. "Comfort me with apples, for I am sick of love."

20. Therefore I shall call the entire order of these flowers 'Charites,' (Graces,) and they will be divided into these five genera, *Rosa*, *Persica*, *Pomum*, *Rubra*, and *Fragaria*. Which sequence of names I do not think the young learner will have difficulty in remembering; nor in understanding why I distinguish the central group by the fruit instead of the flower. And if he once clearly master the structure and relations of these five genera, he will have no difficulty in attaching to them, in a satellitic or subordinate manner, such inferior groups as that of the Silver-weed, or the *Tormentilla*; but all he will have to learn by heart and rote, will be these six names; the Greek Master-name, *Charites*, and the five generic names, in each case belonging to plants, as he will soon find, of extreme personal interest to him.

21. I have used the word 'Order' as the name of our widest groups, in preference to 'Class,' because these widest groups will not always include flowers like each other in form, or equal to each other in vegetative rank; but they will be 'Orders,' literally like those of any religious or chivalric association, having some common link rather intellectual than national,—the Charites, for instance, linked by their kindness,—the Oreiades, by their mountain seclusion, as Sisters of Charity or Monks of the Chartreuse, irrespective of ties of relationship. Then beneath these orders will come, what may be rightly called, either as above in Greek derivation, 'Genera,' or in Latin, 'Gentes,' for which, however, I choose the Latin word, because Genus is disagreeably liable to be confused on the ear with 'genius'; but Gens, never; and also 'nomen gentile' is a clearer and better expression than 'nomen generosum,' and I will not coin the barbarous one, 'genericum.' The name of the Gens, (as 'Lucia,') with an attached epithet, as 'Verna,' will, in most cases, be enough to characterize the individual flower; but if farther subdivision be necessary, the third order will be that of Families, indicated by a 'nomen familiare' added in the third place of nomenclature, as Lucia Verna,—Borealis; and no farther subdivision will ever be admitted. I avoid the word 'species'—originally a bad one, and lately vulgarized beyond endurance—altogether. And varieties belonging to narrow localities, or induced by horticulture, may be named as they please by the people living near the spot, or by the gardener who grows them; but will not be acknowledged by Proserpina. Nevertheless, the arbitrary reduction under Ordines, Gentes, and Familiæ, is always to be remembered as one of massive practical convenience only; and the more subtle arborescence of the infinitely varying structures may be followed, like a human genealogy, as far as we please, afterwards; when once we have got our common plants clearly arranged and intelligibly named.

22. But now we find ourselves in the presence of a new difficulty, the greatest we have to deal with in the whole matter.

Our new nomenclature, to be thoroughly good, must be acceptable to scholars in the five great languages, Greek, Latin, French, Italian, and English; and it must be acceptable by them in teaching the native children of each country. I shall not be satisfied, unless I can feel that the little maids who gather their first violets under the Acropolis rock, may receive for them Æschylean words again with joy. I shall not be content, unless the mothers watching their children at play in the Ceramicus of Paris, under the scarred ruins of her Kings' palace, may yet teach them there to know the flowers which the Maid of Orleans gathered at Domremy. I shall not be satisfied unless every word I ask from the lips of the children of Florence and Rome, may enable them better to praise the flowers that are chosen by the hand of Matilda,* and bloom around the tomb of Virgil.

23. Now in this first example of nomenclature, the Master-name, being *pure* Greek, may easily be accepted by Greek children, remembering that certain also of their own poets, if they did not call the flower a Grace itself, at least thought of it as giving gladness to the Three in their dances.† But for French children the word 'Grâce' has been doubly and trebly corrupted; first, by entirely false theological scholarship, mistaking the 'Favor' or Grace done by God to good men, for the 'Misericordia,' or mercy, shown by Him to bad ones; and so, in practical life, finally substituting 'Grâce' as a word of extreme and mortal prayer, for 'Merci,' and of late using 'Merci' in a totally ridiculous and perverted power, for the giving of thanks, (or refusal of offered good): while the literally derived word 'Charité' has become, in the modern mind, a gift, whether from God or man, only to the wretched, never to the happy: and lastly, 'Grâce' in its physical sense has been perverted, by their social vulgarity, into an idea, whether with respect to form or motion, com-

* "Cantando, e scegliendo fior di fiore
Onde era picta tutta la sua via."

Purg., xxviii. 35.

† "καὶ θεοῖσι τερπνά."

mending itself rather to the ballet-master than either to the painter or the priest.

For these reasons, the Master name of this family, for my French pupils, must be simply 'Rhodiades,' which will bring, for them, the entire group of names into easily remembered symmetry; and the English form of the same name, Rhodiad, is to be used by English scholars also for all tribes of this group except the five principal ones.

24. Farther, in every gens of plants, one will be chosen as the representative, which, if any, will be that examined and described in the course of this work, if I have opportunity of doing so.

This representative flower will always be a wild one, and of the simplest form which completely expresses the character of the plant; existing divinely and unchangeably from age to age, ungrieved by man's neglect, and inflexible by his power.

And this divine character will be expressed by the epithet 'Sacred,' taking the sense in which we attach it to a dominant and christened majesty, when it belongs to the central type of any forceful order;—'Quercus sacra,' 'Laurus sacra,' etc.,—the word 'Benedicta,' or 'Benedictus,' being used instead, if the plant be too humble to bear, without some discrepancy and unbecomingness, the higher title; as 'Carduus Benedictus,' Holy Thistle.

25. Among the gentes of flowers bearing girls' names, the dominant one will be simply called the Queen, 'Rosa Regina,' 'Rose the Queen' (the English wild rose); 'Clarissa Regina,' 'Clarissa the Queen' (Mountain Pink); 'Lucia Regina,' 'Lucy the Queen' (Spring Gentian), or in simpler English, 'Lucy of Teesdale,' as 'Harry of Monmouth.' The ruling flowers of groups which bear names not yet accepted for names of girls, will be called simply 'Domina,' or shortly 'Donna.' 'Rubra domina' (wild raspberry): the wild strawberry, because of her use in heraldry, will bear a name of her own, exceptional, 'Cora coronalis.'

26. These main points being understood, and concessions

made, we may first arrange the greater orders of land plants in a group of twelve, easily remembered, and with very little forcing. There must be *some* forcing always to get things into quite easily tenable form, for Nature always has her ins and outs. But it is curious how fitly and frequently the number of twelve may be used for *memoria technica*; and in this instance the Greek derivative names fall at once into harmony with the most beautiful parts of Greek mythology, leading on to early Christian tradition.

27. Their series will be, therefore, as follows; the principal subordinate groups being at once placed under each of the great ones. The reasons for occasional appearance of inconsistency will be afterwards explained, and the English and French forms given in each case are the terms which would be used in answering the rapid question, 'Of what order is this flower?' the answer being, It is a 'Cyllenid,' a 'Pleiad,' or a 'Vestal,' as one would answer of a person, he is a Knight of St. John or Monk of St. Benedict; while to the question, of what gens? we answer, a Stella or an Erica, as one would answer for a person, a Stuart or Plantagenet.

I. CHARITES.

ENG. CHARIS. FR. RHODIADE.

Rosa. Persica. Pomum. Rubra. Fragaria.

II. URANIDES.

ENG. URANID. FR. URANIDE.

Lucia. Campanula. Convolvata.

III. CYLLENIDES.

ENG. CYLLENID. FR. NEPHELIDE.

Stella. Francesca. Primula.

IV. OREIADES.

ENG. OREIAD. FR. OREADE.

Erica. Myrtilla. Aurora.

v. PLEIADES.

ENG. PLEIAD. FR. PLEIADE.

Silvia. Anemone.

vi. ARTEMIDES.

ENG. ARTEMID. FR. ARTEMIDE.

Clarissa. Lychnis. Scintilla. Mica.

vii. VESTALES.

ENG. VESTAL. FR. VESTALE.

Mentha. Melitta. Basil. Salvia. Lavandula. Thymus.

viii. CYTHERIDES.

ENG. CYTHERID. FR. CYTHERIDE.

Viola. Veronica. Giulietta.

ix. HELIADES.

ENG. ALCESTID. FR. HELIADE.

Clytia. Margarita. Alcectis. Falconia. Carduus.

x. DELPHIDES.

ENG. DELPHID. FR. DELPHIDE.

Laurus. Granata. Myrtus.

xi. HESPERIDES.

ENG. HESPERID. FR. HESPERIDE.

Aurantia. Aegle.

xii. ATHENAIDES.

ENG. ATHENAID. FR. ATHENAIDE.

Olea. Fraxinus.

I will shortly note the changes of name in their twelve orders, and the reasons for them.

I. CHARITES.—The only change made in the nomenclature of this order is the slight one of ‘*rubra*’ for ‘*rubus*’: partly to express true sisterhood with the other Charites; partly to enforce the idea of redness, as characteristic of the race, both in the lovely purple and russet of their winter leafage, and in the exquisite bloom of scarlet on the stems in strong young shoots. They have every right to be placed among the Charites, first because the raspberry is really a more important fruit in domestic economy than the strawberry; and, secondly, because the wild bramble is often in its wandering sprays even more graceful than the rose; and in blossom and fruit the best autumnal gift that English Nature has appointed for her village children.

II. URANIDES.—Not merely because they are all of the color of the sky, but also sacred to Urania in their divine purity. ‘*Convoluta*’ instead of ‘*convolvulus*,’ chiefly for the sake of euphony; but also because *Pervinca* is to be included in this group.

III. CYLLENIDES.—Named from Mount Cyllene in Arcadia, because the three races included in the order alike delight in rocky ground, and in the cold or moist air of mountain-clouds.

IV. OREIADES.—Described in next chapter.

V. PLEIADES.—From the habit of the flowers belonging to this order to get into bright local clusters. *Silvia*, for the wood-sorrel, will I hope be an acceptable change to my girl-readers.

VI. ARTEMIDES.—Dedicate to Artemis for their expression of energy, no less than purity. This character was rightly felt in them by whoever gave the name ‘*Dianthus*’ to their leading race; a name which I should have retained if it had not been bad Greek. I wish them, by their name ‘*Clarissa*,’ to recall the memory of St. Clare, as ‘*Francesca*’ that of St. Francis.* The ‘*issa*,’ not without honor to the greatest of

* The four races of this order are more naturally distinct than botanists have recognized. In *Clarissa*, the petal is cloven into a fringe at the outer edge; in *Lychnis*, the petal is terminated in two rounded lobes, and

our English moral story-tellers, is added for the practical reason, that I think the sound will fasten in the minds of children the essential characteristic of the race, the cutting of the outer edge of the petal as if with scissors.

VII. VESTALES.—I allow this Latin form, because Hestides would have been confused with Heliades. The order is named ‘of the hearth,’ from its manifold domestic use, and modest blossoming.

VIII. CYTHERIDES.—Dedicate to Venus, but in all purity and peace of thought. Giulietta, for the coarse, and more than ordinary false, Polygala.

IX. HELIADES.—The sun-flowers.* In English, Alceetid, in honor to Chaucer and the Daisy.

X. DELPHIDES.—Sacred to Apollo. Granata, changed from Punica, in honor to Granada and the Moors.

XI. HESPERIDES.—Already a name given to the order. Aegle, prettier and more classic than Limonia, includes the idea of brightness in the blossom.

XII. ATHENAIDES.—I take Fraxinus into this group, because the mountain ash, in its hawthorn-scented flower, scarletest of berries, and exquisitely formed and finished leafage, belongs wholly to the floral decoration of our native rocks, and is associated with their human interests, though lightly, not less spiritually, than the olive with the mind of Greece.

28. The remaining groups are in great part natural; but I separate for subsequent study five orders of supreme the fringe withdrawn to the top of the limb; in Scintilla, the petal is divided into two *sharp* lobes without any fringe of the limb; and in Mica, the minute and scarcely visible flowers have simple and far separate petals. The confusion of these four great natural races under the vulgar or accidental botanical names of spittle-plant, shore-plant, sand-plant, etc., has become entirely intolerable by any rational student; but the names ‘Scintilla,’ substituted for Stellaria, and ‘Mica’ for the utterly ridiculous and probably untrue Sagina, connect themselves naturally with Lychnis, in expression of the luminous power of the white and sparkling blossoms.

* Clytia will include all the true sun-flowers, and Falconia the hawk-weeds; but I have not yet completed the analysis of this vast and complex order, so as to determine the limits of Margarita and Alcestis.

domestic utility, the Mallows, Currants, Pease,* Cresses, and Cranesbills, from those which, either in fruit or blossom, are for finer pleasure or higher beauty. I think it will be generally interesting for children to learn those five names as an easy lesson, and gradually discover, wondering, the world that they include. I will give their terminology at length, separately.

29. One cannot, in all groups, have all the divisions of equal importance; the Mallows are only placed with the other four for their great value in decoration of cottage gardens in autumn: and their softly healing qualities as a tribe. They will mentally connect the whole useful group with the three great *Æsculapiadæ*, *Cinchona*, *Coffea*, and *Camellia*.

30. Taking next the water-plants, crowned in the *DROSIDÆ*, which include the five great families, *Juncus*, *Jacinthus*, *Amaryllis*, *Iris*, and *Lilium*, and are masculine in their Greek name because their two first groups, *Juncus* and *Jacinthus*, are masculine, I gather together the three orders of *TRITONIDES*, which are notably trefoil; the *NAIADES*, notably quatrefoil, but for which I keep their present pretty name; and the *BATRACHIDES*,† notably cinqfoil, for which I keep their present ugly one, only changing it from Latin into Greek.

31. I am not sure of being forgiven so readily for putting the Grasses, Sedges, Mosses, and Lichens together, under the great general head of *Demetridæ*. But it seems to me the mosses and lichens belong no less definitely to *Demeter*, in being the first gatherers of earth on rock, and the first coverers of its sterile surface, than the grass which at last prepares it to the foot and to the food of man. And with the mosses I shall take all the especially moss-plants which otherwise are

* The reader must observe that the positions given in this more developed system to any flower do not interfere with arrangements either formerly or hereafter given for *memoria technica*. The name of the pea, for instance (*alata*), is to be learned first among the twelve cinqfoils, p. 104, above; and then transferred to its botanical place.

† The amphibious habit of this race is to me of more importance than its outland structure.

homeless or companionless, Drosera, and the like, and as a connecting link with the flowers belonging to the Dark Kora, the two strange orders of the Ophryds and Agarics.

32. Lastly will come the orders of flowers which may be thought of as belonging for the most part to the Dark Kora of the lower world,—having at least the power of death, if not its terror, given them, together with offices of comfort and healing in sleep, or of strengthening, if not too prolonged, action on the nervous power of life. Of these, the first will be the DIONYSIDÆ,—Hedera, Vitis, Liana; then the DRACONIDÆ,—Atropa, Digitalis, Linaria; and, lastly, the MOIRIDÆ,—Conium, Papaver, Solanum, Arum, and Nerium.

33. As I see this scheme now drawn out, simple as it is, the scope of it seems not only far too great for adequate completion by my own labor, but larger than the time likely to be given to botany by average scholars would enable them intelligently to grasp: and yet it includes, I suppose, not the tenth part of the varieties of plants respecting which, in competitive examination, a student of physical science is now expected to know, or at least assert on hearsay, *something*.

So far as I have influence with the young, myself, I would pray them to be assured that it is better to know the habits of one plant than the names of a thousand; and wiser to be happily familiar with those that grow in the nearest field, than arduously cognizant of all that plume the isles of the Pacific, or illumine the Mountains of the Moon.

Nevertheless, I believe that when once the general form of this system in Proserpina has been well learned, much other knowledge may be easily attached to it, or sheltered under the caves of it: and in its own development, I believe everything may be included that the student will find useful, or may wisely desire to investigate, of properly European botany. But I am convinced that the best results of his study will be reached by a resolved adherence to extreme simplicity of primal idea, and primal nomenclature.

34. I do not think the need of revisal of our present scien-

tific classification could be more clearly demonstrated than by the fact that laurels and roses are confused, even by Dr. Lindley, in the mind of his feminine readers; the English word laurel, in the index to his first volume of Ladies' Botany, referring them to the cherries, under which the common laurel is placed as 'Prunus Laurocerasus,' while the true laurel, 'Laurus nobilis,' must be found in the index of the second volume,* under the Latin form 'Laurus.'

This accident, however, illustrates another, and a most important point to be remembered, in all arrangements whether of plants, minerals, or animals. No single classification can possibly be perfect, or anything *like* perfect. It must be, at its best, a ground, or *warp* of arrangement only, through which, or over which, the cross threads of another,—yes, and of many others,—must be woven in our minds. Thus the almond, though in the form and color of its flower, and method of its fruit, rightly associated with the roses, yet by the richness and sweetness of its kernel must be held mentally connected with all plants that bear nuts. These assuredly must have something in their structure common, justifying their being gathered into a conceived or conceivable group of 'Nuciferæ,' in which the almond, hazel, walnut, cocoa-nut, and such others would be considered as having relationship, at least in their power of secreting a crisp and sweet substance which is not wood, nor bark, nor pulp, nor seed-pabulum reducible to softness by boiling;—but a quite separate substance, for which I do not know that there at present exists any botanical name,—of which, hitherto, I find no general account, and can only myself give so much, on reflection, as that it is crisp and close in texture, and always contains some kind of oil or milk.

35. Again, suppose the arrangement of plants could, with respect to their flowers and fruits, be made approximately complete, they must instantly be broken and reformed by comparison of their stems and leaves. The three *creeping* families of the Charites,—Rosa, Rubra, and Fragaria,—must then be frankly separated from the elastic Persica and

* Alluding to original edition.

knotty Pomum; of which one wild and lovely species, the hawthorn, is no less notable for the massive accumulation of wood in the stubborn stem of it, than the wild rose for her lovely power of wreathing her garlands at pleasure wherever they are fairest, the stem following them and sustaining, where they will.

36. Thus, as we examine successively each part of any plant, new sisterhoods, and unthought-of fellowships, will be found between the most distant orders; and ravines of unexpected separation open between those otherwise closely allied. Few botanical characters are more definite than the leaf structure illustrated in Plate VI., which has given to one group of the Drosidæ the descriptive name of *Ensata*, (see above, Chapter IX., § 11,) but this conformation would not be wisely permitted to interfere in the least with the arrangement founded on the much more decisive floral aspects of the Iris and Lily. So, in the fifth volume of 'Modern Painters,' the sword-like, or rather rapier-like, leaves of the pine are opposed, for the sake of more vivid realization, to the shield-like leaves of the greater number of inland trees; but it would be absurd to allow this difference any share in botanical arrangement,—else we should find ourselves thrown into sudden discomfiture by the wide-waving and opening foliage of the palms and ferns.

37. But through all the defeats by which insolent endeavors to sum the orders of Creation must be reproved, and in the midst of the successes by which patient insight will be surprised, the fact of the *confirmation* of species in plants and animals must remain always a miraculous one. What outstretched sign of constant Omnipotence can be more awful, than that the susceptibility to external influences, with the reciprocal power of transformation, in the organs of the plant; and the infinite powers of moral training and mental conception over the nativity of animals, should be so restrained within impassable limits, and by inconceivable laws, that from generation to generation, under all the clouds and revolutions of heaven with its stars, and among all the calami-

ties and convulsions of the Earth with her passions, the numbers and the names of her Kindred may still be counted for her in unfailling truth;—still the fifth sweet leaf unfold for the Rose, and the sixth spring for the Lily; and yet the wolf rave tameless round the folds of the pastoral mountains, and yet the tiger flame through the forests of the night!

CHAPTER XII.

CORA AND KRONOS.

1. OF all the lovely wild plants—and few, mountain-bred, in Britain, are other than lovely,—that fill the clefts and crest the ridges of my Brantwood rock, the dearest to me, by far, are the clusters of whortleberry which divide possession of the lower slopes with the wood hyacinth and pervenche. They are personally and specially dear to me for their association in my mind with the woods of Montanvert; but the plant itself, irrespective of all accidental feeling, is indeed so beautiful in all its ways—so delicately strong in the spring of its leafage, so modestly wonderful in the formation of its fruit, and so pure in choice of its haunts, not capriciously or unfamiliarly, but growing in luxuriance through all the healthiest and sweetest seclusion of mountain territory throughout Europe,—that I think I may without any sharp remonstrance be permitted to express, for this once only, personal feeling in my nomenclature, calling it in Latin ‘*Myrtilla Cara*,’ and in French ‘*Myrtille Chérie*,’ but retaining for it in English its simply classic name, ‘Blue Whortle.’

2. It is the most common representative of the group of *Myrtillæ*, which on reference to our classification will be found central between the *Ericæ* and *Auroræ*. The distinctions between these three families may be easily remembered, and had better be learned before going farther; but first let us note their fellowship. They are all *Oreïades*, mountain plants; in specialty, they are all strong in stem, low in stature, and the *Ericæ* and *Auroræ* glorious in the flush of their infinitely exulting flowers, (“the rapture of the heath”—above spoken of, p. 61). But all the essential loveliness of the

Myrtillæ is in their leaves and fruit: the first always exquisitely finished and grouped like the most precious decorative work of sacred painting; the second, red or purple, like beads of coral or amethyst. Their minute flowers have rarely any general part or power in the colors of mountain ground; but, examined closely, they are one of the chief joys of the traveler's rest among the Alps; and full of exquisiteness unspeakable, in their several bearings and miens of blossom, so to speak. Plate VIII. represents, however feebly, the proud bending back of her head by Myrtilla Regina: * an action as beautiful in *her* as it is terrible in the Kingly Serpent of Egypt.

3. The formal differences between these three families are trenchant and easily remembered. The Ericæ are all quatrefoils, and quatrefoils of the most studied and accomplished symmetry; and they bear no berries, but only dry seeds. The Myrtillæ and Auroræ are both Cinqfoil; but the Myrtillæ are symmetrical in their blossom, and the Auroræ unsymmetrical. Farther, the Myrtillæ are not absolutely determinate in the number of their foils, (this being essentially a characteristic of flowers exposed to much hardship,) and are thus sometimes quatrefoil, in sympathy with the Ericæ. But the Auroræ are strictly cinqfoil. These last are the only European form of a larger group, well named 'Azalea' from the Greek *ἄζα*, dryness, and its adjective *ἄζαλέα*, dry or parched; and *this* name must be kept for the world-wide group, (including under it Rhododendron, but not Kalmia,) because there is an under-meaning in the word Aza, enabling it to be applied to the substance of dry earth, and indicating one of the great functions of the Oreiades, in common with the mosses,—the collection of earth upon rocks.

4. Neither the Ericæ, as I have just said, nor Auroræ bear useful fruit; and the Ericæ are named from their consequent worthlessness in the eyes of the Greek farmer; they were the plants he 'tore up' for his bed, or signal-fire, his word for

* 'Arctostaphylos Alpina,' I believe; but scarcely recognize the flower in my botanical books.

them including a farther sense of crushing or bruising into a heap. The Westmoreland shepherds now, alas! burn them remorselessly on the ground, (and a year since had nearly set the copse of Brantwood on fire just above the house). The sense of parched and fruitless existence is given to the heaths, with beautiful application of the context, in our English translation of Jeremiah xvii. 6; but I find the plant there named is, in the Septuagint, Wild Tamarisk; the mountains of Palestine being, I suppose, in that latitude, too low for heath, unless in the Lebanon.

5. But I have drawn the reader's thoughts to this great race of the Oreiades at present, because they place for us in the clearest light a question which I have finally to answer before closing the first volume of Proserpina: namely, what is the real difference between the three ranks of Vegetative Humility, and Noblesse—the Herb, the Shrub, and the Tree?

6. Between the herb, which perishes annually, and the plants which construct year after year an increasing stem, there is, of course, no difficulty of discernment; but between the plants which, like these Oreiades, construct for themselves richest intricacy of supporting stem, yet scarcely rise a fathom's height above the earth they gather and adorn,—between these, and the trees that lift cathedral aisles of colossal shade on Andes and Lebanon,—where is the limit of kind to be truly set?

7. We have the three orders given, as no botanist could, in twelve lines by Milton:—

“Then herbs of every leaf, that sudden flow'r'd,
 Op'ning their various colors, and made gay
 Her bosom swelling sweet; and, these scarce blown,
 Forth flourish'd thick the clust'ring vine, forth crept
 The swelling gourd, up stood the corny reed
 Embattel'd in her field; and th' *humble shrub*,
And bush with frizzled hair implicit; last
 Rose, as in dance, the stately trees, and spread
 Their branches hung with copious fruits, or gemm'd
 Their blossoms; with high woods the hills were crown'd;
 With tufts the valleys and each fountain side;
 With borders long the rivers.”

Only to learn, and be made to understand, these twelve lines thoroughly would teach a youth more of true botany than an entire Cyclopaedia of modern nomenclature and description: they are, like all Milton's work, perfect in accuracy of epithet, while consummate in concentration. Exquisite in touch, as infinite in breadth, they gather into their unbroken clause of melodious compass the conception at once of the Columbian prairie, the English cornfield, the Syrian vineyard, and the Indian grove. But even Milton has left untold, and for the instant perhaps unthought of, the most solemn difference of rank between the low and lofty trees, not in magnitude only, nor in grace, but in duration.

8. Yet let us pause before passing to this greater subject, to dwell more closely on what he has told us so clearly,—the difference in Grace, namely, between the trees that rise 'as in dance,' and 'the bush with frizzled hair.' For the bush form is essentially one taken by vegetation in some kind of distress; scorched by heat, discouraged by darkness, or bitten by frost; it is the form in which isolated knots of earnest plant life stay the flux of fiery sands, bind the rents of tottering crags, purge the stagnant air of cave or chasm, and fringe with sudden hues of unhop'd spring the Arctic edge of retreating desolation.

On the other hand, the trees which, as in sacred dance, make the borders of the rivers glad with their procession, and the mountain ridges statelier with their pride, are all expressions of the vegetative power in its accomplished felicities; gathering themselves into graceful companionship with the fairest arts and serenest life of man; and providing not only the sustenance and the instruments, but also the lessons and the delights, of that life, in perfectness of order, and unblighted fruition of season and time.

9. 'Interitura'—yet these not to-day, nor to-morrow, nor with the decline of the summer's sun. We describe a plant as small or great; and think we have given account enough of its nature and being. But the chief question for the plant, as for the human creature, is the Number of its days; for to

the tree, as to its master, the words are forever true—"As thy Day is, so shall thy Strength be."

10. I am astonished hourly, more and more, at the apathy and stupidity which have prevented me hitherto from learning the most simple facts at the base of this question! Here is the myrtille bush in my hand—its cluster of some fifteen or twenty delicate green branches knitting themselves downwards into the stubborn brown of a stem on which my knife makes little impression. I have not the slightest idea how old it is, still less how old it might one day have been if I had not gathered it; and, less than the least, what hinders it from becoming as old as it likes! What doom is there over these bright green sprays, that they may never win to any height or space of verdure, nor persist beyond their narrow scope of years?

11. And the more I think the more I bewilder myself; for these bushes, which are pruned and clipped by the deathless Gardener into these lowly thickets of bloom, do not strew the ground with fallen branches and faded clippings in any wise,—it is the pining umbrage of the patriarchal trees that tinges the ground and betrays the foot beneath them: but, under the heather and the Alpine rose—Well, what *is* under them, then? I never saw, nor thought of looking,—will look presently under my own bosquets and beds of lingering heather-blossom: beds indeed they were only a month since, a foot deep in flowers, and close in tufted cushions, and the mountain air that floated over them rich in honey like a draught of metheglin.

12. Not clipped, nor pruned, I think, after all,—nor dwarfed in the gardener's sense; but pausing in perpetual youth and strength, ordained out of their lips of roseate infancy. Rose-trees—the botanists have falsely called the proudest of them;—yet not trees in any wise, they, nor doomed to know the edge of ax at their roots, nor the hoary waste of time, or searing thunderstroke, on sapless branches. Continual morning for them, and *in* them; they themselves an Aurora, purple and cloudless, stayed on all the happy hills.

That shall be our name for them, in the flushed Phœnician color of their height, in calm or tempest of the heavenly sea; how much holier than the depth of the Tyrian! And the queen of them on our own Alps shall be 'Aurora Alpium.'*

13. There is one word in the Miltonian painting of them which I must lean on specially; for the accurate English of it hides deep morality no less than botany. 'With hair *implicit*.' The interweaving of complex band, which knits the masses of heath or of Alpine rose into their dense tufts and spheres of flower, is to be noted both in these, and in stem structure of a higher order like that of the stone pine, for an expression of the instinct of the plant gathering itself into protective unity, whether against cold or heat; while the forms of the trees which have no hardship to sustain are uniformly based on the effort of each spray to *separate* itself from its fellows to the utmost, and obtain around its own leaves the utmost space of air.

In vulgar modern English, the term 'implicit' used of Trust or Faith, has come to signify only its serenity. But the Miltonian word gives the *reason* of serenity: the root and branch intricacy of closest knowledge and friendship.

14. I have said that Milton has told us more in these few lines than any botanist could. I will prove my saying by placing in comparison with them two passages of description by the most imaginative and generally well-trained scientific man since Linnæus—Humboldt—which, containing much that is at this moment of special use to us, are curious also in the confusion even of the two orders of annual and perennial plants, and show, therefore, the extreme need of most careful initial work in this distinction of the reign of Cora from that of Kronos.

"The disk of the setting sun appeared like a globe of fire suspended over the savannah; and its last rays, as they swept the earth, illumined the extremities of the grass, strongly agitated by the evening breeze. In the low and humid places

* 'Aurora Regina,' changed from *Rhododendron Ferrugineum*.

of the equinoctial zone, even when the gramineous plants and reeds present the aspect of a meadow of turf, a rich decoration of the picture is usually wanting. I mean that variety of wild flowers which, scarcely rising above the grass, seem to lie upon a smooth bed of verdure. Between the tropics, the strength and luxury of vegetation give such a development to plants, that the smallest of the dicotyledonous family become shrubs.* It would seem as if the liliaceous plants, mingled with the gramina, assumed the place of the flowers of our meadows. Their form is indeed striking; they dazzle by the variety and splendor of their colors; but, too high above the soil, they disturb that harmonious relation which exists among the plants that compose our meadows and our turf. Nature, in her beneficence, has given the landscape under every zone its peculiar type of beauty.

“After proceeding four hours across the savannahs, we entered into a little wood composed of shrubs and small trees, which is called El Pejual; no doubt because of the great abundance of the ‘Pejoa,’ (*Gaultheria odorata*,) a plant with very odoriferous leaves. The steepness of the mountain became less considerable, and we felt an indescribable pleasure in examining the plants of this region. Nowhere, perhaps, can be found collected together in so small a space of ground, productions so beautiful, and so remarkable in regard to the geography of plants. At the height of a thousand toises, the lofty savannahs of the hills terminate in a zone of shrubs, which by their appearance, their tortuous branches, their stiff leaves, and the dimensions and beauty of their purple flowers, remind us of what is called in the Cordilleras of the Andes the vegetation of the *paramos* † and the *punas*. We find there the family of the Alpine rhododendrons, the thibaudias, the andromedas, the vacciniums, and those

* I do not see what this can mean. Primroses and cowslips can't become shrubs; nor can violets, nor daisies, nor any other of our pet meadow flowers.

† ‘Deserts.’ *Punas* is not in my Spanish dictionary, and the reference to a former note is wrong in my edition of Humboldt, vol. iii., p. 490.

befarias * with resinous leaves, which we have several times compared to the rhododendron of our European Alps.

“Even when nature does not produce the same species in analogous climates, either in the plains of isothermal parallels, or on table-lands the temperature of which resembles that of places nearer the poles, we still remark a striking resemblance of appearance and physiognomy in the vegetation of the most distant countries. This phenomenon is one of the most curious in the history of organic forms. I say the history; for in vain would reason forbid man to form hypotheses on the origin of things: he is not the less tormented with these insoluble problems of the distribution of beings.”

15. Insoluble—yes, assuredly, poor little beaten phantasms of palpitating clay that we are—and who asked us to solve it? Even this Humboldt, quiet-hearted and modest watcher of the ways of Heaven, in the real make of him, came at last to be so far puffed up by his vain science in declining years that he must needs write a Kosmos of things in the Universe, forsooth, as if he knew all about them! when he was not able meanwhile, (and does not seem even to have desired the ability,) to put the slightest Kosmos into his own ‘Personal Narrative’; but leaves one to gather what one wants out of its wild growth; or rather, to wash or winnow what may be useful out of its débris, without any vestige either of reference or index; and I must look for these fragmentary sketches of heath and grass through chapter after chapter about the races of the Indian, and religion of the Spaniard, —these also of great intrinsic value, but made useless to the general reader by interspersed experiment on the drifts of the wind and the depths of the sea.

16. But one more fragment out of a note (vol. iii., p. 494) I must give, with reference to an order of the Rhododendrons as yet wholly unknown to me.

“The name of vine tree, ‘*uvas camaronas*’ (Shrimp grapes?) is given in the Andes to plants of the genus *Thibaudia* on account of their *large succulent fruit*. Thus the

* “The Alpine rose of equinoctial America,” p. 453.



VIII.

MYRTILLA REGINA.

ancient botanists give the name of Bear's vine, 'Uva Ursi,' and vine of Mount Ida, 'Vitis Idea,' to an *Arbutus* and *Myrtillus* which belong, like the *Thibaudia*, to the family of the *Ericineæ*."

Now, though I have one entire bookcase and half of another, and a large cabinet besides, or about fifteen feet square of books on botany beside me here, and a quantity more at Oxford, I have no means whatever, in all the heap, of finding out what a *Thibaudia* is like. Loudon's *Cyclopedia*, the only general book I have, tells me only that it will grow well in camellia houses, that its flowers develop at Christmas, and that they are beautifully varied like a fritillary: whereupon I am very anxious to see them, and taste their fruit, and be able to tell my pupils something intelligible of them,—a new order, as it seems to me, among my *Oreiades*. But for the present I can make no room for them, and must be content, for England and the Alps, with my single class, *Myrtilla*, including all the fruit-bearing and (more or less) myrtle-leaved kinds; and *Azalea* for the fruitless flushing of the loftier tribes; taking the special name 'Aurora' for the red and purple ones of Europe, and resigning the already accepted 'Rhodora' to those of the Andes and Himalaya.

17. Of which also, with help of earnest Indian botanists, I hope nevertheless to add some little history to that of our own *Oreiades*;—but shall set myself on the most familiar of them first, as I partly hinted in taking for the frontispiece of this volume two unchecked shoots of our commonest heath, in their state of full luster and decline. And now I must go out and see and think—and for the first time in my life—what becomes of all these fallen blossoms, and where my own mountain *Cora* hides herself in winter; and where her sweet body is laid in its death.

Think of it with me, for a moment before I go. That harvest of amethyst bells, over all Scottish and Irish and Cumberland hill and moorland; what substance is there in it, yearly gathered out of the mountain winds,—stayed there, as if the morning and evening clouds had been caught out of

them and woven into flowers; 'Ropes of sea-sand'—but that is child's magic merely, compared to the weaving of the Heath out of the cloud? And once woven, how much of it is forever worn by the Earth? What weight of that transparent tissue, half crystal and half comb of honey, lies strewn every year dead under the snow?

I must go and look, and can write no more to-day; nor to-morrow neither. I must gather slowly what I see, and remember; and meantime leaving, to be dealt with afterwards, the difficult and quite separate question of the production of *wood*, I will close this first volume of Proserpina with some necessary statements respecting the operations, serviceable to other creatures than themselves, in which the lives of the noblest plants are ended: honorable in this service equally, though evanescent, some,—in the passing of a breeze—or the dying of a day;—and patient some, of storm and time, serene in fruitful sanctity, through all the uncounted ages which Man has polluted with his tears.

CHAPTER XIII.

THE SEED AND HUSK.

1. NOT the least sorrowful, nor least absurd of the confusions brought on us by unscholarly botanists, blundering into foreign languages, when they do not know how to use their own, is that which has followed on their practice of calling the seed-vessels of flowers 'egg-vessels,'* in Latin; thus involving total loss of the power of the good old English word 'husk,' and the good old French one, 'cosse.' For all the treasuries of plants (see Chapter IV., § 17) may be best conceived, and described, generally, as consisting of 'seed' and 'husk,'—for the most part two or more seeds, in a husk composed of two or more parts, as peas in their shell, pips in an orange, or kernels in a walnut; but whatever their number, or the method of their inclosure, let the student keep clear in his mind, for the base of all study of fructification, the broad distinction between the seed, as one thing, and the husk as another: the seed, essential to the continuance of the plant's race; and the husk, adapted, primarily, to its guard and dissemination; but secondarily, to quite other and far more important functions.

2. For on this distinction follows another practical one of great importance. A seed may serve, and many do mightily serve, for the food of man, when boiled, crushed, or otherwise industriously prepared by man himself, for his mere *sustenance*. But the *husk* of the seed is prepared in many cases for the delight of his eyes, and the pleasure of his palate, by Nature herself, and is then called a 'fruit.'

3. The varieties of structure both in seed and husk, and yet more, the manner in which the one is contained, and dis-

* More literally, "persons to whom the care of eggs is intrusted."

tributed by, the other, are infinite; and in some cases the husk is apparently wanting, or takes some unrecognizable form. But in far the plurality of instances the two parts of the plant's treasury are easily distinguishable, and must be separately studied, whatever their apparent closeness of relation, or, (as in all natural things,) the equivocation sometimes taking place between the one and the other. To me, the especially curious point in this matter is that, while I find the most elaborate accounts given by botanists of the stages of growth in each of these parts of the treasury, they never say of what use the guardian is to the guarded part, irrespective of its service to man. The mechanical action of the husk in containing and scattering the seeds, they indeed often notice and insist on; but they do not tell us of what, if any nutritious or fostering use the rind is to a chestnut, or an orange's pulp to its pips, or a peach's juice to its stone.

4. Putting aside this deeper question for the moment, let us make sure we understand well, and define safely, the separate parts themselves. A seed consists essentially of a store, or sack, containing substance to nourish a germ of life, which is surrounded by such substance, and in the process of growth is first fed by it. The germ of life itself rises into two portions, and not more than two, in the seeds of two-leaved plants; but this symmetrical dualism must not be allowed to confuse the student's conception, of the *three* organically separate parts,—the tough skin of a bean, for instance; the softer contents of it which we boil to eat; and the small germ from which the root springs when it is sown. A bean is the best type of the whole structure. An almond out of its shell, a peach-kernel, and an apple-pip are also clear and perfect, though varied types.

5. The husk, or seed-vessel, is seen in perfect simplicity of type in the pod of a bean, or the globe of a poppy. There are, I believe, flowers in which it is absent or imperfect; and when it contains only one seed, it may be so small and closely united with the seed it contains, that both will be naturally thought of as one thing only. Thus, in a dandelion, the little

brown grains, which may be blown away, each with its silken parachute, are every one of them a complete husk and seed together. But the majority of instances (and those of plants the most serviceable to man) in which the seed-vessel has entirely a separate structure and mechanical power, justify us in giving it the normal term 'husk,' as the most widely applicable and intelligible.

6. The change of green, hard, and tasteless vegetable substance into beautifully colored, soft, and delicious substance, which produces what we call a fruit, is, in most cases, of the husk only; in others, of the part of the stalk which immediately sustains the seed; and in a very few instances, not properly a change, but a distinct formation, of fruity substance between the husk and seed. Normally, however, the husk, like the seed, consists always of three parts; it has an outer skin, a central substance of peculiar nature, and an inner skin, which holds the seed. The main difficulty, in describing or thinking of the completely ripened product of any plant, is to discern clearly which is the inner skin of the husk, and which the outer skin of the seed. The peach is in this respect the best general type,—the woolly skin being the outer one of the husk; the part we eat, the central substance of the husk; and the hard shell of the stone, the inner skin, of the husk. The bitter kernel within is the seed.

7. In this case, and in the plum and cherry, the two parts under present examination—husk and seed—separate naturally; the fruity part, which is the body of the husk, adhering firmly to the shell, which is its inner coat. But in the walnut and almond, the two outer parts of the husk separate from the interior one, which becomes an apparently independent 'shell.' So that when first I approached this subject I divided the general structure of a treasury into *three* parts—husk, shell, and kernel; and this division, when we once have mastered the main one, will be often useful. But at first let the student keep steadily to his conception of the two constant parts, husk and seed, reserving the idea of shells and kernels for one group of plants only.

8. It will not be always without difficulty that he maintains the distinction, when the tree pretends to have changed it. Thus, in the chestnut, the inner coat of the husk becomes brown, adheres to the seed, and seems part of it; and we naturally call only the thick, green, prickly coat, the husk. But this is only one of the deceiving tricks of Nature, to compel our attention more closely. The real place of separation, to *her* mind, is between the mahogany colored shell and the nut itself, and that more or less silky and flossy coating within the brown shell is the true lining of the entire 'husk.' The paler brown skin, following the rugosities of the nut, is the true sack or skin of the seed. Similarly in the walnut and almond.

9. But, in the apple, two new tricks are played us. First, in the brown skin of the ripe pip, we might imagine we saw the part correspondent to the mahogany skin of the chestnut, and therefore the inner coat of the husk. But it is not so. The brown skin of the pips belongs to them properly, and is all their own. It is the true skin or sack of the seed. The inner coat of the husk is the smooth, white, scaly part of the core that holds them.

Then,—for trick number two. We should as naturally imagine the skin of the apple, which we peel off, to be correspondent to the skin of the peach; and therefore, to be the outer part of the husk. But not at all. The outer part of the husk in the apple is melted away into the fruity mass of it, and the red skin outside is the skin of its *stalk*, not of its seed-vessel at all!

10. I say 'of its stalk,'—that is to say, of the part of the stalk immediately sustaining the seed, commonly called the torus, and expanding into the calyx. In the apple, this torus incorporates itself with the husk completely; then refines its own external skin, and colors *that* variously and beautifully, like the true skin of the husk in the peach, while the withered leaves of the calyx remain in the 'eye' of the apple.

But in the 'hip' of the rose, the incorporation with the husk of the seed does not take place. The torus, or,—as in

this flower from its peculiar form it is called,—the tube of the calyx, alone forms the frutescent part of the hip; and the complete seeds, husk and all, (the firm triangular husk inclosing an almond-shaped kernel,) are grouped closely in its interior cavity, while the calyx remains on the top in a large and scarcely withering star. In the nut, the calyx remains green and beautiful, forming what we call the husk of a filbert; and again we find Nature amusing herself by trying to make us think that this strict envelope, almost closing over the single seed, is the same thing to the nut that its green shell is to a walnut!

11. With still more capricious masking, she varies and hides the structure of her ‘berries.’

The strawberry is a hip turned inside-out, the frutescent receptacle changed into a scarlet ball, or cone, of crystalline and delicious coral, in the outside of which the separate seeds, husk and all, are imbedded. In the raspberry and blackberry, the interior mound remains sapless; and the rubied translucency of dulcet substance is formed round each separate seed, *upon* its husk; not a part of the husk, but now an entirely independent and added portion of the plant’s bodily form.

12. What is thus done for each seed, on the *outside* of the receptacle, in the raspberry, is done for each seed, *inside* the calyx, in a pomegranate; which is a hip in which the seeds have become surrounded with a radiant juice, richer than claret wine; while the seed itself, within the generous jewel, is succulent also, and spoken of by Tournefort as a “baie succulente.” The tube of the calyx, brown-russet like a large hip, externally, is yet otherwise divided, and separated wholly from the cinque-foiled, and cinque-celled rose, both in number of petal and division of treasures; the calyx has eight points, and nine cells.

13. Lastly, in the orange, the fount of fragrant juice is interposed between the seed and the husk. It is wholly independent of both; the Aurantine rind, with its white lining and divided compartments, is the true husk: the orange pips

are the true seeds; and the eatable part of the fruit is formed between them, in clusters of delicate little flasks, as if a fairy's store of scented wine had been laid up by her in the hollow of a chestnut shell, between the nut and rind; and then the green changed to gold.

14. I have said '*lastly*'—of the orange, for fear of the reader's weariness only; not as having yet represented, far less exhausted, the variety of frutescent form. But these are the most important types of it; and before I can explain the relation between these, and another, too often confounded with them—the *granular* form of the seed of grasses,—I must give some account of what, to man, is far more important than the form—the gift to him in fruit-food; and trial, in fruit-temptation.

CHAPTER XIV.

THE FRUIT GIFT.

1. IN the course of the preceding chapter, I hope that the reader has obtained, or may by a little patience both obtain and secure, the idea of a great natural Ordinance, which, in the protection given to the part of plants necessary to prolong their race, provides, for happier living creatures, food delightful to their taste, and forms either amusing or beautiful to their eyes. Whether in receptacle, calyx, or true husk,—in the cup of the acorn, the fringe of the filbert, the down of the apricot, or bloom of the plum, the powers of Nature consult quite other ends than the mere continuance of oaks and plum trees on the earth; and must be regarded always with gratitude more deep than wonder, when they are indeed seen with human eyes and human intellect.

2. But in one family of plants, the *contents* also of the seed, not the envelope of it merely, are prepared for the support of the higher animal life: and their grain, filled with the substance which, for universally understood name, may best keep the Latin one of *Farina*,—becoming in French, 'Farine,' and in English, 'Flour,'—both in the perfectly nourishing elements of it, and its easy and abundant multiplicability, becomes the primal treasure of human economy.

3. It has been the practice of botanists of all nations to consider the seeds of the grasses together with those of roses and pease, as if all could be described on the same principles, and with the same nomenclature of parts. But the grain of corn is a quite distinct thing from the seed of pease. In *it*, the husk and the seed envelope have become inextricably one. All the exocarps, endocarps, epicarps, mesocarps, shells, husks, sacks, and skins, are woven at once together

into the brown bran; and inside of that, a new substance is collected for us, which is not what we boil in pease, or poach in eggs, or munch in nuts, or grind in coffee;—but a thing which, mixed with water and then baked, has given to all the nations of the world their prime word for food, in thought and prayer,—Bread; their prime conception of the man's and woman's labor in preparing it—(“whoso putteth hand to the *plow*”—two women shall be grinding at the *mill*)—their prime notion of the means of cooking by fire—(“which to-day is, and to-morrow is cast into the *oven*”), and their prime notion of culinary office—the “chief *baker*,” cook, or pastry-cook,—(compare Bedreddin Hassan in the Arabian Nights): and, finally, to modern civilization, the Saxon word ‘lady,’ with whatever it imports.

4. It has also been the practice of botanists to confuse all the ripened products of plants under the general term ‘fruit.’ But the essential and separate fruit-gift is of two substances, quite distinct from flour, namely, oil and wine, under the last term including for the moment all kinds of juice which will produce alcohol by fermentation. Of these, oil may be produced either in the kernels of nuts, as in almonds, or in the substance of berries, as in the olive, date, and coffee-berry. But the sweet juice which will become medicinal in wine, can only be developed in the husk, or in the receptacle.

5. The office of the Chief Butler, as opposed to that of the Chief Baker, and the office of the Good Samaritan, pouring in oil and wine, refer both to the total fruit-gift in both kinds: but in the study of plants, we must primarily separate our notion of their gifts to men into the three elements, flour, oil, and wine; and have instantly and always intelligible names for them in Latin, French, and English.

And I think it best not to confuse our ideas of pure vegetable substance with the possible process of fermentation:—so that rather than ‘wine,’ for a constant specific term, I will take ‘Nectar,’—this term more rightly including the juices of the peach, nectarine, and plum, as well as those of the grape, currant, and apple.

Our three separate substances will then be easily named in all three languages:

Farina.	Oleum.	Nectar.
Farine.	Huile.	Nectare.
Flour.	Oil.	Nectar.

There is this farther advantage in keeping the third common term, that it leaves us the words Succus, Jus, Juice, for other liquid products of plants, watery, milky, sugary, or resinous,—often indeed important to man, but often also without either agreeable flavor or nutritious power; and it is therefore to be observed with care that we may use the word ‘juice,’ of a liquid produced by any part of a plant, but ‘nectar,’ only of the juices produced in its fruit.

6. But the good and pleasure of fruit is not in the juice only;—in some kinds, and those not the least valuable, (as the date,) it is not in the juice at all. We still stand absolutely in want of a word to express the more or less firm *substance* of fruit, as distinguished from all other products of a plant. And with the usual ill-luck—(I advisedly think of it as demoniacal misfortune)—of botanical science, no other name has been yet used for such substance than the entirely false and ugly one of ‘Flesh,’—Fr., ‘Chair,’ with its still more painful derivation ‘Charnu,’ and in England the monstrous scientific term, ‘Sarco-carp.’

But, under the housewifery of Proserpina, since we are to call the juice of fruit, Nectar, its substance will be as naturally and easily called Ambrosia; and I have no doubt that this, with the other names defined in this chapter, will not only be found practically more convenient than the phrases in common use, but will more securely fix in the student’s mind a true conception of the essential differences in substance, which, ultimately, depend wholly on their pleasantness to human perception, and offices for human good; and not at all on any otherwise explicable structure or faculty. It is of no use to determine, by microscope or retort, that cinnamon is made of cells with so many walls, or grape-juice

of molecules with so many sides;—we are just as far as ever from understanding why these particular interstices should be aromatic, and these special parallelopipeds exhilarating, as we were in the savagely unscientific days when we could only see with our eyes, and smell with our noses. But to call each of these separate substances by a name rightly belonging to it through all the past variations of the language of educated man, will probably enable us often to discern powers in the thing itself, of affecting the human body and mind, which are indeed qualities infinitely more its *own*, than any which can possibly be extracted by the point of a knife, or brayed out with a mortar and pestle.

7. Thus, to take merely instance in the three main elements of which we have just determined the names,—flour, oil, and ambrosia;—the differences in the kinds of pleasure which the tongue received from the powderiness of oat-cake, or a well-boiled potato—(in the days when oat-cake and potatoes were!)—from the glossily-softened crispness of a well-made salad, and from the cool and fragrant amber of an apricot, are indeed distinctions between the essential virtues of things which were made to be *tasted*, much more than to be eaten; and in their various methods of ministry to, and temptation of, human appetites, have their part in the history, not of elements merely, but of souls; and of the soul-virtues, which from the beginning of the world have bade the barrel of meal not waste, nor the cruse of oil fail; and have planted, by waters of comfort, the fruits which are for the healing of nations.

8. And, again, therefore, I must repeat, with insistence, the claim I have made for the limitation of language to the use made of it by educated men. The word ‘carp’ could never have multiplied itself into the absurdities of endocarps and epi-carps, but in the mouths of men who scarcely ever read it in its original letters, and therefore never recognized it as meaning precisely the same thing as ‘fructus,’ which word, being a little more familiar with, they would have scarcely abused to the same extent; they would not have

called a walnut shell an intra-fruct—or a grape skin an extra-fruct; but again, because, though they are accustomed to the English ‘fructify,’ ‘frugivorous’—and ‘usufruct,’ they are unaccustomed to the Latin ‘fructus,’ and unconscious therefore that the derivative ‘fructus’ must always, in right use, mean an *enjoyed* thing, they generalize every mature vegetable product under the term; and we find Dr. Gray coolly telling us that there is no fruit so “likely to be mistaken for a seed,” as a grain of corn! a grain, whether of corn, or any other grass, being precisely the vegetable structure to which frutescent change is forever forbidden! and to which the word *seed* is primarily and perfectly applicable!—the thing to be *sown*, not grafted.

9. But to mark this total incapability of frutescent change, and connect the form of the seed more definitely with its dusty treasure, it is better to reserve, when we are speaking with precision, the term ‘grain’ for the seeds of the grasses: the difficulty is greater in French, than in English: because they have no monosyllabic word for the constantly granular ‘seed’; but for us the terms are all simple, and already in right use, only not quite clearly enough understood; and there remains only one real difficulty now in our system of nomenclature, that having taken the word ‘husk’ for the seed-vessel, we are left without a general word for the true fringe of a filbert, or the chaff of a grass. I don’t know whether the French ‘frange’ could be used by them in this sense, if we took it in English botany. But for the present, we can manage well enough without it, one general term, ‘chaff,’ serving for all the grasses, ‘cup’ for acorns, and ‘fringe’ for nuts.

10. But I call this a *real* difficulty, because I suppose, among the myriads of plants of which I know nothing, there may be forms of the envelope of fruits or seeds which may, for comfort of speech, require some common generic name. One *unreal* difficulty, or shadow of difficulty, remains in our having no entirely comprehensive name for seed and seed-vessel together than that the botanists now use, ‘fruit.’ But

practically, even now, people feel that they can't gather figs of thistles, and never speak of the fructification of a thistle, or of the fruit of a dandelion. And, re-assembling now, in one view, the words we have determined on, they will be found enough for all practical service, and in such service always accurate, and, usually, suggestive. I repeat them in brief order, with such farther explanation as they need.

11. All ripe products of the life of flowers consist essentially of the Seed and Husk,—these being, in certain cases, sustained, surrounded, or provided with means of motion, by other parts of the plant; or by developments of their own form which require in each case distinct names. Thus the white cushion of the dandelion to which its brown seeds are attached, and the personal parachutes which belong to each, must be separately described for that species of plants; it is the little brown thing they sustain and carry away on the wind, which must be examined as the essential product of the floret;—the 'seed and husk.'

12. Every seed has a husk, holding either that seed alone, or other seeds with it.

Every perfect seed consists of an embryo, and the substance which first nourishes that embryo; the whole inclosed in a sack or other sufficient envelope. Three essential parts altogether.

Every perfect husk, vulgarly pericarp, or 'round-fruit,'—as periwig, 'round-wig')—consists of a shell, (vulgarly endocarp), rind, (vulgarly mesocarp), and skin, (vulgarly epicarp); three essential parts altogether. But one or more of these parts may be effaced, or confused with another; and in the seeds of grasses they all concentrate themselves into bran.

13. When a husk consists of two or more parts, each of which has a separate shaft and volute, uniting in the pillar and volute of the flower, each separate piece of the husk is called a 'carpel.' The name was first given by De Candolle, and must be retained. But it continually happens that a simple husk divides into two parts corresponding to the two

leaves of the embryo, as in the peach, or symmetrically holding alternate seeds, as in the pea. The beautiful drawing of the pea-shell with its seeds, in Rousseau's botany, is the only one I have seen which rightly shows and expresses this arrangement.

14. A Fruit, is either the husk, receptacle, petal, or other part of a flower *external to the seed*, in which chemical changes have taken place, fitting it for the most part to become pleasant and healthful food for man, or other living animals; but in some cases making it bitter or poisonous to them, and the enjoyment of it depraved or deadly. But, as far as we know, it is without any definite office to the seed it contains; and the change takes place entirely to fit the plant to the service of animals.* In its perfection, the Fruit Gift is limited to a temperate zone, of which the polar limit is marked by the strawberry, and the equatorial by the orange. The more arctic regions produce even the smallest kinds of fruit with difficulty; and the more equatorial, in coarse, oleaginous, or over-luscious masses.

15. All the most perfect fruits are developed *from exquisite forms either of foliage or flower*. The vine leaf, in its generally decorative power, is the most important, both in life and in art, of all that shade the habitations of men. The olive leaf is, without any rival, the most beautiful of the leaves of timber trees; and its blossom, though minute, of extreme beauty. The apple is essentially the fruit of the rose, and the peach of her only rival in her own color. The cherry and orange blossom are the two types of floral snow.

16. And, lastly, let my readers be assured, the economy of blossom and fruit, with the distribution of water, will be

* A most singular sign of this function is given in the chemistry of the changes, according to a French botanist, to whose carefully and richly illustrated volume I shall in future often refer my readers, "Vers l'époque de la maturité, les fruits *exhalent de l'acide carbonique*. Ils ne présentent plus dès lors aucun dégagement d'oxygène pendant le jour, et *respirent, pour ainsi dire à la façon des animaux*." (Figuier, 'Histoire des Plantes,' p. 182. 8vo. Paris, Hachette, 1874.)

found hereafter the most accurate test of wise national government.

For example of the action of a national government, rightly so called, in these matters, I refer the student to the *Marie-golas of Venice*, translated in *Fors Clavigera*; and I close this chapter, and this first volume of *Proserpina*, not without pride, in the words I wrote on this same matter eighteen years ago. "So far as the laborer's immediate profit is concerned, it matters not an iron filing whether I employ him in growing a peach, or in forging a bombshell. But the difference to him is final, whether, when his child is ill, I walk into his cottage, and give it the peach,—or drop the shell down his chimney, and blow his roof off."

INDEX I.

DESCRIPTIVE NOMENCLATURE.

PLANTS in perfect form are said, at page 19, to consist of four principal parts: root, stem, leaf, and flower. (Compare Chapter V., § 2.) The reader may have been surprised at the omission of the fruit from this list. But a plant which has borne fruit is no longer of 'perfect' form. Its flower is dead. And, observe, it is further said, at page 46, (and compare Chapter III., § 2,) that the use of the fruit is to produce the flower: not of the flower to produce the fruit. Therefore, the plant in perfect blossom, is itself perfect. Nevertheless, the formation of the fruit, practically, is included in the flower, and so spoken of in the fifteenth line of the same page.

Each of these four main parts of a plant consist normally of a certain series of minor parts, to which it is well to attach easily remembered names. In this section of my index I will not admit the confusion of idea involved by alphabetical arrangement of these names, but will sacrifice facility of reference to clearness of explanation, and taking the four great parts of the plant in succession, I will give the list of the minor and constituent parts, with their names as determined in Proserpina, and reference to the pages where the reasons for such determination are given, endeavoring to supply, at the same time, any deficiencies which I find in the body of the text.

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IV. REFUGES shelter the future plant itself for a time.	26
V. RUINS form a basis for the growth of the future plant in its proper order	26
Root-Stocks, the accumulation of such ruins in a vital order	27
General questions relating to the office and chemical power of roots	27

The nomenclature of Roots will not be extended, in *Proserpina*, beyond the five simple terms here given: though the ordinary botanical ones—corm, bulb, tuber, etc.—will be severally explained in connection with the plants which they specially characterize.

II. THE STEM.

Derivation of word	99
The channel of communication between leaf and root .	110
In a perfect plant it consists of three parts:	
I. THE STEM (STEMMA) proper.—A growing or ad- vancing shoot which sustains all the other organs	

	PAGE
of the plant	98
It may grow by adding thickness to its sides without advancing; but its essential characteristic is the vital power of Advance	98
It may be round, square, or polygonal, but is always roundly minded	98
Its structural power is Spiral	99
It is essentially branched; having subordinate leaf-stalks and flower-stalks, if not larger branches	100
It develops the buds, leaves, and flowers of the plant. This power is not yet properly defined, or explained; and referred to only incidentally throughout the eighth chapter	97-100
II. THE LEAF-STALK (CYMBA) sustains, and expands itself into, the Leaf	95-97
It is essentially furrowed above, and convex below	96
It is to be called in Latin, the Cymba; in English, the Leaf-stalk	98
III. THE FLOWER-STALK (PETIOLUS):	
It is essentially round	94
It is usually separated distinctly at its termination from the flower	94, 95
It is to be called in Latin, Petiolus; in English, Flower-stalk	94
These three are the essential parts of a stem. But besides these, it has, when largely developed, a permanent form: namely,	
IV. THE TRUNK.—A non-advancing mass of collected stem, arrested at a given height from the ground.	101

The stems of annual plants are either leafy, as of a thistle, or bare, sustaining the flower or flower-cluster at a certain height above the ground. Receiving therefore these following names:—

V. THE VIRGA.—The leafy stem of an annual plant, not a grass, yet growing upright	106
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- VI. THE VIRGULA.—The leafless flower-stem of an annual plant, not a grass, as of a primrose or dandelion 106
- VII. THE FILUM.—The running stem of a creeping plant.

It is not specified in the text for use; but will be necessary: so also, perhaps, the *Stelechos*, or stalk proper (26), the branched stem of an annual plant, not a grass; one cannot well talk of the *Virga* of hemlock. The '*Stolon*' is explained in its classical sense at page 102, but I believe botanists use it otherwise. I shall have occasion to refer to, and complete its explanation, in speaking of bulbous plants.

- VIII. THE CAUDEX.—The essentially ligneous and compact part of a stem 107

This equivocal word is not specified for use in the text, but I mean to keep it for the accumulated stems of inlaid plants, palms, and the like; for which otherwise we have no separate term.

- IX. THE AVENA.—Not specified in the text at all; but it will be prettier than '*baculus*,' which is that I had proposed, for the '*staff*' of grasses. See page 116.

These ten names are all that the student need remember; but he will find some interesting particulars respecting the following three, noticed in the text:—

- STIPS.—The origin of stipend, stupid, and stump . . . 107
- STIPULA.—The subtlest Latin term for straw . . . 107
- CAULIS (*Kale*).—The peculiar stem of branched eatable vegetables 108
- CANNA.—Not noticed in the text; but likely to be sometimes useful for the stronger stems of grasses.

III. THE LEAF.

- Derivation of word 19
- The Latin form '*folium*' 29

	PAGE
The Greek form 'petalos'	30
Veins and ribs of leaves, to be usually summed under the term 'rib'	32
Chemistry of leaves	33

The nomenclature of the leaf consists, in botanical books, of little more than barbarous, and, for the general reader, totally useless attempts to describe their forms in Latin. But their forms are infinite and indescribable except by the pencil. I will give central types of form in the next volume of *Proserpina*; which, so that the reader sees and remembers, he may *call* anything he likes. But it is necessary that names should be assigned to certain classes of leaves which are essentially different from each other in character and tissue, not merely in form. Of these the two main divisions have been already given: but I will now add the less important ones which yet require distinct names.

- I. **APOLLINE.**—Typically represented by the laurel 37
 II. **ARETHUSAN.**—Represented by the alisma 38

It ought to have been noticed that the character of serration, within reserved limits, is essential to an Apolline leaf, and absolutely refused by an Arethusan one.

- III. **DRYAD.**—Of the ordinary leaf tissue, neither manifestly strong, nor admirably tender, but serviceably consistent, which we find generally to be the substance of the leaves of forest trees. Typically represented by those of the oak.
 IV. **ABIETINE.**—Shaft or sword-shape, as the leaves of firs and pines.
 V. **CRESSIC.**—Delicate and light, with smooth tissue, as the leaves of cresses, and clover.
 VI. **SALVIAN.**—Soft and woolly, like miniature blankets, easily folded, as the leaves of sage.
 VII. **CAULINE.**—Softly succulent, with thick central ribs, as of the cabbage.
 VIII. **ALOEINE.**—Inflexibly succulent, as of the aloe or houseleek.

No rigid application of these terms must ever be attempted; but they direct the attention to important general conditions, and will often be found to save time and trouble in description.

IV. THE FLOWER.

- Its general nature and function 46
 Consists essentially of Corolla and Treasury 56
 Has in perfect form the following parts:—
- I. THE TORUS.—Not yet enough described in the text.
 It is the expansion of the extremity of the flower-stalk, in preparation for the support of the expanding flower 47, 160, 161
- II. THE INVOLUCRUM.—Any kind of wrapping or propping condition of leafage at the base of a flower may properly come under this head; but the manner of prop or protection differs in different kinds, and I will not at present give generic names to these peculiar forms.
- III. THE CALYX (The Hiding-place).—The outer whorl of leaves, under the protection of which the real flower is brought to maturity. Its separate leaves are called SEPALS 57
- IV. THE COROLLA (The Cup).—The inner whorl of leaves, forming the flower itself. Its separate leaves are called PETALS 50, 51
- V. THE TREASURY.—The part of the flower that contains its seeds.
- VI. THE PILLAR.—The part of the flower above its treasury, by which the power of the pollen is carried down to the seeds 56
 It consists usually of two parts—the SHAFT and VOLUTE 56
 When the pillar is composed of two or more shafts, attached to separate treasury-cells, each cell with its shaft is called a CARPEL 168
- VII. THE STAMENS.—The parts of the flower which secrete its pollen 56

They consist usually of two parts, the FILAMENT and ANTHÉR, not yet described.

VIII. THE NECTARY.—The part of the flower containing its honey, or any other special product of its inflorescence. The name has often been given to certain forms of petals of which the use is not yet known. No notice has yet been taken of this part of the flower in Proserpina.

These being all the essential parts of the flower itself, other forms and substances are developed in the seed as it ripens, which, I believe, may most conveniently be arranged in a separate section, though not logically to be considered as separable from the flower, but only as mature states of certain parts of it.

V. THE SEED.

I must once more desire the reader to take notice that, under the four sections already defined, the morphology of the plant is to be considered as complete, and that we are now only to examine and name, farther, its *product*; and that not so much as the germ of its own future descendant flower, but as a separate substance which it is appointed to form, partly to its own detriment, for the sake of higher creatures. This product consists essentially of two parts: the Seed and its Husk.

	PAGE
I. THE SEED.—Defined	157
It consists, in its perfect form, of three parts	159

These three parts are not yet determinately named in the text: but I give now the names which will be usually attached to them.

- A. *The Sack*.—The outside skin of a seed 158
- B. *The Nutrine*.—A word which I coin, for general applicability, whether to the farina of corn, the substance of a nut, or the parts that become the first leaves in a bean 158

	PAGE
C. <i>The Germ.</i> —The origin of the root	158
II. THE HUSK.—Defined	158
Consists, like the seed when in perfect form, of three parts.	
A. <i>The Skin.</i> —The outer envelope of all the seed structures	159
B. <i>The Rind.</i> —The central body of the Husk	159–168
C. <i>The Shell.</i> —Not always shelly, yet best described by this general term; and becoming a shell, so called, in nuts, peaches, dates, and other such kernel-fruits	159

The products of the Seed and Husk of Plants, for the use of animals, are practically to be massed under the three heads of BREAD, OIL, and FRUIT. But the substance of which bread is made is more accurately described as Farina; and the pleasantness of fruit to the taste depends on two elements in its substance: the juice, and the pulp containing it, which may properly be called Nectar and Ambrosia. We have therefore in all four essential products of the Seed and Husk—

A. Farina.	Flour	163
B. Oleum.	Oil	164, 165
C. Nectar.	Fruit-juice	165
D. Ambrosia.	Fruit-substance	165

Besides these all-important products of the seed, others are formed in the stems and leaves of plants, of which no account hitherto has been given in Proserpina. I delay any extended description of these until we have examined the structure of wood itself more closely; this intricate and difficult task having been remitted (p. 126) to the days of coming spring; and I am well pleased that my younger readers should at first be vexed with no more names to be learned than those of the vegetable productions with which they are most pleasantly acquainted: but for older ones, I think it well, before closing

the present volume, to indicate, with warning, some of the obscurities, and probable fallacies, with which this vanity of science incumbers the chemistry, no less than the morphology, of plants.

Looking back to one of the first books in which our new knowledge of organic chemistry began to be displayed, thirty years ago, I find that even at that period the organic elements which the cuisine of the laboratory had already detected in simple Indigo, were the following:—

Isatine,	Chlorindine,
Bromisatine,	Chlorindoptene,
Bibromisatine;	Chlorindatmit;
Chlorisatine,	Chloranile,
Bichlorisatine;	Chloranilam, and,
Chlorisatyde,	Chloranilammon.
Bichlorisatyde;	

And yet, with all this practical skill in decoction, and accumulative industry in observation and nomenclature, so far are our scientific men from arriving, by any decoctive process of their own knowledge, at general results useful to ordinary human creatures, that when I wish now to separate, for young scholars, in first massive arrangement of vegetable productions, the Substances of Plants from their Essences; that is to say, the weighable and measurable body of the plant from its practically immeasurable, if not imponderable, spirit, I find in my three volumes of close-printed chemistry, no information whatever respecting the quality of volatility in matter, except this one sentence:—

“The disposition of various substances to yield vapor is very different: and the difference depends doubtless on the relative power of cohesion with which they are endowed.” *

Even in this not extremely pregnant, though extremely cautious, sentence, two conditions of matter are confused, no

* ‘Elements of Chemistry,’ p. 44. By Edward Turner; edited by Justus Liebig and William Gregory. Taylor and Walton, 1840.

notice being taken of the difference in manner of dissolution between a vitally fragrant and a mortally putrid substance.

It is still more curious that when I look for more definite instruction on such points to the higher ranks of botanists, I find in the index to Dr. Lindley's 'Introduction to Botany'—seven hundred pages of close print—not one of the four words 'Volatile,' 'Essence,' 'Scent,' or 'Perfume.' I examine the index to Gray's 'Structural and Systematic Botany,' with precisely the same success. I next consult Professors Balfour and Grindon, and am met by the same dignified silence. Finally, I think over the possible chances in French, and try in Figuier's indices to the 'Histoire des Plantes' for 'Odeur'—no such word! 'Parfum'—no such word. 'Essence'—no such word. 'Encens'—no such word. I try at last 'Pois de Senteur,' at a venture, and am referred to a page which describes their going to sleep.

Left thus to my own resources, I must be content for the present to bring the subject at least under safe laws of nomenclature. It is possible that modern chemistry may be entirely right in alleging the absolute identity of substances such as albumen, or fibrine, whether they occur in the animal or vegetable economies. But I do not choose to assume this identity in my nomenclature. It may, perhaps, be very fine and very instructive to inform the pupils preparing for competitive examination that the main element of Milk is Milking, and of Cheese, Cheesine. But for the practical purposes of life, all that I think it necessary for the pupil to know is that in order to get either milk or cheese, he must address himself to a Cow, and not to a Pump; and that what a chemist can produce for him out of dandelions or cocoanuts, however milky or cheesy it may look, may more safely be called by some name of its own.

This distinctness of language becomes every day more desirable, in the face of the refinements of chemical art which now enable the ingenious confectioner to meet the demands of an unscientific person for (suppose,) a lemon drop, with a mixture of nitric acid, sulphur, and stewed

bones. It is better, whatever the chemical identity of the products may be, that each should receive a distinctive epithet, and be asked for and supplied, in vulgar English, and vulgar probity, either as essence of lemons, or skeletons.

I intend, therefore,—and believe that the practice will be found both wise and convenient,—to separate in all my works on natural history the terms used for vegetable products from those used for animal or mineral ones, whatever may be their chemical identity, or resemblance in aspect. I do not mean to talk of fat in seeds, nor of flour in eggs, nor of milk in rocks. Pace my prelatical friends, I mean to use the word 'Alb' for vegetable albumen; and although I cannot without pedantry avoid using sometimes the word 'milky' of the white juices of plants, I must beg the reader to remain unaffected in his conviction that there is a vital difference between liquids that coagulate into butter, or congeal into india-rubber. Oil, when used simply, will always mean a vegetable product: and when I have occasion to speak of petroleum, tallow, or blubber, I shall generally call these substances by their right names.

There are also a certain number of vegetable materials more or less prepared, secreted, or digested for us by animals, such as wax, honey, silk, and cochineal. The properties of these require more complex definitions, but they have all very intelligible and well-established names. 'Tea' must be a general term for an extract of any plant in boiling water: though when standing alone the word will take its accepted Chinese meaning: and essence, the general term for the condensed dew of a vegetable vapor, which is with grace and fitness called the 'being' of a plant, because its properties are almost always characteristic of the species; and it is not, like leaf tissue or wood fiber, approximately the same material in different shapes; but a separate element in each family of flowers, of a mysterious, delightful, or dangerous influence, logically inexplicable, chemically inconstructible, and wholly, in dignity of nature, above all modes and faculties of form.

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IX.

VIOLA CANINA.

Fast Sketch to show Grouping of Leaves.

PROSERPINA.

VOL. II.

CHAPTER I.

VIOLA.

1. ALTHOUGH I have not been able in the preceding volume to complete, in any wise as I desired, the account of the several parts and actions of plants in general, I will not delay any longer our entrance on the examination of particular kinds, though here and there I must interrupt such special study by recurring to general principles, or points of wider interest. But the scope of such larger inquiry will be best seen, and the use of it best felt, by entering now on specific study.

I begin with the Violet, because the arrangement of the group to which it belongs—Cytherides—is more arbitrary than that of the rest, and calls for some immediate explanation.

2. I fear that my readers may expect me to write something very pretty for them about violets: but my time for writing prettily is long past; and it requires some watching over myself, I find, to keep me even from writing querulously. For while, the older I grow, very thankfully I recognize more and more the number of pleasures granted to human eyes in this fair world, I recognize also an increasing sensitiveness in my temper to anything that interferes

with them; and a grievous readiness to find fault—always of course submissively, but very articulately—with whatever Nature seems to me not to have managed to the best of her power;—as, for extreme instance, her late arrangements of frost this spring, destroying all the beauty of the wood sorrels; nor am I less inclined, looking to her as the greatest of sculptors and painters, to ask, every time I see a narcissus, why it should be wrapped up in brown paper; and every time I see a violet, what it wants with a spur?

3. What *any* flower wants with a spur, is indeed the simplest and hitherto to me unanswerablest form of the question; nevertheless, when blossoms grow in spires, and are crowded together, and have to grow partly downwards, in order to win their share of light and breeze, one can see some reason for the effort of the petals to expand upwards and backwards also. But that a violet, who has her little stalk to herself, and might grow straight up, if she pleased, should be pleased to do nothing of the sort, but quite gratuitously bend her stalk down at the top, and fasten herself to it by her waist, as it were,—this is so much more like a girl of the period's fancy than a violet's, that I never gather one separately but with renewed astonishment at it.

4. One reason indeed there is, which I never thought of until this moment! a piece of stupidity which I can only pardon myself in, because, as it has chanced, I have studied violets most in gardens, not in their wild haunts,—partly thinking their Athenian honor was as a garden flower; and partly being always led away from them, among the hills, by flowers which I could see nowhere else. With all excuse I can furbish up, however, it is shameful that the truth of the matter never struck me before, or at least this bit of the truth—as follows:

5. The Greeks, and Milton, alike speak of violets as growing in meadows (or dales). But the Greeks did so because they could not fancy any delight except in meadows; and Milton, because he wanted a rhyme to nightingale—and, after all, was London bred. But Viola's beloved knew where

violets grew in Illyria,—and grow everywhere else also, when they can,—on a *bank*, facing the south.

Just as distinctly as the daisy and buttercup are *meadow* flowers, the violet is a *bank* flower, and would fain grow always on a steep slope, towards the sun. And it is so poised on its stem that it shows, when growing on a slope, the full space and opening of its flower,—not at all, in any strain of modesty, hiding *itself*, though it may easily be, by grass or mossy stone, ‘half hidden,’—but, to the full, showing itself, and intending to be lovely and luminous, as fragrant, to the uttermost of its soft power.

Nor merely in its oblique setting on the stalk, but in the reversion of its two upper petals, the flower shows this purpose of being fully seen. (For a flower that *does* hide itself, take a lily of the valley, or the bell of a grape hyacinth, or a cyclamen.) But respecting this matter of petal-reversion, we must now farther state two or three general principles.

6. A perfect or pure flower, as a rose, oxalis, or campanula, is always composed of an unbroken whorl, or corolla, in the form of a disk, cup, bell, or, if it draw together again at the lips, a narrow-necked vase. This cup, bell, or vase, is divided into similar petals, (or segments, which are petals carefully joined,) varying in number from three to eight, and inclosed by a calyx whose sepals are symmetrical also.

An imperfect, or, as I am inclined rather to call it, an ‘injured’ flower, is one in which some of the petals have inferior office and position, and are either degraded, for the benefit of others, or expanded and honored at the cost of others.

Of this process, the first and simplest condition is the reversal of the upper petals and elongation of the lower ones, in blossoms set on the side of a clustered stalk. When the change is simply and directly dependent on their position in the cluster, as in *Aurora Regina*,* modifying every bell just in proportion as it declines from the perfected cen-

* Vol. i., p. 152, note.

tral one, some of the loveliest groups of form are produced which can be seen in any inferior organism: but when the irregularity becomes fixed, and the flower is always to the same extent distorted, whatever its position in the cluster, the plant is to be rightly thought of as reduced to a lower rank in creation.

7. It is to be observed, also, that these inferior forms of flower have always the appearance of being produced by some kind of mischief—blight, bite, or ill-breeding; they never suggest the idea of improving themselves, now, into anything better; one is only afraid of their tearing or puffing themselves into something worse. Nay, even the quite natural and simple conditions of inferior vegetable do not in the least suggest, to the unbitten or unblighted human intellect, the notion of development into anything other than their like: one does not expect a mushroom to translate itself into a pineapple, nor a betony to moralize itself into a lily, nor a snapdragon to soften himself into a lilac.

8. It is very possible, indeed, that the recent frenzy for the investigation of digestive and reproductive operations in plants may by this time have furnished the microscopic malice of botanists with providentially disgusting reasons, or demoniacally nasty necessities, for every possible spur, spike, jag, sting, rent, blotch, flaw, freckle, filth, or venom, which can be detected in the construction, or distilled from the dissolution, of vegetable organism. But with these obscene processes and prurient apparitions the gentle and happy scholar of flowers has nothing whatever to do. I am amazed and saddened, more than I care to say, by finding how much that is abominable may be discovered by an ill-taught curiosity, in the purest things that earth is allowed to produce for us;—perhaps if we were less reprobate in our own ways, the grass which is our type might conduct itself better, even though *it* has no hope but of being cast into the oven; in the meantime, healthy human eyes and thoughts are to be set on the lovely laws of its growth and habitation, and not on the mean mysteries of its birth.

9. I relieve, therefore, our presently inquiring souls from any farther care as to the reason for a violet's spur,—or for the extremely ugly arrangements of its stamens and style, invisible unless by vexatious and vicious peeping. You are to think of a violet only in its green leaves, and purple or golden petals;—you are to know the varieties of form in both, proper to common species; and in what kind of places they all most fondly live, and most deeply glow.

“And the recreation of the minde which is taken heereby cannot be but verie good and honest, for they admonish and stir up a man to that which is comely and honest. For flowers, through their beautie, varietie of colour, and exquisite forme, do bring to a liberall and gentle manly minde the remembrance of honestie, comeliness, and all kinds of vertues. For it would be an unseemely and filthie thing, as a certain wise man saith, for him that doth looke upon and handle faire and beautiful things, and who frequenteth and is conversant in faire and beautiful places, to have his mind not faire, but filthie and deformed.”

10. Thus Gerarde, in the close of his introductory notice of the violet,—speaking of things, (honesty, comeliness, and the like,) scarcely now recognized as desirable in the realm of England; but having previously observed that violets are useful for the making of garlands for the head, and posies to smell to;—in which last function I observe they are still pleasing to the British public: and I found the children here, only the other day, munching a confection of candied violet leaves. What pleasure the flower can still give us, uncandied, and unbound, but in its own place and life, I will try to trace through some of its constant laws.

11. And first, let us be clear that the native color of the violet is violet; and that the white and yellow kinds, though pretty in their place and way, are not to be thought of in generally meditating the flower's quality or power. A white violet is to black ones what a black man is to white ones; and the yellow varieties are, I believe, properly pansies, and belong also to wild districts for the most part; but the true

violet, which I have just now called 'black,' with Gerarde, "the blacke or purple violet, hath a great prerogative above others," and all the nobler species of the pansy itself are of full purple, inclining, however, in the ordinary wild violet to blue. In the 'Laws of Fésolé,' chap. vii., §§ 20, 21, I have made this dark pansy the representative of purple pure; the *viola odorata*, of the link between that full purple and blue; and the heath-blossom of the link between that full purple and red. The reader will do well, as much as may be possible to him, to associate his study of botany, as indeed all other studies of visible things, with that of painting: but he must remember that he cannot know what violet color really is, unless he watch the flower in its *early* growth. It becomes dim in age, and dark when it is gathered—at least, when it is tied in bunches;—but I am under the impression that the color actually deadens also,—at all events, no other single flower of the same quiet color lights up the ground near it as a violet will. The bright hounds-tongue looks merely like a spot of bright paint; but a young violet glows like painted glass.

12. Which, when you have once well noticed, the two lines of Milton and Shakspeare which seem opposed, will both become clear to you. The said lines are dragged from hand to hand along their pages of pilfered quotations by the hack botanists,—who probably never saw *them*, nor anything else, in Shakspeare or Milton in their lives,—till even in reading them where they rightly come, you can scarcely recover their fresh meaning: but none of the botanists ever think of asking why Perdita calls the violet 'dim,' and Milton 'glowing.'

Perdita, indeed, calls it dim, at that moment, in thinking of her own love, and the hidden passion of it, unspeakable; nor is Milton without some purpose of using it as an emblem of love, mourning,—but, in both cases, the subdued and quiet hue of the flower as an actual tint of color, and the strange force and life of it as a part of light, are felt to their uttermost.

And observe, also, that both of the poets contrast the

violet, in its softness, with the intense marking of the pansy. Milton makes the opposition directly—

“ the pansy, freaked with jet,
The glowing violet.”

Shakspeare shows yet stronger sense of the difference, in the “purple with Love’s wound” of the pansy, while the violet is sweet with Love’s hidden life, and sweeter than the lids of Juno’s eyes.

Whereupon, we may perhaps consider with ourselves a little, what the difference is between a violet and a pansy?

13. Is, I say, and was, and is to come,—in spite of florists, who try to make pansies round, instead of pentagonal; and of the wise classifying people, who say that violets and pansies are the same thing—and that neither of them are of much interest! As, for instance, Dr. Lindley in his ‘Ladies’ Botany.’

“Violets—sweet Violets, and Pansies, or Heartsease, represent a small family, with the structure of which you should be familiar; more, however, for the sake of its singularity than for its extent or importance, for the family is a very small one, and there are but few species belonging to it in which much interest is taken. As the parts of the Heartsease are larger than those of the Violet, let us select the former in preference for the subject of our study.” Whereupon we plunge instantly into the usual account of things with horns and tails. “The stamens are five in number—two of them, which are in front of the others, are hidden within the horn of the front petal,” etc., etc., etc. (Note in passing, by the ‘horn of the front’ petal he means the ‘spur of the bottom’ one, which indeed does stand in front of the rest,—but if therefore it is to be called the front petal—which is the back one?) You may find in the next paragraph description of a “singular conformation,” and the interesting conclusion that “no one has yet discovered for what purpose this singular conformation was provided.” But you will not, in the entire article, find the least attempt to tell you the difference between a violet and a pansy!—except in one state-

ment—and *that* false! “The sweet violet will have no rival among flowers, if we merely seek for delicate fragrance; but her sister, the heartsease, who is destitute of all sweetness, far surpasses her in rich dresses and *gaudy!!!* colors.” The heartsease is not without sweetness. There are sweet pansies scented, and dog pansies unscented—as there are sweet violets scented, and dog violets unscented. What is the real difference?

14. I turn to another scientific gentleman—*more* scientific in form indeed, Mr. Grindon,—and find, for another interesting phenomenon in the violet, that it sometimes produces flowers without any petals! and in the pansy, that “the flowers turn towards the sun, and when many are open at once, present a droll appearance, looking like a number of faces all on the ‘*qui vive.*’” But nothing of the difference between them, except something about ‘*stipules,*’ of which “it is important to observe that the leaves should be taken from the middle of the stem—those above and below being variable.”

I observe, however, that Mr. Grindon *has* arranged his violets under the letter A, and his pansies under the letter B, and that something may be really made out of him, with an hour or two’s work. I am content, however, at present, with his simplifying assurance that of violet and pansy together, “six species grow wild in Britain—or, as some believe, only four—while the analysts run the number up to fifteen.”

15. Next I try Loudon’s *Cyclopedia*, which, through all its 700 pages, is equally silent on the business; and next, Mr. Baxter’s ‘*British Flowering Plants,*’ in the index of which I find neither Pansy nor Heartsease, and only the ‘*Calathian*’ Violet, (where on earth is *Calathia*?) which proves, on turning it up, to be a *Gentian*.

16. At last, I take my *Figuier*, (but what should I do if I only knew English?) and find this much of clue to the matter:—

“*Qu’est ce que c’est que la Pensée? Cette jolie plante appartient aussi au genre Viola, mais à un section de ce*

genre. En effet, dans les Pensées, les pétales supérieurs et latéraux sont dirigés en haut, l'inférieur seul est dirigé en bas: et de plus, le stigmate est urcéole, globuleux."

And farther, this general description of the whole violet tribe, which I translate, that we may have its full value:—

"The violet is a plant without a stem (tige),—(see vol. i., p. 100,)—whose height does not surpass one or two decimeters. Its leaves, radical, or carried on stolons, (vol. i., p. 102,) are sharp, or oval, crenulate, or heart-shape. Its stipules are oval-acuminate, or lanceolate. Its flowers, of sweet scent, of a dark violet or a reddish blue, are carried each on a slender peduncle, which bends down at the summit. Such is, for the botanist, the Violet, of which the poets would give assuredly another description."

17. Perhaps; or even the painters! or even an ordinary unbotanical human creature! I must set about my business, at any rate, in my own way, now, as I best can, looking first at things themselves, and then putting this and that together, out of these botanical persons, which they can't put together out of themselves. And first, I go down into my kitchen garden, where the path to the lake has a border of pansies on both sides all the way down, with clusters of narcissus behind them. And pulling up a handful of pansies by the roots, I find them "without stems," indeed, if a stem means a wooden thing; but I should say, for a low-growing flower, quite lankily and disagreeably stalky! And, thinking over what I remember about wild pansies, I find an impression on my mind of their being rather more stalky, always, than is quite graceful; and, for all their fine flowers, having rather a weedy and littery look, and getting into places where they have no business. See, again, vol. i., chap. vi., § 5.

18. And now, going up into my flower and fruit garden, I find (June 2d, 1881, half-past six, morning,) among the wild saxifrages, which are allowed to grow wherever they like, and the rock strawberries, and Francescas, which are coaxed to grow wherever there is a bit of rough ground for them, a bunch or two of pale pansies, or violets, I don't

know well which, by the flower; but the entire company of them has a ragged, jagged, unpurpose-like look; extremely,—I should say,—demoralizing to all the little plants in their neighborhood: and on gathering a flower, I find it is a nasty big thing, all of a feeble blue, and with two things like horns, or thorns, sticking out where its ears would be, if the pansy's frequently monkey face were underneath them. Which I find to be two of the leaves of its calyx 'out of place,' and, at all events, for their part, therefore, weedy, and insolent.

19. I perceive, farther, that this disorderly flower is lifted on a lanky, awkward, springless, and yet stiff flower-stalk; which is not round, as a flower-stalk ought to be, (vol. i., p. 173,) but obstinately square, and fluted, with projecting edges, like a pillar run thin out of an iron-foundry for a cheap railway station. I perceive also that it has set on it, just before turning down to carry the flower, two little jaggy and indefinable leaves,—their color a little more violet than the blossom.

These, and such undeveloping leaves, wherever they occur, are called 'bracts' by botanists, a good word, from the Latin 'bractea,' meaning a piece of metal plate, so thin as to crackle. They seem always a little stiff, like bad parchment,—born to come to nothing—a sort of infinitesimal fairy-lawyer's deed. They ought to have been in my index at p. 175, under the head of leaves, and are frequent in flower structure,—never, as far as one can see, of the smallest use. They are constant, however, in the flower-stalk of the whole violet tribe.

20. I perceive, farther, that this lanky flower-stalk, bending a little in a crabbed, broken way, like an obstinate person tired, pushes itself up out of a still more stubborn, nondescript, hollow angular, dogs-eared gaspipe of a stalk, with a

section something like this,*  but no bigger than 

with a quantity of ill-made and ill-hemmed leaves on it, of no describable leaf-cloth or texture,—not cressic, (though

the thing does altogether look a good deal like a quite uneatable old watercress); not salvian, for there's no look of warmth or comfort in them; not cauline, for there's no juice in them; not dryad, for there's no strength in them, nor apparent use: they seem only there, as far as I can make out, to spoil the flower, and take the good out of my garden bed. Nobody in the world could draw them, they are so mixed up together, and crumpled and hacked about, as if some ill-natured child had snipped them with blunt scissors, and an ill-natured cow chewed them a little afterwards and left them, proved far too tough or too bitter.

21. Having now sufficiently observed, it seems to me, this incongruous plant, I proceed to ask myself, over it, M. Figuiet's question, 'Qu'est-ce c'est qu'un Pensée?' Is this a violet—or a pansy—or a bad imitation of both?

Whereupon I try if it has any scent: and to my much surprise, find it has a full and soft one—which I suppose is what my gardener keeps it for! According to Dr. Lindley, then, it must be a violet! But according to M. Figuiet,—let me see, do its middle petals bend up, or down?

I think I'll go and ask the gardener what *he* calls it.

22. My gardener, on appeal to him, tells me it is the 'Viola Cornuta,' but that he does not know himself if it is violet or pansy. I take my Loudon again, and find there were fifty-three species of violets, known in his days, of which, as it chanced, Cornuta is exactly the last.

'Horned violet': I said the green things were *like* horns!—but what is one to say of, or to do to, scientific people, who first call the spur of the violet's petal, horn, and then its calyx points, horns, and never define a 'horn' all the while!

Viola Cornuta, however, let it be; for the name does mean *something*, and is not false Latin. But whether violet or pansy, I must look farther to find out.

23. I take the Flora Danica, in which I at least am sure of finding whatever is done at all, done as well as honesty and care can; and look what species of violets it gives.

Nine, in the first ten volumes of it; four in their modern sequel (that I know of,—I have had no time to examine the last issues). Namely, in alphabetical order, with their present Latin, or tentative Latin, names; and in plain English, the senses intended by the hapless scientific people, in such their tentative Latin:—

(1)	<i>Viola Arvensis.</i>	Field (Violet)	. . .	No. 1748
(2)	“ <i>Biflora.</i>	Two-flowered	. . . . .	46
(3)	“ <i>Canina.</i>	Dog	. . . . .	1453
(3B)	<i>Viola Canina.</i>	Var. <i>Multicaulis</i> (Many-stemmed), a very singular sort of violet—if it were so! Its real difference from our dog-violet is in being pale blue, and having a golden center	. . . . .	2646
(4)	“ <i>Hirta.</i>	Hairy	. . . . .	618
(5)	“ <i>Mirabilis.</i>	Marvelous	. . . . .	1045
(6)	“ <i>Montana.</i>	Mountain	. . . . .	1329
(7)	“ <i>Odorata.</i>	Odorous	. . . . .	309
(8)	“ <i>Palustris.</i>	Marshy	. . . . .	83
(9)	“ <i>Tricolor.</i>	Three-colored	. . . . .	623
(9B)	“ <i>Tricolor.</i>	Var. <i>Arenaria</i> , Sandy Three-colored	. . . . .	2647
(10)	“ <i>Elatior.</i>	Taller	. . . . .	68
(11)	“ <i>Epipsila.</i>	(Heaven knows what: it is Greek, not Latin, and looks as if it meant something between a bishop and a short letter e)	. . . . .	2405

I next run down this list, noting what names we can keep, and what we can't; and what aren't worth keeping, if we could: passing over the varieties, however, for the present, wholly.

(1) *Arvensis.* Field-violet. Good.

(2) *Biflora.* A good epithet, but in false Latin. It is to be our *Viola aurea*, golden pansy.

- (3) *Canina*. Dog. Not pretty, but intelligible, and by common use now classical. Must stay.
- (4) *Hirta*. Late Latin slang for *hirsuta*, and always used of nasty places or nasty people; it shall not stay. The species shall be our *Viola Seclusa*,—Monk's violet—meaning the kind of monk who leads a rough life like Elijah's, or the Baptist's, or Esau's—in another kind. This violet is one of the loveliest that grows.
- (5) *Mirabilis*. Stays so; marvelous enough, truly: not more so than all violets; but I am very glad to hear of scientific people capable of admiring anything.
- (6) *Montana*. Stays so.
- (7) *Odorata*. Not distinctive;—nearly classical, however. It is to be our *Viola Regina*, else I should not have altered it.
- (8) *Palustris*. Stays so.
- (9) *Tricolor*. True, but intolerable. The flower is the queen of the true pansies: to be our *Viola Psyche*.
- (10) *Elatior*. Only a variety of our already accepted *Cornuta*.
- (11) The last is, I believe, also only a variety of *Palustris*. Its leaves, I am informed in the text, are either "pubescent-reticulate-venose-subreniform," or "lato-cordate-repando-crenate;" and its stipules are "ovate-acuminate-fimbriate-denticulate." I do not wish to pursue the inquiry farther.

24. These ten species will include, noting here and there a local variety, all the forms which are familiar to us in Northern Europe, except only two;—these, as it singularly chances, being the *Viola Alpium*, noblest of all the wild pansies in the world, so far as I have seen or heard of them,—of which, consequently, I find no picture, nor notice, in any botanical work whatsoever; and the other, the rock-violet of our own Yorkshire hills.

We have therefore, ourselves, finally then, twelve following species to study. I give them now all in their accepted

names and proper order,—the reasons for occasional difference between the Latin and English name will be presently given.

(1)	Viola	Regina.	Queen violet.
(2)	“	Psyche.	Ophelia’s pansy.
(3)	“	Alpium.	Freneli’s pansy.
(4)	“	Aurea.	Golden violet.
(5)	“	Montana.	Mountain violet.
(6)	“	Mirabilis.	Marvelous violet.
(7)	“	Arvensis.	Field violet.
(8)	“	Palustris.	Marsh violet.
(9)	“	Seclusa.	Monk’s violet.
(10)	“	Canina.	Dog violet.
(11)	“	Cornuta.	Cow violet.
(12)	“	Rupestris.	Crag violet.

25. We will try, presently, what is to be found out of useful, or pretty, concerning all these twelve violets; but must first find out how we are to know which are violets indeed, and which, pansies.

Yesterday, after finishing my list, I went out again to examine *Viola Cornuta* a little closer, and pulled up a full grip of it by the roots, and put it in water in a wash-hand basin, which it filled like a truss of green hay.

Pulling out two or three separate plants, I find each to consist mainly of a jointed stalk of a kind I have not yet described,—roughly, some two feet long altogether; (accurately, one 1 ft. 10½ in.; another, 1 ft. 10 in.; another, 1 ft. 9 in.—but all these measures taken without straightening, and therefore about an inch short of the truth), and divided into seven or eight lengths by clumsy joints where the mangled leafage is knotted on it; but broken a little out of the way at each joint, like a rheumatic elbow that won’t come straight, or bend farther; and—which is the most curious point of all in it—it is thickest in the middle, like a viper, and gets quite thin to the root and thin towards the flower; also the lengths between the joints are longest in the middle:

here I give them in inches, from the root upwards, in a stalk taken at random.

1st (nearest root)	.	.	.	.	.	$0\frac{3}{4}$
2nd	.	.	.	.	.	$0\frac{3}{4}$
3rd	.	.	.	.	.	$1\frac{1}{2}$
4th	.	.	.	.	.	$1\frac{3}{4}$
5th	.	.	.	.	.	3
6th	.	.	.	.	.	4
7th	.	.	.	.	.	$3\frac{1}{4}$
8th	.	.	.	.	.	3
9th	.	.	.	.	.	$2\frac{1}{4}$
10th	.	.	.	.	.	$1\frac{1}{2}$

1 ft. $9\frac{3}{4}$ in.

But the thickness of the joints and length of terminal flower stalk bring the total to two feet and about an inch over. I dare not pull it straight, or should break it, but it overlaps my two-foot rule considerably, and there are two inches besides of root, which are merely underground stem, very thin and wretched, as the rest of it is merely root above ground, very thick and bloated. (I begin actually to be a little awed at it, as I should be by a green snake—only the snake would be prettier.) The flowers also, I perceive, have not their two horns regularly set *in*, but the five spiky calyx-ends stick out between the petals—sometimes three, sometimes four, it may be all five up and down—and produce variously fanged or forked effects, feebly ophidian or diabolic. On the whole, a plant entirely mismanaging itself,—reprehensible and awkward, with taints of worse than awkwardness; and clearly, no true ‘species,’ but only a link.* And it really is, as you will find presently, a link in two directions; it is half violet, half pansy, a ‘cur’ among the

* See ‘Deucalion,’ vol. ii., chap. i., § 18.

Dogs, and a thoughtless thing among the thoughtful. And being so, it is also a link between the entire violet tribe and the Runners—pease, strawberries, and the like, whose glory is in their speed; but a violet has no business whatever to run anywhere, being appointed to stay where it was born, in extremely contented (if not secluded) places. “Half-hidden from the eye?”—no; but desiring attention, or extension, or corpulence, or connection with anybody else’s family, still less.

26. And if, at the time you read this, you can run out and gather a *true* violet, and its leaf, you will find that the flower grows from the very ground, out of a cluster of heart-shaped leaves, becoming here a little rounder, there a little sharper, but on the whole heart-shaped, and that is the proper and essential form of the violet leaf. You will find also that the flower has five petals; and being held down by the bent stalk, two of them bend back and up, as if resisting it; two expand at the sides; and one, the principal, grows downwards, with its attached spur behind. So that the front view of the flower must be *some* modification of this typical



A



B



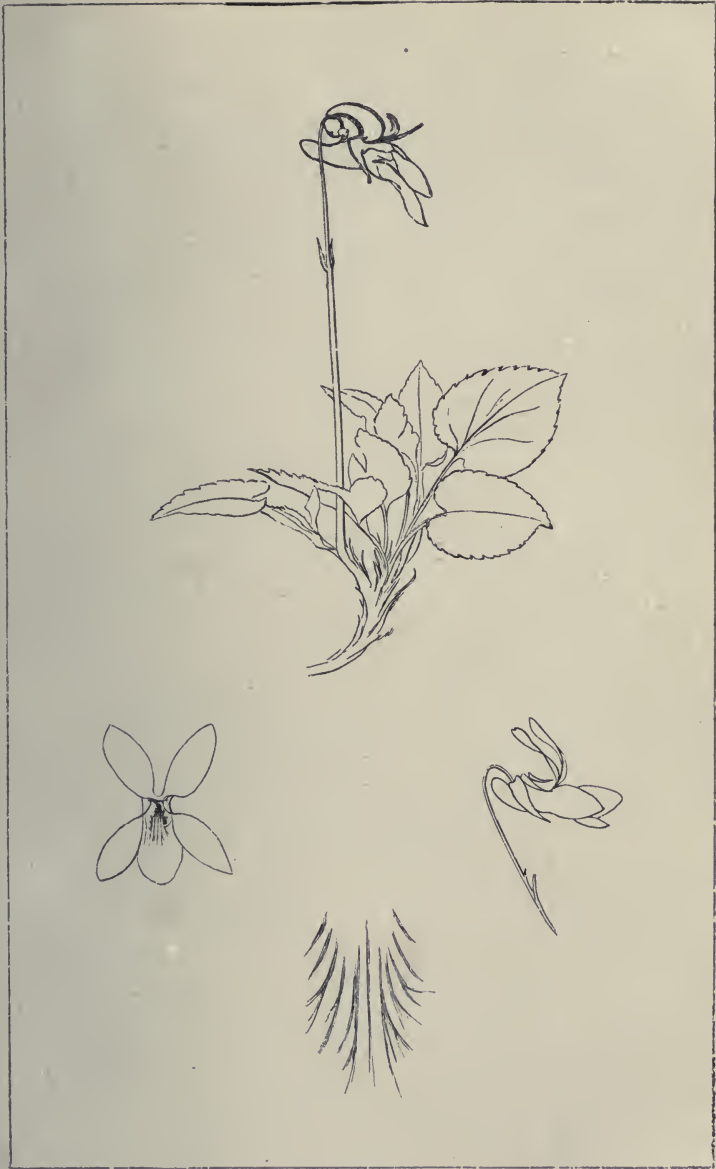
C

FIG. II.

arrangement, Fig. M, (for middle form). Now the statement above quoted from Fignier, § 16, means, if he had been able to express himself, that the two lateral petals in the violet are directed downwards, Fig. II. A, and in the pansy upwards, Fig. II. C. And that, in the main, is true, and to be fixed well and clearly in your mind. But in the real orders, one flower passes into the other through all kinds of intermediate positions of petal, and the plurality of species are of the middle type, Fig. II. B.*

27. Next, if you will gather a real pansy *leaf*, you will find it—not heart-shape in the least, but sharp oval or spear-shape, with two deep cloven lateral flakes at its springing from the stalk, which, in ordinary aspect, give the plant the haggled and

* I am ashamed to give so rude outlines; but every moment now is valuable to me: careful outline of a dog-violet is given in plate X.



X.
VIOLA CANINA.

Structural Details.

dragged look I have been vilifying it for. These, and such as these, "leaflets at the base of other leaves" (Balfour's Glossary), are called by botanists 'stipules.' I have not allowed the word yet, and am doubtful of allowing it, because it entirely confuses the student's sense of the Latin 'stipula' (see above, vol. i., chap. viii., § 27) doubly and trebly important in its connection with 'stipular,' not noticed in that paragraph, but readable in your large Johnson; we shall have more to say of it when we come to 'straw' itself.

28. In the meantime, one *may* think of these things as stipulations for leaves, not fulfilled, or 'stumps' or 'sumphs' of leaves! But I think I can do better for them. We have already got the idea of *crested* leaves, (see vol. i., plate); now, on each side of a knight's crest, from earliest Etruscan times down to those of the Scalas, the fashion of armor held, among the nations who wished to make themselves terrible in aspect, of putting cut plates or 'bracts' of metal, like dragons' wings, on each side of the crest. I believe the custom never became Norman or English; it is essentially Greek, Etruscan, or Italian,—the Norman and Dane always wearing a practical cone (see the coins of Canute), and the Frank or English knights the severely plain beavered helmet; the Black Prince's at Canterbury, and Henry V.'s at Westminster, are kept hitherto by the great fates for us to see. But the Southern knights constantly wore these lateral dragon's wings; and if I can find their special name, it may perhaps be substituted with advantage for 'stipule'; but I have not wit enough by me just now to invent a term.

29. Whatever we call them, the things themselves are, throughout all the species of violets, developed in the running and weedy varieties, and much subdued in the beautiful ones; and generally the pansies have them large, with spear-shaped central leaves; and the violets small, with heart-shaped leaves, for more effective decoration of the ground. I now note the characters of each species in their above given order.

30. I. VIOLA REGINA. Queen Violet. Sweet Violet.

'Viola Odorata,' L., Flora Danica, and Sowerby. The latter draws it with golden center and white base of lower petal; the Flora Danica, all purple. It is sometimes altogether white. It is seen most perfectly for setting off its color, in group with primrose,—and most luxuriantly, so far as I know, in hollows of the Savoy limestones, associated with the pervenche, which embroiders and illumines them all over. I believe it is the earliest of its race, sometimes called "Marta," March violet. In Greece and South Italy even a flower of the winter.

"The Spring is come, the violet's *gone*,
 The first-born child of the early sun.
 With us, she is but a winter's flower;
 The snow on the hills cannot blast her bower,
 And she lifts up her dewy eye of blue
 To the youngest sky of the selfsame hue.

And when the Spring comes, with her host
 Of flowers, that flower beloved the most
 Shrinks from the crowd that may confuse
 Her heavenly odor, and virgin hues.

Pluck the others, but still remember
 Their herald out of dim December,—
The morning star of all the flowers,
 The pledge of daylight's lengthened hours,
 Nor, midst the roses, e'er forget
 The virgin, virgin violet."*

3. It is the queen, not only of the violet tribe, but of all low-growing flowers, in sweetness of scent—variously applicable and serviceable in domestic economy:—the scent of the lily of the valley seems less capable of preservation or use.

But, respecting these perpetual beneficences and benigni-

* A careless bit of Byron's, (the last song but one in the 'Deformed Transformed'); but Byron's most careless work is better, by its innate energy, than other people's most labored. I suppress, in some doubts about my 'digamma,' notes on the Greek violet and the Ion of Euripides;—which the reader will perhaps be good enough to fancy a serious loss to him, and supply for himself.

ties of the sacred, as opposed to the malignant, herbs, whose poisonous power is for the most part restrained in them, during their life, to their juices or dust, and not allowed sensibly to pollute the air, I should like the scholar to re-read pp. 179, 180 of vol. i., and then to consider with himself what a grotesquely warped and gnarled thing the modern scientific mind is, which fiercely busies itself in venomous chemistries that blast every leaf from the forests ten miles round; and yet cannot tell us, nor even think of telling us, nor does even one of its pupils think of asking it all the while, how a violet throws off her perfume!—far less, whether it might not be more wholesome to ‘treat’ the air which men are to breathe in masses, by administration of vale-lilies and violets, instead of charcoal and sulphur!

The closing sentence of the first volume just now referred to—p. 181—should also be re-read; it was the sum of a chapter I had in hand at that time on the Substances and Essences of Plants—which never got finished;—and in trying to put it into small space, it has become obscure: the terms “logically inexplicable” meaning that no words or process of comparison will define scents, nor do any traceable modes of sequence or relation connect them; each is an independent power, and gives a separate impression to the senses. Above all, there is no logic of pleasure, nor any assignable reason for the difference, between loathsome and delightful scent, which makes the fungus foul and the vervain sacred: but one practical conclusion I (who am in all final ways the most prosaic and practical of human creatures) do very solemnly beg my readers to meditate; namely, that although not recognized by actual offensiveness of scent, there is no space of neglected land which is not in some way modifying the atmosphere of *all the world*,—it may be, beneficently, as heath and pine,—it may be, malignantly, as Pontine marsh or Brazilian jungle; but, in one way or another, for good and evil constantly, by day and night, the various powers of life and death in the plants of the desert are poured into the air, as vials of continual angels: and that no words, no

thoughts can measure, nor imagination follow, the possible change for good which energetic and tender care of the wild herbs of the field and trees of the wood might bring, in time, to the bodily pleasure and mental power of Man.

32. II. *VIOLA PSYCHE*. Ophelia's Pansy.

The wild heart's-ease of Europe; its proper color an exquisitely clear purple in the upper petals, gradated into deep blue in the lower ones; the center, gold. Not larger than a violet, but perfectly formed, and firmly set in all its petals. Able to live in the driest ground; beautiful in the coast sandhills of Cumberland, following the wild geranium and burnet rose: and distinguished thus by its power of life, in waste and dry places, from the violet, which needs kindly earth and shelter.

Quite one of the most lovely things that Heaven has made, and only degraded and distorted by any human interference; the swollen varieties of it produced by cultivation being all gross in outline and coarse in color by comparison.

It is badly drawn even in the 'Flora Danica,' No. 623, considered there apparently as a species escaped from gardens; the description of it being as follows:—

"*Viola tricolor hortensis repens, flore purpureo et cœruleo, C. B. P., 199.*" (I don't know what C. B. P. means.)
 "Passim, juxta villas."

"*Viola tricolor, caule triquetro diffuso, foliis oblongis incis, stipulis pinnatifidis,*" Linn. *Systema Naturæ*, 185.

33. "Near the country farms"—does the Danish botanist mean?—the more luxuriant weedy character probably acquired by it only in such neighborhood; and, I suppose, various confusion and degeneration possible to it beyond other plants when once it leaves its wild home. It is given by Sibthorpe from the Trojan Olympus, with an exquisitely delicate leaf; the flower described as "*triste et pallide violaceus,*" but colored in his plate full purple; and as he does not say whether he went up Olympus to gather it himself, or only saw it brought down by the assistant whose lovely drawings are yet at Oxford, I take leave to doubt his epithets.

That this should be the only Violet described in a 'Flora Græca' extending to ten folio volumes, is a fact in modern scientific history which I must leave the Professor of Botany and the Dean of Christ Church to explain.

34. The English varieties seem often to be yellow in the lower petals, (see Sowerby's plate, 1287 of the old edition); crossed, I imagine, with *Viola Aurea*, (but see under *Viola Rupestris*, No. 12); the names, also, varying between tricolor and bicolor—with no note anywhere of the three colors, or two colors, intended!

The old English names are many.—'Love in idleness,'—making *Lysander*, as *Titania*, much wandering in mind, and for a time mere 'Kits run the street' (or run the wood?)—"Call me to you" (*Gerarde*, ch. 299, *Sowerby*, No. 178), with 'Herb Trinity,' from its three colors, blue, purple, and gold, variously blended in different countries? 'Three faces under a hood' describes the English variety only. Said to be the ancestress of all the florists' pansies, but this I much doubt, the next following species being far nearer the forms most chiefly sought for.

35. III. *VIOLA ALPINA*. 'Freneli's Pansy'—my own name for it, from *Gotthelf's Freneli*, in 'Ulric the Farmer'; the entirely pure and noble type of the Bernese maid, wife, and mother.

The pansy of the Wengern Alp in speciality, and of the higher, but still rich, Alpine pastures. Full dark-purple; at least an inch across the expanded petals; I believe, the 'Mater Violarum' of *Gerarde*; and true black violet of *Virgil*, remaining in Italian '*Viola Mammola*' (*Gerarde*, ch. 298).

36. IV. *VIOLA AUREA*. Golden Violet. Biflora usually; but its brilliant yellow is a much more definite characteristic; and needs insisting on, because there is a '*Viola lutea*' which is not yellow at all; named so by the garden-florists. My *Viola aurea* is the Rock-violet of the Alps; one of the bravest, brightest, and dearest of little flowers. The following notes upon it, with its summer companions, a little

corrected from my diary of 1877, will enough characterize it.

"June 7th.—The cultivated meadows now grow only dandelions—in frightful quantity too; but, for wild ones, primula, bell gentian, golden pansy, and anemone,—*Primula farinosa* in mass, the pansy pointing and vivifying in a petulant sweet way, and the bell gentian here and there deepening all,—as if indeed the sound of a deep bell among lighter music.

"Counted in order, I find the effectively constant flowers are eight; * namely,

"I. The golden anemone, with richly cut large leaf; primrose color, and in masses like primrose, studded through them with bell gentian, and dark purple orchis.

"2. The dark purple orchis, with bell gentian in equal quantity, say six of each in square yard, broken by sparklings of the white orchis and the white grass flower; the richest piece of color I ever saw, touched with gold by the geum.

"3 and 4. These will be white orchis and the grass flower.†

"5. Geum—everywhere, in deep, but pure, gold, like pieces of Greek mosaic.

"6. Soldanella, in the lower meadows, delicate, but not here in masses.

"7. *Primula Alpina*, divine in the rock clefts, and on the ledges changing the gray to purple,—set in the dripping caves with

"8. *Viola* (*pertinax*—*pert*); I want a Latin word for various studies—failures all—to express its saucy little stuck-up way, and exquisitely trim peltate leaf. I never

* Nine; I see that I missed count of *P. farinosa*, the most abundant of all.

† "A feeble little quatrefoil—growing one on the stem, like a *Parnassia*, and looking like a *Parnassia* that had dropped a leaf. I think it drops one of its own four, mostly, and lives as three-fourths of itself, for most of its time. Stamens pale gold. Root-leaves, three or four, grass-like; growing among the moist moss chiefly."

saw such a lovely perspective line as the pure front leaf profile. Impossible also to get the least of the spirit of its lovely dark brown fiber markings. Intensely golden these dark fibers, just browning the petal a little between them."

And again in the defile of Gondo, I find "Viola (*saxatilis*?) name yet wanted;—in the most delicate studding of its round leaves, like a small fern more than violet, and bright sparkle of small flowers in the dark dripping hollows. Assuredly delights in shade and distilling moisture of rocks."

I found afterwards a much larger yellow pansy on the Yorkshire high limestones; with vigorously black crowfoot marking on the lateral petals.

37. V. VIOLA MONTANA. Mountain Violet.

Flora Danica, 1329. Linnæus, No. 13, "Caulibus erectis, foliis cordato-lanceolatis, floribus serioribus apetalis," *i. e.*, on erect stems, with leaves long heart-shape, and its later flowers without petals—not a word said of its earlier flowers which have got those unimportant appendages! In the plate of the Flora it is a very perfect transitional form between violet and pansy, with beautifully firm and well-curved leaves, but the color of blossom very pale. "In subalpinis Norvegiæ passim," all that we are told of it, means I suppose, in the lower Alpine pastures of Norway; in the Flora Suecica, p. 306, habitat in Lapponica, juxta Alpes.

38. VI. VIOLA MIRABILIS. Flora Danica, 1045. A small and exquisitely formed flower in the balanced cinquefoil intermediate between violet and pansy, but with large and superbly curved and pointed leaves. It is a mountain violet, but belonging rather to the mountain woods than meadows. "In sylvaticis in Toten, Norvegiæ."

Loudon, 3056, "Broad-leaved: Germany."

Linnæus, Flora Suecica, 789, says that the flowers of it which have perfect corolla and full scent often bear no seed, but that the later 'cauline' blossoms, without petals, are fertile. "Caulini vero apetali fertiles sunt, et seriores. Habitat passim Upsaliæ."

I find this, and a plurality of other species, indicated by

Linnæus as having triangular stalks, "caule triquetro," meaning, I suppose, the kind sketched in Figure 1 above.

39. VII. VIOLA ARVENSIS. Field Violet. Flora Danica, 1748. A coarse running weed; nearly like *Viola Cornuta*, but feebly lilac and yellow in color. In dry fields, and with corn.

Flora Suecica, 791; under titles of *Viola 'tricolor'* and '*bicolor arvensis*,' and *Herba Trinitatis*. Habitat ubique in *sterilibus arvis*: "Planta vix datur in qua evidentius perspicitur generationis opus, quam in hujus cavo apertoque stigmatē."

It is quite undeterminable, among present botanical instructors, how far this plant is only a rampant and over-indulged condition of the true pansy (*Viola Psyche*); but my own scholars are to remember that the true pansy is full purple and blue with golden center; and that the disorderly field varieties of it, if indeed not scientifically distinguishable, are entirely separate from the wild flower by their scattered form and faded or altered color. I follow the Flora Danica in giving them as a distinct species.

40. VIII. VIOLA PALUSTRIS. Marsh Violet. Flora Danica, 83. As there drawn, the most finished and delicate in form of all the violet tribe; warm white, streaked with red; and as pure in outline as an oxalis, both in flower and leaf: it is like a violet imitating oxalis and anagallis.

In the Flora Suecica, the petal-markings are said to be black; in '*Viola lactea*' a connected species, (Sowerby, 45,) purple. Sowerby's plate of it under the name '*palustris*' is pale purple veined with darker; and the spur is said to be '*honey-bearing*,' which is the first mention I find of honey in the violet. The habitat given, sandy and turfy heaths. It is said to grow plentifully near Croydon.

Probably, therefore, a violet belonging to the chalk, on which nearly all herbs that grow wild—from the grass to the bluebell—are singularly sweet and pure. I hope some of my botanical scholars will take up this question of the effect of different rocks on vegetation, not so much in bearing

different species of plants, as different characters of each species.*

41. IX. VIOLA SECLUSA. Monk's Violet. "Hirta," Flora Danica, 618, "In fruticetis raro." A true wood violet, full but dim in purple. Sowerby, 894, makes it paler. The leaves very pure and severe in the Danish one;—longer in the English. "Clothed on both sides with short, dense, hoary hairs."

Also belongs to chalk or limestone only (Sowerby).

X. VIOLA CANINA. Dog Violet. I have taken it for analysis in my two plates, because its grace of form is too much despised, and we owe much more of the beauty of spring to it, in English mountain ground, than to the Regina.

XI. VIOLA CORNUTA. Cow Violet. Enough described already.

XII. VIOLA RUPESTRIS. Crag Violet. On the high limestone moors of Yorkshire, perhaps only an English form of *Viola Aurea*, but so much larger, and so different in habit—growing on dry breezy downs, instead of in dripping caves—that I allow it, for the present, separate name and number.†

42. 'For the present,' I say, all this work in 'Proserpina' being merely tentative, much to be modified by future students, and therefore quite different from that of 'Deucalion,' which is authoritative as far as it reaches, and will stand out like a quartz dyke, as the sandy speculations of modern gossiping geologists get washed away.

But in the meantime, I must again solemnly warn my girl-readers against all study of floral genesis and digestion. How far flowers invite, or require, flies to interfere in their family affairs—which of them are carnivorous—and what forms of pestilence or infection are most favorable to some vegetable and animal growths,—let them leave the people to

* The great work of Lecoq, 'Geographie Botanique,' is of priceless value; but treats all on too vast a scale for our purposes.

† It is, I believe, Sowerby's *Viola Lutea*, 721 of the old edition, there painted with purple upper petals; but he says in the text, "Petals either all yellow, or the two uppermost are of a blue purple, the rest yellow, with a blue tinge: very often the whole are purple"

settle who like, as Toinette says of the Doctor in the 'Malade Imaginaire'—"y mettre le nez." I observe a paper in the last 'Contemporary Review,' announcing for a discovery patent to all mankind that the colors of flowers were made "to attract insects"! * They will next hear that the rose was made for the canker, and the body of man for the worm.

43. What the colors of flowers, or of birds, or of precious stones, or of the sea and air, and the blue mountains, and the evening and the morning, and the clouds of Heaven, were given for—they only know who can see them and can feel, and who pray that the sight and the love of them may be prolonged, where cheeks will not fade, nor sunsets die.

44. And now, to close, let me give you some fuller account of the reasons for the naming of the order to which the violet belongs, 'Cytherides.'

You see that the Uranides, are, as far as I could so gather them, of the pure blue of the sky; but the Cytherides of altered blue;—the first, Viola, typically purple; the second, Veronica, pale blue with a peculiar light; the third, Giulietta, deep blue, passing strangely into a subdued green before and after the full life of the flower.

All these three flowers have great strangenesses in them, and weaknesses; the Veronica most wonderful in its connection with the poisonous tribe of the foxgloves; the Giulietta, alone among flowers in the action of the shielding leaves; and the Viola, grotesque and inexplicable in its hidden structure, but the most sacred of all flowers to earthly and daily Love, both in its scent and glow.

Now, therefore, let us look completely for the meaning of the two leading lines,—

"Sweeter than the lids of Juno's eyes,
Or Cytherea's breath."

45. Since, in my present writings, I hope to bring into one focus the pieces of study fragmentarily given during

* Did the wretch never hear bees in a lime tree then, or ever see one on a star gentian?

past life, I may refer my readers to the first chapter of the 'Queen of the Air' for the explanation of the way in which all great myths are founded, partly on physical, partly on moral fact,—so that it is not possible for persons who neither know the aspect of nature, nor the constitution of the human soul, to understand a word of them. Naming the Greek Gods, therefore, you have first to think of the physical power they represent. When Horace calls Vulcan 'Avidus,' he thinks of him as the power of Fire; when he speaks of Jupiter's red right hand, he thinks of him as the power of rain with lightning; and when Homer speaks of Juno's dark eyes, you have to remember that she is the softer form of the rain power, and to think of the fringes of the rain-cloud across the light of the horizon. Gradually the idea becomes personal and human in the "Dove's eyes within thy locks,"* and "Dove's eyes by the river of waters" of the Song of Solomon.

46. "Or Cytherea's breath,"—the two thoughts of softest glance, and softest kiss, being thus together associated with the flower: but note especially that the Island of Cytherea was dedicated to Venus because it was the chief, if not the only Greek island, in which the purple fishery of Tyre was established; and in our own minds should be marked not only as the most southern fragment of true Greece, but the virtual continuation of the chain of mountains which separate the Spartan from the Argive territories, and are the natural home of the brightest Spartan and Argive beauty which is symbolized in Helen.

47. And, lastly, in accepting for the order this name of Cytherides, you are to remember the names of Viola and Julietta, its two limiting families, as those of Shakspeare's two most loving maids—the two who love simply, and to the death: as distinguished from the greater natures in whom earthly Love has its due part, and no more; and farther still

* Septuagint, "the eyes of doves out of thy silence." Vulgate, "the eyes of doves, besides that which is hidden in them." Meaning—the *dian* look of love, beyond all others in sweetness.

from the greatest, in whom the earthly love is quiescent, or subdued, beneath the thoughts of duty and immortality.

It may be well quickly to mark for you the levels of loving temper in Shakspeare's maids and wives, from the greatest to the least.

48. 1. Isabel. All earthly love, and the possibilities of it, held in absolute subjection to the laws of God, and the judgments of His will. She is Shakspeare's only 'Saint.' Queen Catherine, whom you might next think of, is only an ordinary woman of trained religious temper:—her maid of honor gives Wolsey a more Christian epitaph.

2. Cordelia. The earthly love consisting in diffused compassion of the universal spirit; not in any conquering, personally fixed, feeling.

“ Mine enemy's dog,

Though he had bit me, should have stood that night
Against my fire.”

These lines are spoken in her hour of openest direct expression; and are *all* Cordelia.

Shakspeare clearly does not mean her to have been supremely beautiful in person; it is only her true lover who calls her 'fair' and 'fairest'—and even that, I believe, partly in courtesy, after having the instant before offered her to his subordinate duke; and it is only *his* scorn of her which makes France fully care for her.

“ Gods, Gods, 'tis strange that from their cold neglect
My love should kindle to inflamed respect!”

Had she been entirely beautiful, he would have honored her as a lover should, even before he saw her despised; nor would she ever have been so despised—or by her father, misunderstood. Shakspeare himself does not pretend to know where her girl-heart was,—but I should like to hear how a great actress would say the “Peace be with Burgundy!”

3. Portia. The maidenly passion now becoming great, and chiefly divine in its humility, is still held absolutely

subordinate duty; no thought of disobedience to her dead father's intention is entertained for an instant, though the temptation is marked as passing, for that instant, before her crystal strength. Instantly, in her own peace, she thinks chiefly of her lover's;—she is a perfect Christian wife in a moment, coming to her husband with the gift of perfect Peace,—

“ Never shall you lie by Portia's side
With an unquiet soul.”

She is highest in intellect of all Shakspeare's women, and this is the root of her modesty; her 'unlettered girl' is like Newton's simile of the child on the sea-shore. Her perfect wit and stern judgment are never disturbed for an instant by her happiness: and the final key to her character is given in her silent and slow return from Venice, where she stops at every wayside shrine to pray.

4. Hermione. Fortitude and Justice personified, with unwearied affection. She is Penelope, tried by her husband's fault as well as error.

5. Virgilia. Perfect type of wife and mother, but without definiteness of character, nor quite strength of intellect enough entirely to hold her husband's heart. Else, she had saved him: he would have left Rome in his wrath—but not her. Therefore, it is his mother only who bends him: but she cannot save.

6. Imogen. The ideal of grace and gentleness; but weak; enduring too mildly, and forgiving too easily. But the piece is rather a pantomime than play, and it is impossible to judge of the feelings of St. Columba, when she must leave the stage in half a minute after mistaking the headless clown for headless Arlecchino.

7. Desdemona, Ophelia, Rosalind. They are under different conditions from all the rest, in having entirely heroic and faultless persons to love. I can't class them, therefore,—fate is too strong, and leaves them no free will.

8. Perdita, Miranda. Rather mythic visions of maiden beauty than mere girls.

9. Viola and Juliet. Love the ruling power in the entire character: wholly virginal and pure, but quite earthly, and recognizing no other life than his own. Viola is, however, far the noblest. Juliet will die unless Romeo loves *her*: "If he be wed, the grave is like to be my wedding bed;" but Viola is ready to die for the happiness of the man who does *not* love her; faithfully doing his messages to her rival, whom she examines strictly for his sake. It is not in envy that she says, "Excellently done,—if God did all." The key to her character is given in the least selfish of all lover's songs, the one to which the Duke bids her listen:

"Mark it, Cesario,—it is old and plain,
The spinsters and the knitters in the sun,
And the free maids, that *weave their thread with bones*,
Do use to chaunt it."

(They, the unconscious Fates, weaving the fair vanity of life with death); and the burden of it is—

"My part of Death, no one so true
Did share it."

Therefore she says, in the great first scene, "Was not *this* love indeed?" and in the less heeded closing one, her heart then happy with the knitters in the *sun*,

"And all those sayings will I over-swear,
And all those swearings keep as true in soul
As doth that orb'd continent the Fire
That severs day from night."

Or, at least, did once sever day from night,—and perhaps does still in Illyria. Old England must seek new images for her loves from gas and electric sparks,—not to say furnace fire.

I am obliged, by press of other work, to set down these notes in cruel shortness: and many a reader may be disposed to question utterly the standard by which the measurement is

made. It will not be found, on reference to my other books, that they encourage young ladies to go into convents; or undervalue the dignity of wives and mothers. But, as surely as the sun *does* sever day from night, it will be found always that the noblest and loveliest women are dutiful and religious by continual nature; and their passions are trained to obey them; like their dogs. Homer, indeed, loves Helen with all his heart, and restores her, after all her naughtiness, to the queenship of her household; but he never thinks of her as Penelope's equal, or Iphigenia's. Practically, in daily life, one often sees married women as good as saints; but rarely, I think, unless they have a good deal to bear from their husbands. Sometimes also, no doubt, the husbands have some trouble in managing St. Cecilia or St. Elizabeth; of which questions I shall be obliged to speak more seriously in another place: content, at present, if English maids know better, by Proserpina's help, what Shakspeare meant by the dim, and Milton by the glowing, violet.

CHAPTER II.

PINGUICULA.

(Written in early June, 1881.)

1. ON the rocks of my little stream, where it runs, or leaps, through the moorland, the common *Pinguicula* is now in its perfectest beauty; and it is one of the offshoots of the violet tribe which I have to place in the minor collateral groups of *Viola* very soon, and must not put off looking at it till next year.

There are three varieties given in Sowerby: 1. *Vulgaris*, 2. Greater-flowered, and 3. *Lusitanica*, white, for the most part, pink, or 'carnea,' sometimes: but the proper color of the family is violet, and the perfect form of the plant is the 'vulgar' one. The larger-flowered variety is feebler in color, and ruder in form: the white Spanish one, however, is very lovely, as far as I can judge from Sowerby's (*old* Sowerby's) pretty drawing.

The 'frequent' one (I shall usually thus translate 'vulgaris'), is not by any means so 'frequent' as the Queen violet, being a true wild-country, and mostly Alpine, plant; and there is also a real '*Pinguicula Alpina*,' which we have not in England, who might be the Regina, if the group were large enough to be reigned over: but it is better not to affect Royalty among these confused, intermediate, or dependent families.

2. In all the varieties of *Pinguicula*, each blossom has one stalk only, growing from the *ground*; and you may pull all the leaves away from the base of it, and keep the flower only, with its bunch of short fibrous roots, half an inch long; looking as if bitten at the ends. Two flowers, characteristically,—three and four very often,—spring from the same root, in places where it grows luxuriantly; and luxuriant growth means that clusters of some twenty or thirty stars

may be seen on the surface of a square yard of boggy ground, quite to its mind; but its real glory is in harder life, in the crannies of well-wetted rock.

3. What I have called 'stars' are irregular clusters of approximately, or tentatively, five aloeine ground leaves, of very pale green,—they may be six or seven, or more, but always run into a rudely pentagonal arrangement, essentially first trine, with two succeeding above. Taken as a whole, the *plant* is really a main link between violets and Droseras; but the *flower* has much more violet than Drosera in the make of it,—spurred, and *five-petaled*,* and held down by the top of its bending stalk as a violet is; only its upper two petals are not reverted—the calyx, of a dark sappy green, holding them down, with its three front sepals set exactly

* When I have the chance, and the time, to submit the proofs of 'Proserpina' to friends who know more of Botany than I, or have kindness enough to ascertain debatable things for me, I mean in future to do so,—using the letter A to signify Amicus, generally; with acknowledgment by name, when it is permitted, of special help or correction. Note first of this kind: I find here on this word, 'five-petaled,' as applied to Pinguicula, "Qy. two-lipped? it is monopetalous, and monosepalous, the calyx and corolla being each all in one piece."

Yes; and I am glad to have the observation inserted. But my term, 'five-petaled,' must stand. For the question with me is always first, not how the petals are connected, but how many they are. Also I have accepted the term *petal*—but never the word *lip*—as applied to flowers. The generic term '*Labiatae*' is canceled in 'Proserpina,' '*Vestales*' being substituted; and these flowers, when I come to examine them, are to be described, not as divided into two lips, but into hood, apron, and side-pockets. Farther, the depth to which either calyx or corolla is divided, and the firmness with which the petals are attached to the torus, may, indeed, often be an important part of the plant's description, but ought not to be elements in its definition. Three-petaled and three-sepaled, four-petaled and four-sepaled, five-petaled and five-sepaled, etc., etc., are essential—with me, primal—elements of definition; next, whether resolute or stellar in their connection; next, whether round or pointed, etc. Fancy, for instance, the fatality to a rose of pointing its petals, and to a lily, of rounding them! But how deep cut, or how hard holding, is quite a minor question.

Farther, that all plants *are* petaled and sepaled, and never mere cups in saucers, is a great fact, not to be dwelt on in a note.

like a strong trident, its two backward sepals clasping the spur. There are often six sepals, four to the front, but the normal number is five. Tearing away the calyx, I find the flower to have been held by it as a lion might hold his prey by the loins if he missed its throat; the blue petals being really campanulate, and the flower best described as a dark bluebell, seized and crushed almost flat by its own calyx in a rage. Pulling away now also the upper petals, I find that what are in the violet the lateral and well-ordered fringes, are here thrown mainly on the lower (largest) petal near its origin, and opposite the point of the seizure by the calyx, spreading from this center over the surface of the lower petals, partly like an irregular shower of fine Venetian glass broken, partly like the wild-flung Medusa-like embroidery of the white Lucia.*

4. The calyx is of a dark *soppy* green, I said; like that of sugary preserved citron; the root leaves are of green just as soppy, but pale and yellowish, as if they were half decayed; the edges curled up and, as it were, water-shriveled, as one's fingers shrivel if kept too long in water. And the whole plant looks as if it had been a violet unjustly banished to a bog, and obliged to live there—not for its own sins, but for some Emperor Pansy's, far away in the garden,—in a partly boggish, partly hoggish manner, drenched and desolate; and with something of demoniac temper got into its calyx, so that it quarrels with, and bites the corolla;—something of gluttonous and greasy habit got into its leaves; a discomfortable sensuality, even in its desolation. Perhaps a penguin-ish life would be truer of it than a piggish, the *nest* of it being indeed on the rock, or morassy rock-investiture, like a sea-bird's on her rock ledge.

5. I have hunted through seven treatises on Botany, namely, Loudon's Encyclopedia, Balfour, Grindon, Oliver, Baxter of Oxford, Lindley ('Ladies' Botany'), and Figuiet,

* Our 'Lucia Nivea,' 'Blanche Lucy;' in present botany, Bog bean! having no connection whatever with any manner of bean, but only a slight resemblance to bean-leaves in its own lower ones. Compare Ch. IV. § 11.

without being able to find the meaning of 'Lentibulariaceæ,' to which tribe the Pinguicula is said by them all (except Figuiér) to belong. It may perhaps be in Sowerby: * but these above-named treatises are precisely of the kind with which the ordinary scholar must be content: and in all of them he has to learn this long, worse than useless, word, under which he is betrayed into classing together two orders naturally quite distinct, the Butterworts and the Bladderworts.

Whatever the name may mean—it is bad Latin. There is such a word as Lenticularis—there is no Lentibularis; and it must positively trouble us no longer. †

* It is not. (Resolute negative from A., unsparing of time for me; and what a state of things it all signifies!)

† With the following three notes, 'A' must become a definitely and greatly interpreted letter. I am indebted for the first, conclusive in itself, but variously supported and confirmed by the two following, to R. J. Mann, Esq., M.D., long ago a pupil of Dr. Lindley's, and now on the council of Whitelands College, Chelsea:—for the second, to Mr. Thomas Moore, F.L.S., the kind Keeper of the Botanic Garden at Chelsea; for the third, which will be farther on useful to us, to Miss Kemm, the botanical lecturer at Whitelands.

(1) There is no explanation of Lentibulariaceæ in Lindley's 'Vegetable Kingdom.' He was not great in that line. The term is, however, taken from *Lenticula*, the lentil, in allusion to the lentil-shaped air-bladders of the typical genus *Utricularia*.

The change of the c into b may possibly have been made only from some euphonic fancy of the contriver of the name, who, I think, was Rich.

But I somewhat incline myself to think that the *tibia*, a pipe or flute, may have had something to do with it. The *tibia* may possibly have been diminished into a little pipe by a stretch of license, and have become *tibula*: [but *tibulus* is a kind of pine tree in Pliny]; when *Len tibula* would be the lens or lentil-shaped pipe or bladder. I give you this only for what it is worth. The *lenticula*, as a derivation, is reliable and has authority.

Lenticula, a lentil, a freckly eruption; *lenticularis*, lentil-shaped; so the nat. ord. ought to be (if this be right) *lenticulariaceæ*.

(2) BOTANIC GARDENS, CHELSEA, Feb. 14, 1882.

Lentibularia is an old generic name of Tournefort's, which has been superseded by *utricularia*; but, oddly enough, has been retained in the name of the order *lentibularææ*; but it probably comes from *lenticula*, which signifies the little root bladders, somewhat resembling lentils.

The Butterworts are a perfectly distinct group—whether small or large, always recognizable at a glance. Their proper Latin name will be *Pinguicula*, (plural *Pinguiculæ*,)—their English, Bog-Violet, or, more familiarly, Butterwort; and their French, as at present, *Grassette*.

The families to be remembered will be only five, namely,

1. *Pinguicula Major*, the largest of the group. As bog plants, Ireland may rightly claim the noblest of them, which certainly grow there luxuriantly, and not (I believe) with us. Their color is, however, more broken and less characteristic than that of the following species.

2. *Pinguicula Violacea*: Violet-colored Butterwort, (instead of 'vulgaris,') the common English and Swiss kind above noticed.

3. *Pinguicula Alpina*: Alpine Butterwort, white and much smaller than either of the first two families; the spur especially small, according to D. 453. Much rarer, as well as smaller, than the other varieties in Southern Europe. "In Britain, known only upon the moors of Rosehaugh, Rosshire, where the progress of cultivation seems likely soon to efface it." (Grindon.)

4. *Pinguicula Pallida*: Pale Butterwort. From Sowerby's drawing, (135, vol. iii.,) it would appear to be the most delicate and lovely of all the group. The leaves, "like those of other species, but rather more delicate and pellucid, reticulated with red veins, and much involute in the margin. Tube of the corolla, yellow, streaked with red, (the streaks like

(3) 'Manual of Scientific Terms,' Stormonth, p. 234.

Lentibulariaceæ, neuter, plural.

(*Lenticula*, the shape of a lentil; from *lens*, a lentil.) The Butterwort family, an order of plants so named from the lenticular shape of the air-bladders on the branches of *utricularia*, one of the genera. (But observe that the *Butterworts* have nothing of the sort, any of them.—R.)

Loudon.—"Floaters.

Lindley.—"Sometimes with whorled vesicles."

In Nuttall's Standard (?) Pronouncing Dictionary, it is given,—

Lenticularææ, a nat. ord. of marsh plants, which thrive in water or marshes.

those of a pansy); the petals, pale violet. It much resembles *Villosa*, (our *Minima*, No. 5,) in many particulars, the stem being hairy, and in the lower part the hairs tipped with a viscid fluid, like a sundew. But the *Villosa* has a slender sharp spur; and in this the spur is blunt and thick at the end." (Since the hairy stem is not peculiar to *Villosa*, I take for her, instead, the epithet *Minima*, which is really definitive.)

The pale one is commonly called '*Lusitanica*,' but I find no direct notice of its Portuguese habitation. Sowerby's plant came from Blandford, Dorsetshire; and Grindon says it is frequent in Ireland, abundant in Arran, and extends on the western side of the British island from Cornwall to Cape Wrath. My epithet, *Pallida*, is secure, and simple, wherever the plant is found.

5. *Pinguicula Minima*: Least Butterwort; in D. 1021 called *Villosa*, the *scape* of it being hairy. I have not yet got rid of this absurd word '*scape*,' meaning, in botanist's Latin, the flower-stalk of a flower growing out of a cluster of leaves on the ground. It is a bad corruption of '*scepter*,' and especially false and absurd, because a true scepter is necessarily branched.* In '*Proserpina*,' when it is spoken of distinctively, it is called '*virgula*' (see vol. i., pp. 103, 106). The hairs on the *virgula* are in this instance so minute, that even with a lens I cannot see them in the Danish plate: of which Fig. 3 is a rough translation into wood-cut, to show the grace and mien of the little thing. The trine leaf cluster is characteristic, and the folding up of the leaf edges. The flower, in the Danish plate, full purple. Abundant in east of *Finmark* (Finland?), but *always growing in marsh moss*, (*Sphagnum palustre*).

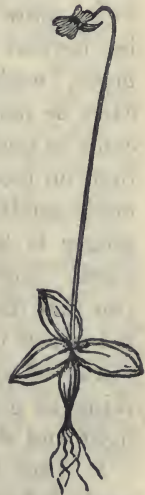


FIG. III.

* More accurately, shows the pruned roots of branches,—ἐπευθῆ πρότα τομῆν ἐν ὄρεσσι λέλοιπεν. The *pruning* is the mythic expression of the subduing of passion by rectorial law.

6. I call it 'Minima' only, as the least of the five here named; without putting forward any claim for it to be the smallest pinguicula that ever was or will be. In such sense only, the epithets minima or maxima are to be understood when used in 'Proserpina': and so also, every statement and every principle is only to be understood as true or tenable, respecting the plants which the writer has seen, and which he is sure that the reader can easily see: liable to modification to any extent by wider experience; but better first learned securely within a narrow fence, and afterwards trained or fructified, along more complex trellises.

7. And indeed my readers—at least, my newly found readers—must note always that the only power which I claim for any of my books, is that of being right and true as far as they reach. None of them pretend to be Kosmoses;—none to be systems of Positivism or Negativism, on which the earth is in future to swing instead of on its old worn-out poles;—none of them to be works of genius;—none of them to be, more than all true work *must* be, pious;—and none to be, beyond the power of common people's eyes,* ears, and noses, 'æsthetic.' They tell you that the world is *so* big, and can't be made bigger—that you yourself are also *so* big, and can't be made bigger, however you puff or bloat yourself; but that, on modern mental nourishment, you may very easily be made smaller. They tell you that two and two are four, that ginger is hot in the mouth, that roses are red, and smuts black. Not themselves assuming to be pious, they yet assure you that there is such a thing as piety in the world, and that it is wiser than impiety; and not themselves pretending to be works of genius, they yet assure you that there is such a thing as genius in the world, and that it is meant for the light and delight of the world.

8. Into these repetitions of remarks on my work, often made before, I have been led by an unlucky author who has

* The bitter sorrow with which I first recognized the extreme rarity of finely-developed organic sight is expressed enough in the lecture on the *Mystery of Life*, added in the large edition of 'Sesame and Lilies.'

just sent me his book, advising me that it is "neither critical nor sentimental" (he had better have said in plain English "without either judgment or feeling"), and in which nearly the first sentence I read is—"Solomon with all his acuteness was not wise enough to . . . etc., etc., etc." ('give the Jews the British constitution,' I believe the man means.) He is not a whit more conceited than Mr. Herbert Spencer, or Mr. Goldwin Smith, or Professor Tyndall,—or any lively London apprentice out on a Sunday; but this general superciliousness with respect to Solomon, his Proverbs, and his politics, characteristic of the modern Cockney, Yankee, and Anglicized Scot, is a difficult thing to deal with for us of the old school, who were well whipped when we were young; and have been in the habit of occasionally ascertaining our own levels as we grew older, and of recognizing that, here and there, somebody stood higher, and struck harder.

9. A difficult thing to deal with, I feel more and more, hourly, even to the point of almost ceasing to write; not only every feeling I have, but, of late, even *every word I use*, being alike inconceivable to the insolence, and unintelligible amidst the slang, of the modern London writers. Only in the last magazine I took up, I found an article by Mr. Goldwin Smith on the Jews (of which the gist—as far as it had any—was that we had better give up reading the Bible), and in the text of which I found the word 'tribal' repeated about ten times in every page. Now, if 'tribe' makes 'tribal,' tube must make tubal, cube, cubal, and gibe, gibal; and I suppose we shall next hear of tubal music, cubal minerals, and gibal conversation! And observe how all this bad English leads instantly to blunder in thought, prolonged indefinitely. The Jewish Tribes are not separate races, but the descendants of brothers. The Roman Tribes, political divisions; essentially Trine: and the whole force of the word Tribune vanishes, as soon as the ear is wrung into acceptance of his lazy innovation by the modern writer. Similarly, in the last elements of mineralogy I took up, the first order of crystals was called 'tesseral'; the writer being much too fine

to call them 'four-al,' and too much bent on distinguishing himself from all previous writers to call them cubic.

10. What simple schoolchildren, and sensible schoolmasters, are to do in this atmosphere of Egyptian marsh, which rains fools upon them like frogs, I can no more with any hope or patience conceive;—but this finally I repeat, concerning my own books, that they are written in honest English, of good Johnsonian lineage, touched here and there with color of a little finer or Elizabethan quality: and that the things they tell you are comprehensible by any moderately industrious and intelligent person; and *accurate*, to a degree which the accepted methods of modern science cannot, in my own particular fields, approach.

11. Of which accuracy, the reader may observe for immediate instance, my extrication for him, from among the uvularias, of these five species of the Butterwort; which, being all that need be distinctly named and remembered, *do* need to be first carefully distinguished, and then remembered in their companionship. So alike are they, that Gerarde makes no distinction among them; but masses them under the general type of the frequent English one, described as the second kind of his promiscuous group of 'Sanicle,' "which Clusius calleth Pinguicula; not before his time remembered, hath sundry small thick leaves, fat and full of juice, being broad towards the root and sharp towards the point, of a faint green color, and bitter in taste; out of the midst whereof sprouteth or shooteth up a naked slender stalke nine inches long, every stalke bearing one flower and no more, sometimes white, and sometimes of a bluish purple color, fashioned like unto the common Monkshoods" (he means Larkspurs) "called *Consolida Regalis*, having the like spur or Lark's heel attached thereto." Then after describing a third kind of Sanicle—(*Cortusa Mathioli*, a large-leaved Alpine *Primula*,) he goes on: "These plants are strangers in England; their natural country is the alpeish mountains of Helvetia. They grow in my garden, where they flourish exceedingly, except Butterwort, which groweth in our Eng-

lish *squally* wet grounds,"—('Squally,' I believe, here, from *squalidus*, though Johnson does not give this sense; but one of his quotations from Ben Jonson touches it nearly: "Take heed that their new flowers and sweetness do not as much corrupt as the others' dryness and squalor,"—and note farther that the word 'squall,' in the sense of gust, is not pure English, but the Arabic 'Chual' with an s prefixed:—the English word, a form of 'squeal,' meaning a child's cry, from Gothic 'Squæla' and Icelandic 'squilla,' would scarcely have been made an adjective by Gerarde),—"and will not yield to any culturing or transplanting: it groweth especially in a field called Cragge Close, and at Crosbie Ravenswithe, in Westmerland; (West-*mere*-land you observe, not *mor*) upon Ingleborough Fells, twelve miles from Lancaster, and by Hårwoode in the same county near to Blackburn: ten miles from Preston, in Anderness, upon the bogs and marish ground, and in the boggie meadows about Bishop's-Hatfield, and also in the fens in the way to Wittles Meare" (Roger Wildrake's Squattlesea Mere?) "from Fendon, in Huntingdonshire." Where doubtless Cromwell plowed it up, in his young days, pitilessly; and in nowise pausing, as Burns beside his fallen daisy.

12. Finally, however, I believe we may accept its English name of 'Butterwort' as true Yorkshire, the more enigmatic form of 'Pigwilly' preserving the tradition of the flowers once abounding, with softened Latin name, in Pigwilly bottom, close to Force bridge, by Kendal. Gerarde draws the English variety as "*Pinguicula sive Sanicula Eboracensis*, —Butterwoort, or Yorkshire Sanicle;" and he adds: "The husbandmen's wives of Yorkshire do use to anoint the dugs of their kine with the fat and oilous juice of the herb Butterwort when they be bitten of any venomous worm, or chapped, rifted and hurt by any other means."

13. In Lapland it is put to much more certain use; "it is called Tåtgrass, and the leaves are used by the inhabitants to make their 'tåt miolk,' a preparation of milk in common use among them. Some fresh leaves are laid upon a filter,

and milk, yet warm from the reindeer, is poured over them. After passing quickly through the filter, this is allowed to rest for one or two days until it becomes ascendent,* when it is found not to have separated from the whey, and yet to have attained much greater tenacity and consistence than it would have done otherwise. The Laplanders and Swedes are said to be extremely fond of this milk, which when once made, it is not necessary to renew the use of the leaves, for we are told that a spoonful of it will turn another quantity of warm milk, and make it like the first." † (Baxter, vol. iii., No. 209.)

14. In the same page, I find quoted Dr. Johnson's observation that "when specimens of this plant were somewhat rudely pulled up, the flower-stalk, previously erect, almost immediately began to bend itself backwards, and formed a more or less perfect segment of a circle; and so also, if a specimen is placed in the Botanic box, you will in a short time find that the leaves have curled themselves backwards, and now conceal the root by their revolution."

I have no doubt that this elastic and wiry action is partly connected with the plant's more or less predatory or fly-trap character, in which these curiously degraded plants are associated with *Drosera*. I separate them therefore entirely from the Bladderworts, and hold them to be a link between the Violets and the *Droseraceæ*, placing them, however, with the *Cytherides*, as a sub-family, for their beautiful color, and because they are indeed a grace and delight in ground which, but for them, would be painfully and rudely desolate.

* Lat. *acesco*, to turn sour.

† Withering quotes this as from Linnæus, and adds on authority of a Mr. Hawkes, "This did not succeed when tried with cows' milk." He also gives as another name, Yorkshire Sanicle; and says it is called *earning grass* in Scotland. Linnæus says the juice will curdle reindeer's milk. The name for rennet is *earning*, in Lincolnshire. Withering also gives this note: "*Pinguis*, fat, from its effect in CONGEALING milk."—(A.) Withering of course wrong: the name comes, be the reader finally assured, from the fatness of the green leaf, quite peculiar among wild plants, and fastened down for us in the French word 'Grassette.' I have found the flowers also difficult to dry, in the benighted early times when I used to think a dried plant useful! See closing paragraphs of the 4th chapter.—R.

CHAPTER III.

VERONICA.

1. "THE Corolla of the Foxglove," says Dr. Lindley, beginning his account of the tribe at page 195 of the first volume of his 'Ladies' Botany,' "is a large inflated body (!), with its throat spotted with rich purple, and its border divided obliquely into five very short lobes, of which the two upper are the smaller; its four stamens are of unequal length, and its style is divided into two lobes at the upper end. A number of long hairs cover the ovary, which contains two cells and a great quantity of ovules.

"This" (*sc.* information) "will show you what is the usual character of the Foxglove tribe; and you will find that all the other genera referred to it in books agree with it essentially, although they differ in subordinate points. It is chiefly (A) in the form of the corolla, (B) in the number of the stamens, (C) in the consistence of the rind of the fruit, (D) in its form, (E) in the number of the seeds it contains, and (F) in the manner in which the sepals are combined, that these differences consist."

2. The enumerative letters are of my insertion—otherwise the above sentence is, word for word, Dr. Lindley's,—and it seems to me an interesting and memorable one in the history of modern Botanical science. For it appears from the tenor of it, that in a scientific botanist's mind, six particulars, at least, in the character of a plant, are merely 'subordinate points,'—namely,

1. (F) The combination of its calyx,
2. (A) The shape of its corolla,
3. (B) The number of its stamens,
4. (D) The form of its fruit,
5. (C) The consistence of its shell,—and
6. (E) The number of seeds in it.

Abstracting, then, from the primary description, all the six inessential points, I find the three essential ones left are, that the style is divided into two lobes at the upper end, that a number of glandular hairs cover the ovary, and that this latter contains two cells.

3. None of which particularly concern any reasonable mortal, looking at a Foxglove, in the smallest degree. Whether hairs which he can't see are glandular or bristly,—whether the green knobs, which are left when the purple bells are gone, are divided into two lobes or two hundred,—and whether the style is split, like a snake's tongue, into two lobes, or like a rogue's, into any number—are merely matters of vulgar curiosity, which he needs a microscope to discover, and will lose a day of his life in discovering. But if any pretty young Proserpina, escaped from the Plutonic durance of London, and carried by the tubular process, which replaces Charon's boat, over the Lune at Lancaster, cares to come and walk on the Coniston hills in a summer morning, when the eyebright is out on the high fields, she may gather, with a little help from Brantwood garden, a bouquet of the entire Foxglove tribe in flower, as it is at present defined, and may see what they are like, altogether.

4. She shall gather: first, the Euphrasy, which makes the turf on the brow of the hill glitter as if with new-fallen manna; then, from one of the blue clusters on the top of the garden wall, the common bright blue Speedwell; and, from the garden bed beneath, a dark blue spire of Veronica spicata; then, at the nearest opening into the wood, a little foxglove in its first delight of shaking out its bells; then—what next does the Doctor say?—a snapdragon? We must go back into the garden for that—here is a goodly crimson one, but what the little speedwell will think of him for a relative *I* can't think!—a mullein?—that we must do without for the moment; a monkey flower?—that we will do without, altogether; a lady's slipper?—say rather a goblin's with the gout! but, such as the flower-cobbler has made it, here is one of the kind that people praise, out of the greenhouse,—and

yet a figwort we must have, too; which I see on referring to Loudon, may be balm-leaved, hemp-leaved, tansy-leaved, nettle-leaved, wing-leaved, heart-leaved, ear-leaved, spear-leaved, or lyre-leaved. I think I can find a balm-leaved one, though I don't know what to make of it when I've got it, but it's called a 'Scorodonia' in Sowerby, and something very ugly besides;—I'll put a bit of *Teucrium Scorodonia* in, to finish: and now—how will my young Proserpina arrange her bouquet, and rank the family relations to their contentment?

5. She has only one kind of flowers in her hand, as botanical classification stands at present; and whether the system be more rational, or in any human sense more scientific, which puts calceolaria and speedwell together,—and foxglove and euphrasy; and runs them on one side into the mints, and on the other into the nightshades;—naming them, meanwhile, some from diseases, some from vermin, some from block-heads, and the rest anyhow:—or the method I am pleading for, which teaches us, watchful of their seasonable return and chosen abiding places, to associate in our memory the flowers which truly resemble, or fondly companion, or, in time kept by the signs of Heaven, succeed, each other; and to name them in some historical connection with the loveliest fancies and most helpful faiths of the ancestral world—Proserpina be judge; with every maid that sets flowers on brow or breast—from Thule to Sicily.

6. We will unbind our bouquet, then, and putting all the rest of its flowers aside, examine the range and nature of the little blue cluster only.

And first—we have to note of it, that the plan of the blossom in all the kinds is the same; an irregular quatrefoil: and irregular quatrefoils are of extreme rarity in flower form. I don't myself know *one*, except the Veronica. The cruciform vegetables—the heaths, the olives, the lilacs, the little Tormentillas, and the poppies, are all perfectly symmetrical. Two of the petals, indeed, as a rule, are different from the other two, except in the heaths; and thus a distinctly crosslet form obtained, but always an equally balanced one: while

in the Veronica, as in the Violet, the blossom always refers itself to a supposed place on the stalk with respect to the ground; and the upper petal is always the largest.

The supposed place is often very supposititious indeed—for clusters of the common veronicas, if luxuriant, throw their blossoms about anywhere. But the idea of an upper and lower petal is always kept in the flower's little mind.

7. In the second place, it is a quite open and flat quatrefoil—so separating itself from the belled quadrature of the heath, and the tubed and primrose-like quadrature of the cruciferæ; and, both as a quatrefoil, and as an open one, it is separated from the foxgloves and snapdragons, which are neither quatrefoils, nor open; but are cinqfoils shut up!

8. In the third place, open and flat though the flower be, it is monopetalous; all the four arms of the cross strictly becoming one in the center; so that, though the blue foils *look* no less sharply separate than those of a buttercup or a cistus; and are so delicate that one expects them to fall from their stalk if we breathe too near,—do but lay hold of one,—and, at the touch, the entire blossom is lifted from its stalk, and may be laid, in perfect shape, on our paper before us, as easily as if it had been a nicely made-up blue bonnet, lifted off its stand by the milliner.

I pause here, to consider a little; because I find myself mixing up two characteristics which have nothing necessary in their relation;—namely, the unity of the blossom, and its coming easily off the stalk. The separate petals of the cistus and cherry fall as easily as the foxglove drops its bells;—on the other hand, there are monopetalous things that don't drop, but hold on like the convoluta,* and make the rest of the tree sad for their dying. I do not see my way to any systematic noting of decadent or persistent corolla; but, in passing, we

* I find much more difficulty, myself, being old, in using my altered names for species than my young scholars will. In watching the bells of the purple bindweed fade at evening, let them learn the fourth verse of the prayer of Hezekiah, as it is in the Vulgate—"Generatio mea ablata est, et convoluta est a me, sicut tabernaculum pastoris,"—and they will not forget the name of the fast-fading—ever renewed—"belle d'un jour."

may thank the veronica for never allowing us to see how it fades,* and being always cheerful and lovely, while it is with us.

9. And for a farther specialty, I think we should take note of the purity and simplicity of its *floral* blue, not sprinkling itself with unwholesome sugar like a larkspur, nor varying into coppery or turquoise-like hue as the forget-me-not; but keeping itself as modest as a blue print, pale, in the most frequent kinds; but pure exceedingly; and rejoicing in fellowship with the gray of its native rocks. The palest of all I think it will be well to remember as *Veronica Clara*, the "Poor Clare" of Veronicas. I find this note on it in my diary,—

'The flower of an exquisite gray-white, like lichen, or shaded hoar-frost, or dead silver; making the long-weathered stones it grew upon perfect with a finished modesty of paleness, as if the flower *could* be blue, and would not, for their sake. Laying its fine small leaves along in embroidery, like *Anagallis tenella*,—indescribable in the tender feebleness of it—afterwards as it grew, dropping the little blossoms from the base of the spire, before the buds at the top had blown. Gathered, it was happy beside me, with a little water under a stone, and put out one pale blossom after another, day by day.'

10. Lastly, and for a high worthiness, in my estimate, note that it is *wild*, of the wildest, and proud in pure descent of race; submitting itself to no follies of the cur-breeding florist. Its species, though many resembling each other, are severally constant in aspect, and easily recognizable; and I have never seen it provoked to glare into any gigantic impudence at a flower show. Fortunately, perhaps, it is scentless, and so despised.

11. Before I attempt arranging its families, we must note that while the corolla itself is one of the most constant in form and so distinct from all other blossoms that it may be

* "It is Miss Cobbe, I think, who says, 'all wild flowers know how to die gracefully.'"—A.

always known at a glance; the leaves and habit of growth vary so greatly in families of different climates, and those born for special situations, moist or dry, and the like, that it is quite impossible to characterize *Veronicæ*, or *Veronique*, vegetation in general terms. One can say, comfortably, of a strawberry, that it is a creeper, without expecting at the next moment to see a steeple of strawberry blossoms rise to contradict us;—we can venture to say of a foxglove that it grows in a spire, without any danger of finding, farther on, a carpet of prostrate and entangling *digitalis*; and we may pronounce of a buttercup that it grows mostly in meadows, without fear of finding ourselves, at the edge of the next thicket, under the shadow of a buttercup-bush growing into valuable timber. But the *Veronica* reclines with the lowly,* upon occasion, and aspires, with the proud; is here the pleased companion of the ground-ivies, and there the unrebuked rival of the larkspurs: on the rocks of Coniston it effaces itself almost into the film of a lichen; it pierces the snows of Iceland with the gentian: and in the Falkland Islands is a white-blossomed evergreen, of which botanists are in dispute whether it be *Veronica* or *Olive*.

12. Of these many and various forms, I find the manners and customs alike inconstant; and this of especially singular in them—that the Alpine and northern species bloom hardily in contest with the retiring snows, while with us they wait till the spring is past, and offer themselves to us only in consolation for the vanished violet and primrose. As we farther examine the ways of plants, I suppose we shall find some that determine upon a fixed season, and will bloom methodically in June or July, whether in Abyssinia or Greenland; and others, like the violet and crocus, which are flowers of the spring, at whatever time of the favoring or frowning year the spring returns to their country. I suppose also that botanists and gardeners know all these matters thoroughly: but they don't put them into their books, and the clear notions of them only come to me now, as I think and watch.

* See distinction between recumbent and rampant herbs, below, under '*Veronica Agrestis*,' p. 237.

13. Broadly, however, the families of the Veronica fall into three main divisions,—those which have round leaves lobed at the edge, like ground ivy; those which have small thyme-like leaves; and those which have long leaves like a foxglove's, only smaller,—never more than two or two and a

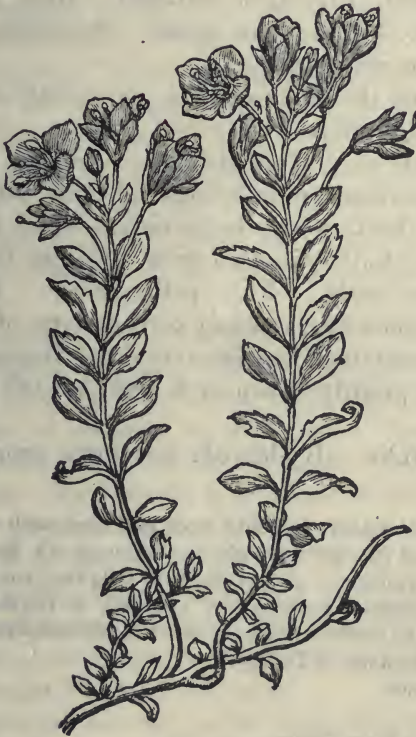


FIG. IV.

half inches long. I therefore take them in these connections, though without any bar between the groups; only separating the Regina from the other thyme-leaved ones, to give her due precedence; and the rest will then arrange themselves into twenty families, easily distinguishable and memorable.

I have chosen for Veronica Regina, the brave Icelandic

one, which pierces the snow in first spring, with lovely small shoots of perfectly set leaves, no larger than a grain of wheat; the flowers in a lifted cluster of five or six together, not crowded, yet not loose; large, for veronica—about the size of a silver penny, or say half an inch across—deep blue, with ruby center.

My wood-cut, Fig. 4, is outlined * from the beautiful engraving D. 342, †—there called ‘fruticulosa,’ from the number of the young shoots.

14. Beneath the Regina, come the twenty easily distinguished families, namely:—

1. Chamædrys. ‘Ground-oak.’ I cannot tell why so called—its small and rounded leaves having nothing like oak leaves about them, except the serration, which is common to half, at least, of all leaves that grow. But the idea is all over Europe, apparently. Fr. ‘petit chêne:’ German and English ‘Germander,’ a merely corrupt form of Chamædrys.

The representative English veronica “Germander Speedwell”—very prettily drawn in S. 986; too tall and weedlike in D. 448.

2. Hederifolia. Ivy-leaved: but more properly, cymba-

* ‘Abstracted’ rather, I should have said, and with perfect skill, by Mr. Collingwood (the joint translator of Xenophon’s Economics for the ‘Bibliotheca Pastorum’). So also the next following cut, Fig. 5.

† Of the references, henceforward necessary to the books I have used as authorities, the reader will please note the following abbreviations:—

C. Curtis’s Magazine of Botany.

D. Flora Danica.

F. Figuier.

G. Sibthorpe’s Flora Græca.

L. Linnæus. Systema Naturæ.

L. S. Linnæus’s Flora Suecica. But till we are quite used to the other letters, I print this reference in words.

L. N. William Curtis’s Flora Londinensis. Of the exquisite plates engraved for this book by James Sowerby, note is taken in the close of next chapter.

O. Sowerby’s English Wild Flowers; the old edition in thirty-two thin volumes—far the best.

S. Sowerby’s English Wild Flowers; the modern edition in ten volumes.

laria-leaved. It is the English field representative, though blue-flowered, of the Byzantine white veronica, *V. Cymbalaria*, very beautifully drawn in G. 9. *Hederifolia* well in D. 428.

3. *Agrestis*. Fr. 'Rustique.' We ought however clearly to understand whether 'agrestis,' used by English botanists, is meant to imply a literally field flower, or only a 'rustic' one, which might as properly grow in a wood. I shall always myself use 'agrestis' in the literal sense, and 'rustica' for 'rustique.' I see no reason, in the present case, for separating the Polite from the Rustic flower: the *agrestis*, D. 449 and S. 971, seems to me not more meekly recumbent, nor more frankly cultureless, than the so-called Polita, S. 972: there seems also no French acknowledgment of its politeness, and the Greek family, G. 8, seem the rudest and wildest of all.

Quite a *field* flower it is, I believe, lying always low on the ground, recumbent, but not creeping. Note this difference: no fastening roots are thrown out by the reposing stems of this *Veronica*; a creeping or accurately 'rampant' plant roots itself in advancing. Conf. Nos. 5, 6.

4. *Arvensis*. We have yet to note a still finer distinction in epithet. 'Agrestis' will properly mean a flower of the open ground—yet not caring whether the piece of earth be cultivated or not, so long as it is under clear sky. But when *agri*-culture has turned the unfruitful acres into 'arva beata,'—if then the plant thrust itself between the furrows of the plow, it is properly called 'Arvensis.'

I don't quite see my way to the same distinction in English,—perhaps I may get into the habit, as time goes on, of calling the *Arvenses* consistently furrow-flowers, and the *Agrestes* field-flowers. Furrow-veronica is a tiresomely long name, but must do for the present, as the best interpretation of its Latin character, "vulgatissima in cultis et arvis," D. 515. The blossom itself is exquisitely delicate; and we may be thankful, both here and in Denmark, for such a lovely 'vulgate.'

5. *Montana*. D. 1201. The first really creeping plant we have had to notice. It throws out roots from the recumbent stems. Otherwise like *agrestis*, it has leaves like ground-ivy. Called a wood species in the text of D.

6. *Persica*. An eastern form, but now perfectly naturalized here—D. 1982; S. 973. The flowers very large, and extremely beautiful, but only one springing from each leaf-axil.

Leaves and stem like *Montana*; and also creeping with new roots at intervals.

7. *Triphylla*, (not *triphyllos*,—see *Flora Suecica*, 22). Meaning trifid-leaved; but the leaf is really divided into five lobes, not three—see S. 974, and G. 10. The palmate form of the leaf seems a mere caprice, and indicates no transitional form in the plant: it may be accepted as only a momentary compliment of mimicry to the geraniums. The Siberian variety, ‘*multifida*,’ C. 1679, divides itself almost as the submerged leaves of the water-ranunculus.

The *triphylla* itself is widely diffused, growing alike on the sandy fields of Kent, and of Troy. In D. 627 is given an extremely delicate and minute northern type, the flowers springing as in *Persica*, one from each leaf-axil, and at distant intervals.

8. *Officinalis*. D. 248, S. 294. Fr. ‘*Veronique officinale*’; (Germ. *Gebrauchlicher Ehrenpreis*,) our commonest English and Welsh speedwell; richest in cluster and frankness in roadside growth, whether on bank or rock; but assuredly liking *either* a bank *or* a rock, and the top of a wall better than the shelter of one. Uncountable ‘myriads,’ I am tempted to write, but, cautiously and literally, ‘hundreds’ of blossoms—if one *could* count,—ranging certainly towards the thousand in some groups, all bright at once, make our Westmoreland lanes look as if they were decked for weddings, in early summer. In the Danish Flora it is drawn small and poor; its southern type being the true one: but it is difficult to explain the difference between the look of a flower which really *suffers*, as in this instance, by a colder

climate, and becomes mean and weak, as well as dwarfed; and one which is braced and brightened by the cold, though diminished, as if under the charge and charm of an affectionate fairy, and becomes a joyfully patriotic inheritor of wilder scenes and skies. Medicinal, to soul and body alike, this gracious and domestic flower; though astringent and bitter in the juice. It is the Welsh deeply honored 'Fluellen.'—See final note on the myth of Veronica, see § 18.

9. *Thymifolia*. Thyme-leaved, G. 6. Of course the longest possible word—*serpyllifolia*—is used in S. 978. It is a high mountain plant, growing on the top of Crete as the snow retires; and the *Veronica minor* of Gerarde; "the roote is small and threddie, taking hold of the *upper surface* of the earth, where it spreadeth." So also it is drawn as a creeper in F. 492, where the flower appears to be oppressed and concealed by the leafage.

10. *Minuta*, called 'hirsuta' in S. 985: an ugly characteristic to name the lovely little thing by. The distinct blue lines in the petals might perhaps justify 'picta' or 'lineata,' rather than an epithet of size; but I suppose it is Gerarde's *Minima*, and so leave it, more safely named as 'minute' than 'least.' For I think the next variety may dispute the leastness.

11. *Verna*. D. 252. Mountains, in dry places in early spring. Upright, and confused in the leafage, which is sharp-pointed and close set, much hiding the blossom, but of extreme elegance, fit for a sacred foreground; as any gentle student will feel, who copies this outline from the *Flora Danica*, Fig. 5.

12. *Pergrina*. Another extremely small variety, nearly pink in color, passing into bluish lilac and white. American; but called, I do not see why, '*Veronique voyageuse*,' by the French, and Fremder Ehrenpreis in Germany. Given as a frequent English weed in S. 927.

13. *Alpina*. *Veronique des Alpes*. Gebirgs Ehrenpreis. Still minute; its scarcely distinct flowers forming a close head among the leaves; round-petaled in D. 16, but sharp,

as usual, in S. 980. On the Norway Alps in grassy places; and in Scotland by the side of mountain rills; but rare. On Ben Nevis and Lachin y Gair (S.)



FIG. V.

14. *Scutellata*. From the shield-like shape of its seed-vessels. Veronique à Ecusson; Schildfruchtiger Ehrenpreis. But the seed-vessels are more heart shape than shield. Marsh Speedwell. S. 988, D. 209, —in the one pink, in the other blue; but again in D. 1561, pink.

“In flooded meadows, common.” (D.) A spoiled and scattered form; the seeds too conspicuous, but the flowers very delicate, hence ‘*Gratiola minima*’ in Gesner. The confused ramification of the clusters worth noting, in relation to the equally straggling fibers of root.

15. *Spicata*. S. 982: very prettily done, representing the inside of the flower as deep blue, the outside pale. The top of the spire, all calices, the calyx being indeed, through all the veronicas, an important and persistent member.

The tendency to arrange itself in spikes is to be noted as a degradation of the veronic character; connecting it on one side with the snapdragons, on the other with the ophryds. In *Veronica Ophrydea*, (C. 2210,) this resemblance to the contorted tribe is carried so far that “the corolia of the veronica becomes irregular, the tube gibbous, the faux (throat) hairy, and three of the laciniaë (lobes of petals) variously twisted.” The spire of blössom, violet-colored, is then close set, and exactly resembles an ophryd, except in being sharper at the top. The engraved outline of the blossom is good, and very curious.

16. *Gentianoides*. This is the most directly and curiously imitative among the—shall we call them—‘histrionic’ types of *Veronica*. It grows exactly like a clustered upright gentian; has the same kind of leaves at its root, and springs with the same bright vitality among the retiring snows of the Bithynian Olympus. (G. 5.) If, however, the Caucasian flower, C. 1002, be the same, it has lost its perfect grace in luxuriance, growing as large as an asphodel, and with root-leaves half a foot long.

The petals are much veined; and this, of all veronicas, has the lower petal smallest in proportion to the three above,—“triplò aut quadruplò minori.” (G.)

17. *Stagnarum*. Marsh-*Veronica*. The last four families we have been examining vary from the typical *Veronicas* not only in their lance-shaped clusters, but in their lengthened, and often every way much enlarged leaves also: and the two which we now will take in association, 17 and 18, carry the change in aspect farthest of any, being both of them true water-plants, with strong stems and thick leaves. The present name of my *Veronica Stagnarum* is however *V. anagallis*, a mere insult to the little water primula, which one plant of the *Veronica* would make fifty of. This is a rank water-weed, having confused bunches of blossom and seed, like unripe currants, dangling from the leaf-axils. So that where the little triphylla, (No. 7, above,) has only one blossom, daintily set, and well seen, this has a litter of twenty-five or thirty on a long stalk, of which only three or four are well out as flowers, and the rest are mere knobs of bud or seed. The stalk is thick (half an inch round at the bottom), the leaves long and misshapen. “*Frequens in fossis*,” D. 203. French, Mournon d’Eau, but I don’t know the root or exact meaning of Mournon.

An ugly Australian species, ‘*labiata*,’ C. 1660, has leaves two inches long, of the shape of an aloe’s, and partly aloecine in texture, “sawed with unequal, fleshy, pointed teeth.”

18. *Fontium*. Brook-*Veronica*. Brook-*Lime*, the Anglo-Saxon ‘lime’ from Latin *limus*, meaning the soft mud of

streams. German 'Bach-bunge' (Brook-purse?) ridiculously changed by the botanists into 'Beccabunga,' for a Latin name! Very beautiful in its crowded green leaves as a stream-companion; rich and bright more than watercress. See notice of it at Matlock, in 'Modern Painters,' vol. v.

19. Clara. *Veronique des rochers*. *Saxatilis*, I suppose, in Sowerby, but am not sure of having identified that with my own favorite, for which I therefore keep the name 'Clara,' (see above, § 9); and the other rock variety, if indeed another, must be remembered, together with it.

20. *Glauca*. G. 7. And this, at all events, with the Clara, is to be remembered as closing the series of twenty families, acknowledged by Proserpina. It is a beautiful low-growing ivy-leaved type, with flowers of subdued lilac blue. On Mount Hymettus: no other locality given in the *Flora Græca*.

15. I am sorry, and shall always be so, when the varieties of any flower which I have to commend to the student's memory, exceed ten or twelve in number; but I am content to gratify his pride with lengthier task, if indeed he will resign himself to the imperative close of the more inclusive catalogue, and be content to know the twelve, or sixteen, or twenty, acknowledged families, thoroughly; and only in their illustration to think of rarer forms. The object of 'Proserpina' is to make him happily cognizant of the common aspect of Greek and English flowers; under the term 'English,' comprehending the Saxon, Celtic, Norman, and Danish Floras. Of the evergreen shrub alluded to in § 11 above, the *Veronica Decussata* of the Pacific, which is "a bushy evergreen, with beautifully set cross-leaves, and white blossoms scented like *olea fragrans*," I should like him only to read with much surprise, and some incredulity, in Pinkerton's or other entertaining travelers' voyages.

16. And of the families given, he is to note for the common simple characteristic, that they are quatrefoils referred to a more or less elevated position on a central stem, and having, in that relation, the lowermost petal diminished, contrary to the almost universal habit of other flowers to develop

in such a position the lower petal chiefly, that it may have its full share of light. You will find nothing but blunder and embarrassment result from any endeavor to enter into further particulars, such as "the relation of the dissepiment with respect to the valves of the capsule," etc., etc., since "in the various species of *Veronica* almost every kind of dehiscence may be observed" (C. under *V. perfoliata*, 1936, an Australian species). Sibthorpe gives the entire definition of *Veronica* with only one epithet added to mine, "*Corolla quadrifida, rotata, laciniâ infimâ angustiore,*" but I do not know what 'rotata' here means, as there is no appearance of revolved action in the petals, so far as I can see.

17. Of the mythic or poetic significance of the veronica, there is less to be said than of its natural beauty. I have not been able to discover with what feeling, or at what time, its sacred name was originally given; and the legend of S. Veronica herself is, in the substance of it, irrational, and therefore incredible. The meaning of the term 'rational,' as applied to a legend or miracle, is, that there has been an intelligible need for the permission of the miracle at the time when it is recorded; and that the nature and manner of the act itself should be comprehensible in the scope. There was thus quite simple need for Christ to feed the multitudes, and to appear to S. Paul; but no need, so far as human intelligence can reach, for the reflection of His features upon a piece of linen which could be seen by not one in a million of the disciples to whom He might more easily, at any time, manifest Himself personally and perfectly. Nor, I believe, has the story of S. Veronica ever been asserted to be other than symbolic by the sincere teachers of the Church; and, even so far as in that merely explanatory function, it became the seal of an extreme sorrow, it is not easy to understand how the pensive fable was associated with a flower so familiar, so bright, and so popularly of good omen, as the Speedwell.

18. Yet, the fact being actually so, and this consecration of the veronica being certainly far more ancient and earnest

than the faintly romantic and extremely absurd legend of the forget-me-not; the speedwell has assuredly the higher claim to be given and accepted as a token of pure and faithful love, and to be trusted as a sweet sign that the innocence of affection is indeed more frequent, and the appointed destiny of its faith more fortunate, than our inattentive hearts have hitherto discerned.

19. And this the more, because the recognized virtues and uses of the plant are real and manifold; and the ideas of a peculiar honorableness and worth of life connected with it by the German popular name 'Honor-prize'; while to the heart of the British race, the same thought is brought home by Shakspeare's adoption of the flower's Welsh name, for the faithfulest common soldier of his ideal king. As a lover's pledge, therefore, it does not merely mean memory;—for, indeed, why should love be thought of as such at all, if it need to promise not to forget?—but the blossom is significant also of the lover's best virtues, patience in suffering, purity in thought, gayety in courage, and serenity in truth: and therefore I make it, worthily, the clasping and central flower of the Cytherides.

CHAPTER IV.

GIULIETTA.

1. SUPPOSING that, in early life, one had the power of living to one's fancy,—and why should we not, if the said fancy were restrained by the knowledge of the two great laws concerning our nature, that happiness is increased, not by the enlargement of the possessions, but of the heart; and days lengthened, not by the crowding of emotions, but the economy of them?—if thus taught, we had, I repeat, the ordering of our house and estate in our own hands, I believe no manner of temperance in pleasure would be better rewarded than that of making our gardens gay only with common flowers; and leaving those which needed care for their transplanted life to be found in their native places, when we traveled. So long as I had crocus and daisy in the spring, roses in the summer, and hollyhocks and pinks in the autumn, I used to be myself independent of farther horticulture,—and it is only now that I am old, and since pleasant traveling has become impossible to me, that I am thankful to have the white narcissus in my borders, instead of waiting to walk through the fragrance of the meadows of Clarens; and pleased to see the milkwort blue on my scythe-mown banks, since I cannot gather it any more on the rocks of the Vosges, or in the divine glens of Jura.

2. Among the losses, all the more fatal in being unfelt, brought upon us by the fury and vulgarity of modern life, I count for one of the saddest, the loss of the wish to gather a flower in traveling. The other day,—whether indeed a sign of some dawning of doubt and remorse in the public mind, as to the perfect jubilee of railroad journey, or merely a

piece of the common daily flattery on which the power of the British press first depends, I cannot judge;—but, for one or other of such motives, I saw lately in some illustrated paper, a pictorial comparison of old-fashioned and modern travel, representing, as the type of things passed away, the outside passengers of the mail shrinking into huddled and silent distress from the swirl of a winter snowstorm; and for type of the present Elysian dispensation, the inside of a first-class saloon carriage, with a beautiful young lady in the last pattern of Parisian traveling dress, conversing, Daily news in hand, with a young officer—her fortunate vis-à-vis—on the subject of our military successes in Afghanistan and Zululand.*

3. I will not, in presenting—it must not be called, the other side, but the supplementary, and willfully omitted, facts, of this ideal,—oppose, as I fairly might, the discomforts of a modern cheap excursion train, to the chariot-and-four, with outriders and courier, of ancient noblesse. I will compare only the actual facts, in the former and in latter years, of my own journey from Paris to Geneva. As matters are now arranged, I find myself, at half-past eight in the evening, waiting in a confused crowd with which I am presently to contend for a seat, in the dim light and cigar-stench of the great station of the Lyons line. Making slow way through the hostilities of the platform, in partly real, partly weak politeness, as may be, I find the corner seats of course already full of prohibitory cloaks and umbrellas; but manage to get a middle back one; the net overhead is already surcharged with a bulging extra portmanteau, so that I squeeze my desk as well as I can between my legs, and arrange what wraps I have about my knees and shoulders. Follow a couple of hours of simple patience, with nothing to entertain one's thoughts but the steady roar of the line under the wheels, the blinking and dripping of the oil lantern, and the more or less ungainly wretchedness, and variously sullen compromises

* See letter on the last results of our African campaigns, in the *Morning Post* of April 14th, of this year,

and encroachments of posture, among the five other passengers preparing themselves for sleep: the last arrangement for the night being to shut up both windows, in order to effect, with our six breaths, a salutary modification of the night air.

4. The banging and bumping of the carriages over the turntables wakes me up as I am beginning to doze, at Fontainebleau, and again at Sens; and the trilling and thrilling of the little telegraph bell establishes itself in my ears, and stays there, trilling me at last into a shivering, suspicious sort of sleep, which, with a few vaguely fretful shrugs and fidgets, carries me as far as Tonnerre, where the 'quinze minutes d'arret' revolutionize everything; and I get a turn or two on the platform, and perhaps a glimpse of the stars, with promise of a clear morning; and so generally keep awake past Mont Bard, remembering the happy walks one used to have on the terrace under Buffon's tower, and thence watching, if perchance, from the mouth of the high tunnel, any film of moonlight may show the far undulating masses of the hills of Citeaux. But most likely one knows the place where the great old view used to be only by the sensible quickening of the pace as the train turns down the incline, and crashes through the trenched cliffs into the confusion and high clattering vault of the station at Dijon.

5. And as my journey is almost always in the spring-time, the twisted spire of the cathedral usually shows itself against the first gray of dawn, as we run out again southwards; and resolving to watch the sunrise, I fall more complacently asleep,—and the sun is really up by the time one has to change carriages, and get morning coffee at Macon. And from Amberieux, through the Jura Valley, one is more or less feverishly happy and thankful, not so much for being in sight of Mont Blanc again, as in having got through the nasty and gloomy night journey; and then the sight of the Rhone and the Salève seems only like a dream, presently to end in nothingness; till, covered with dust, and feeling as if one never should be fit for anything any more, one staggers down the hill to the Hôtel des Bergues, and sees the dirtied Rhone,

with its new iron bridge, and the smoke of a new factory exactly dividing the line of the aiguilles of Chamouni.

6. That is the journey as it is now,—and as, for me, it must be; except on foot, since there is now no other way of making it. But this *was* the way we used to manage it in old days:—

Very early in Continental transits we had found out that the family traveling carriage, taking much time and ingenuity to load, needing at the least three, usually four—horses, and on Alpine passes six, not only jolted and lagged painfully on bad roads, but was liable in every way to more awkward discomfitures than lighter vehicles; getting itself jammed in archways, wrenched with damage out of ruts, and involved in volleys of justifiable reprobation among market stalls. So when we knew better, my father and mother always had their own old-fashioned light two-horse carriage to themselves, and I had one made with any quantity of front and side pockets for books and picked up stones; and hung very low, with a fixed side-step, which I could get off or on with the horses at the trot; and at any rise or fall of the road, relieve them, and get my own walk, without troubling the driver to think of me.

7. Thus, leaving Paris in the bright spring morning, when the Seine glittered gayly at Charenton, and the arbres de Judée were mere pyramids of purple bloom round Villeneuve-St.-Georges, one had an afternoon walk among the rocks of Fontainebleau, and next day we got early into Sens, for new lessons in its cathedral aisles, and the first saunter among the budding vines of the coteaux. I finished my plate of the Tower of Giotto, for the 'Seven Lamps,' in the old inn at Sens, which Dickens has described in his wholly matchless way in the last chapter of 'Mrs. Lirriper's Lodgings.' The next day brought us to the oolite limestones at Mont Bard, and we always spent the Sunday at the Bell in Dijon. Monday, the drive of drives, through the village of Genlis, the fortress of Auxonne, and up the hill to the vine-surrounded town of Dole; whence, behold at last the limitless ranges of

Jura, south and north, beyond the woody plain, and above them the 'Derniers Rochers' and the white square-set summit, worshiped ever anew. Then at Poligny, the same afternoon, we gathered the first milkwort for that year; and on Tuesday, at St. Laurent, the wild lily of the valley; and on Wednesday, at Morez, gentians.

And on Thursday, the *eighth or ninth* day from Paris, days all spent patiently and well, one saw from the gained height of Jura, the great Alps unfold themselves in their chains and wreaths of incredible crest and cloud.

8. Unhappily, during all the earliest and usefulest years of such traveling, I had no thought of ever taking up botany as a study; feeling well that even geology, which was antecedent to painting with me, could not be followed out in connection with art but under strict limits, and with sore shortcomings. It has only been the later discovery of the uselessness of old scientific botany, and the abominableness of new, as an element of education for youth;—and my certainty that a true knowledge of their native Flora was meant by Heaven to be one of the first heart-possessiones of every happy boy and girl in flower-bearing lands, that have compelled me to gather into system my fading memories, and wandering thoughts.* And of course in the diaries written at places of which I now want chiefly the details of the Flora, I find none; and in this instance of the milkwort, whose name I was first told by the Chamouni guide, Joseph Couttet, then walking with me on the unperilous turf of the first rise of the Vosges, west of Strasburg, and rebuking me indignantly for my complaint that, being then thirty-seven years old, and not yet able to draw the great plain and distant spire, it was of no use trying in the poor remainder of life to do anything serious,—then, and there, I say, for the first time examining the strange little flower, and always associating it, since, with the limestone crags of Alsace and Burgundy, I don't find

* I deliberately, not garrulously, allow more autobiography in 'Proserpina' than is becoming, because I know not how far I may be permitted to carry on that which was begun in 'Fors.'

a single note of its preferences or antipathies in other districts, and cannot say a word about the soil it chooses, or the height it ventures, or the familiarities to which it condescends, on the Alps or Apennines.

9. But one thing I have ascertained of it, lately at Brantwood, that it is capricious and fastidious beyond any other little blossom I know of. In laying out the rock garden, most of the terrace sides were trusted to remnants of the natural slope, propped by fragments of stone, among which nearly every other wild flower that likes sun and air, is glad sometimes to root itself. But at the top of all, one terrace was brought to mathematically true level of surface, and slope of side, and turfed with delicately chosen and adjusted sods, meant to be kept duly trim by the scythe. And *only* on this terrace does the *Giulietta* choose to show herself,—and even there, not in any consistent places, but gleaming out here in one year, there in another, like little bits of unexpected sky through cloud; and entirely refusing to allow either bank or terrace to be mown the least trim during *her* time of disport there. So spared and indulged, there are no more wayward things in all the woods or wilds; no more delicate and perfect things to be brought up by watch through day and night, than her recumbent clusters, trickling, sometimes almost gushing though the grass, and meeting in tiny pools of flawless blue.

10. I will not attempt at present to arrange the varieties of the *Giulietta*, for I find that all the larger and presumably characteristic forms belong to the Cape; and only since Mr. Froude came back from his African explorings have I been able to get any clear idea of the brilliancy and associated infinitude of the Cape flowers. If I could but write down the substance of what he has told me, in the course of a chat or two, which have been among the best privileges of my recent stay in London, (prolonged as it has been by recurrence of illness,) it would be a better summary of what should be generally known in the natural history of southern plants than I could glean from fifty volumes of horticultural

botany. In the meantime, everything being again thrown out of gear by the aforesaid illness, I must let this piece of 'Proserpina' break off, as most of my work does—and as perhaps all of it may soon do—leaving only suggestion for the happier research of the students who trust me thus far.

11. Some essential points respecting the flower I shall note, however, before ending. There is one large and frequent species of it of which the flowers are delicately yellow, touched with tawny red forming one of the chief elements of wild foreground vegetation in the healthy districts of hard Alpine limestone.* This is, I believe, the only European type of the large Cape varieties, in all of which, judging from such plates as have been accessible to me, the crests or fringes of the lower petal are less conspicuous than in the smaller species; and the flower almost takes the aspect of a broom-blossom or pease-blossom. In the smaller European varieties, the white fringes of the lower petal are the most important and characteristic part of the flower, and they are, among European wild flowers, absolutely without any likeness of associated structure. The fringes or crests which, towards the origin of petals, so often give a frosted or gemmed appearance to the centers of flowers, are here thrown to the extremity of the petal, and suggest an almost coralline structure of blossom, which in no other instance whatever has been imitated, still less carried out into its conceivable varieties of form. How many such varieties might have been produced if these fringes of the Giulietta, or those already alluded to of *Lucia nivea*, had been repeated and enlarged; as the type, once adopted for complex bloom in the thistle-

* In present Botany, *Polygala Chamæbuxus*; C. 316; or, in English, Much Milk Ground-box. It is not, as matters usually go, a name to be ill thought of, as it really contains three ideas; and the plant does, without doubt, somewhat resemble box, and grows on the ground;—far more fitly called 'ground-box' than the *Veronica* 'ground-oak.' I want to find a pretty name for it in connection with Savoy or Dauphiné, where it indicates, as above stated, the *healthy* districts of *hard* limestone. I do not remember it as ever occurring among the dark and moist shales of the inner mountain ranges, which at once confine and pollute the air.

head, is multiplied in the innumerable gradations of thistle, teasel, hawkweed, and aster! We might have had flowers edged with lace finer than was ever woven by mortal fingers, or tasseled and braided with fretwork of silver, never tarnished—or hoarfrost that grew brighter in the sun. But it was not to be, and after a few hints of what might be done in this kind, the Fate, or Folly, or, on recent theories, the extreme fitness—and consequent survival, of the Thistles and Dandelions, entirely drives the fringed Lucias and blue-flushing milkworts out of common human neighborhood, to live recluse lives with the memories of the abbots of Cluny, and pastors of Piedmont.

12. I have called the *Giulietta* 'blue-flushing' because it is one of the group of exquisite flowers which at the time of their own blossoming, breathe their color into the surrounding leaves and supporting stem. Very notably the Grape hyacinth and Jura hyacinth, and some of the Vestals, empurpling all their green leaves even to the ground: a quite distinct nature in the flower, observe, this possession of a power to kindle the leaf and stem with its own passion from that of the heaths, roses, or lilies, where the determined bracts or calices assert themselves in opposition to the blossom, as little pine-leaves, or mosses, or brown-paper packages, and the like.

13. The *Giulietta*, however, is again entirely separate from the other leaf-flushing blossoms, in that, after the two green leaves next the flower have glowed with its blue, while it lived, they do not fade or waste with it, but return to their own former green simplicity, and close over it to protect the seed. I only know this to be the case with the *Giulietta Regina*; but suppose it to be (with variety of course in the colors) a condition in other species,—though of course nothing is ever said of it in the botanical accounts of them. I gather, however, from Curtis's careful drawings that the prevailing color of the Cape species is purple, thus justifying still further my placing them among the *Cytherides*; and I am content to take the descriptive epithets at present given them, for the following five of this southern group, hoping

that they may be explained for me afterwards by helpful friends.

14. Bracteolata, C. 345.
 Oppositifolia, C. 492.
 Speciosa, C. 1790.

These three all purple, and scarcely distinguishable from sweet pease-blossom, only smaller.

Stipulacea, C. 1715. Small, and very beautiful, lilac and purple, with a leaf and mode of growth like rosemary. The "Foxtail" milkwort, whose name I don't accept, C. 1006, is intermediate between this and the next species.

15. Mixta, C. 1714. I don't see what mingling is meant, except that it is just like *Erica tetralix* in the leaf, only, apparently, having little four-petaled pinks for blossoms. This appearance is thus botanically explained. I do not myself understand the description, but copy it, thinking it may be of use to somebody. "The apex of the carina is expanded into a two-lobed plain petal, the lobes of which are emarginate. This appendix is of a bright rose color, and forms the principal part of the flower." The describer relaxes, or relapses, into common language so far as to add that 'this appendix' "dispersed among the green foliage in every part of the shrub, gives it a pretty lively appearance."

Perhaps this may also be worth extracting.

"Carina, *æ*eply channeled, of a saturated purple within, sides folded together, so as to include and firmly embrace the style and stamens, which, when arrived at maturity, upon being moved, escape elastically from their confinement, and strike against the two erect petals or alæ—by which the pollen is dispersed.

"Stem shrubby, with long flexile branches." (Length or height not told. I imagine like an ordinary heath's.)

The term 'carina,' occurring twice in the above description, is peculiar to the structure of the pease and milkworts; we will examine it afterwards. The European varieties of the milkwort, except the *chamæbuxus*, are all minute,—and,

their ordinary epithets being at least inoffensive, I give them for reference till we find prettier ones; altering only the *Calcarea*, because we could not have a 'Chalk Juliet,' and two varieties of the *Regina*, changed for reason good—her name, according to the last modern refinements of grace and ease in pronunciation, being *Eu-vulgaris*, var. *genuina*! My readers may more happily remember her and her sister as follows:—

16. (I.) *Giulietta Regina*. Pure blue. The same in color, form, and size, throughout Europe.

(II.) *Giulietta Soror-Reginæ*. Pale, reddish-blue or white in the flower, and smaller in the leaf, otherwise like the *Regina*.

(III.) *Giulietta Depressa*. The smallest of those I can find drawings of. Flowers, blue; lilac in the fringe, and no bigger than pins' heads; the leaves quite gem-like in minuteness and order.

(IV.) *Giulietta Cisterciana*. Its present name, '*Calcarea*,' is meant, in botanic Latin, to express its growth on limestone or chalk mountains. But we might as well call the South Down sheep, *Calcareous mutton*. My epithet will rightly associate it with the Burgundian hills round Chuny and Citeaux. Its ground leaves are much larger than those of the *Depressa*; the flower a little larger, but very pale.

(V.) *Giulietta Austriaca*. Pink, and very lovely, with bold cluster of ground leaves, but itself minute—almost dwarf. Called 'small bitter milkwort' by S. How far distinct from the next following one, Norwegian, is not told.

The above five kinds are given by Sowerby as British, but I have never found the *Austriaca* myself.

(VI.) *Giulietta Amara*. Norwegian. Very quaint in blossom outline, like a little blue rabbit with long ears. D, 1169.



XI.

States of Adversity.

17. Nobody tells me why either this last or No. 5 have been called bitter; and Gerarde's five kinds are distinguished only by color—blue, red, white, purple, and “the dark, of an overworn ill-favored color, which maketh it to differ from all others of his kind.” I find no account of this ill-favored one elsewhere. The white is my Soror Reginae; the red must be the Austriaca; but the purple and overworn ones are perhaps now overworn indeed. All of them must have been more common in Gerarde's time than now, for he goes on to say “Milkwort is called *Ambarualis flos*, so called because it doth specially flourish in the Crosse or Gang-weeke, or Rogation-weeke, of which flowers, the maidens which use in the countries to walk the procession do make themselves garlands and nose-gaies, in English we may call it Crosse flower, Gang flower, Rogation flower, and Milkwort.”

18. Above, at page 141, vol. i., in first arranging the Cytherides, I too hastily concluded that the ascription to this plant of helpfulness to nursing mothers was ‘more than ordinarily false’; thinking that its rarity could never have allowed it to be fairly tried. If indeed true, or in any degree true, the flower has the best right of all to be classed with the Cytherides, and we might have as much of it for beauty and for service as we chose, if we only took half the pains to garnish our summer gardens with living and life-giving blossom, that we do to garnish our winter gluttonies with dying and useless ones.

19. I have said nothing of root, or fruit, or seed, having never had the hardness of heart to pull up a milkwort cluster—nor the chance of watching one in seed:—The pretty thing vanishes as it comes, like the blue sky of April, and leaves no sign of itself—that I ever found. The botanists tell me that its fruit “dehisces loculicidally,” which I suppose is botanic for “splits like boxes,” (but boxes shouldn't split, and didn't, as we used to make and handle them before railways). Out of the split boxes fall seeds—too few; and, as aforesaid, the plant never seems to grow again in the same spot. I should thankfully receive any notes from friends

happy enough to live near milkwort banks, on the manner of its nativity.

20. Meanwhile, the Thistle, and the Nettle, and the Dock, and the Dandelion are cared for in their generations by the finest arts of—Providence, shall we say? or of the spirits appointed to punish our own want of Providence? May I ask the reader to look back to the seventh chapter of the first volume, for it contains suggestions of thoughts which came to me at a time of very earnest and faithful inquiry, set down, I now see too shortly, under the press of reading they involved, but intelligible enough if they are read as slowly as they were written, and especially note the paragraph of summary of p. 88 on the power of the Earth Mother, as Mother, and as *Judge*; watching and rewarding the conditions which induce adversity and prosperity in the kingdoms of men: comparing with it carefully the close of the fourth chapter, p. 60,* which contains, for the now recklessly multiplying classes of artists and colonists; truths essential to their skill, and inexorable upon their labor.

21. The pen-drawing facsimiléd by Mr. Allen with more than his usual care in the frontispiece to this number of 'Proserpina,' was one of many executed during the investigation of the schools of Gothic (German, and later French), which founded their minor ornamentation on the serration of the thistle leaf, as the Greeks on that of the Acanthus, but with a consequent, and often morbid, love of thorny points, and insistence upon jagged or knotted intricacies of stubborn vegetation, which is connected in a deeply mysterious way with the gloomier forms of Catholic asceticism.†

* Which, with the following page, is the summary of many chapters of 'Modern Painters:' and of the aims kept in view throughout 'Munera Pulveris.' The three kinds of Desert specified—of Reed, Sand, and Rock—should be kept in mind as exhaustively including the states of the earth neglected by man. For instance of a Reed desert, produced *merely* by his neglect, see Sir Samuel Baker's account of the choking up of the bed of the White Nile. Of the sand desert, Sir F. Palgrave's journey from the Djowf to Hāyle, vol. i., p. 92.

† This subject is first entered on in the 'Seven Lamps,' and carried

22. But also, in beginning 'Proserpina,' I intended to give many illustrations of the light and shade of foreground leaves belonging to the nobler groups of thistles, because I thought they had been neglected by ordinary botanical draughtsmen; not knowing at that time either the original drawings at Oxford for the 'Flora Græca,' or the nobly engraved plates executed in the close of the last century for the 'Flora Danica' and 'Flora Londinensis.' The latter is in the most difficult portraiture of the larger plants, even the more wonderful of the two; and had I seen the miracles of skill, patience, and faithful study which are collected in the first and second volumes, published in 1777 and 1798, I believe my own work would never have been undertaken.* Such as it is, however, I may still, health being granted me, persevere in it; for my own leaf and branch studies express conditions of shade which even these most exquisite botanical plates ignore; and exemplify uses of the pen and pencil which cannot be learned from the inimitable fineness of line engraving. The frontispiece to this number, for instance, (a seeding head of the commonest field-thistle of our London suburbs,) copied with a steel pen on smooth gray paper, and the drawing softly touched with white on the nearer thorns, may well surpass the effect of the plate.

23. In the following number of 'Proserpina' I have been tempted to follow, with more minute notice than usual, the 'conditions of adversity' which, as they fret the thistle tribe into jagged malice, have humbled the beauty of the great domestic group of the Vestals into confused likenesses of the Dragonweed and Nettle: but I feel every hour more and more the necessity of separating the treatment of subjects in 'Proserpina' from the microscopic curiosities of recent botanic illustration, nor shall this work close, if my

forward in the final chapters of 'Modern Painters,' to the point where I hope to take it up for conclusion, in the sections of 'Our Fathers have told us devoted to the history of the fourteenth century.

* See in the first volume, the plates of *Sonchus Arvensis* and *Tussilago Petasites*; in the second, *Carduus tomentosus* and *Picris Echioides*.

strength hold, without fulfilling in some sort, the effort begun long ago in 'Modern Painters,' to interpret the grace of the larger blossoming trees, and the mysteries of leafy form which clothe the Swiss precipice with gentleness, and color with softest azure the rich horizons of England and Italy.

CHAPTER V.

BRUNELLA.

1. IT ought to have been added to the statements of general law in irregular flowers, in Chapter I. of this volume, § 6, that if the petals, while brought into relations of inequality, still retain their perfect petal form,—and whether broad or narrow, extended or reduced, remain clearly *leaves*, as in the pansy, pea, or azalea, and assume no grotesque or obscure outline,—the flower, though injured, is not to be thought of as corrupted or misled. But if any of the petals lose their definite character as such, and become swollen, solidified, stiffened, or strained into any other form or function than that of petals, the flower is to be looked upon as affected by some kind of constant evil influence; and, so far as we conceive of any spiritual power being concerned in the protection or affliction of the inferior orders of creatures, it will be felt to bear the aspect of possession by, or pollution by, a more or less degraded Spirit.*

2. I have already enough spoken of the special manifestation of this character in the orders *Contorta* and *Satyrium*, vol. i., p. 130, and the reader will find in the parallel aspects of the *Draconidæ* dwelt upon at length in the 86th and 87th paragraphs of the 'Queen of the Air,' where also their relation to the labiate group is touched upon. But I am far more embarrassed by the symbolism of that group which I called 'Vestales,' from their especially domestic character and their

* For the sense in which this word is used throughout my writings, see the definition of it in the 52d paragraph of the 'Queen of the Air,' comparing, with respect to its office in plants, §§ 59-60.

serviceable purity; but which may be, with more convenience perhaps, simply recognizable as 'Menthæ.'

3. These are, to our northern countries, what the spice-bearing trees are in the tropics;—our thyme, lavender, mint, marjoram, and their like, separating themselves not less in the health giving or strengthening character of their scent from the flowers more or less enervating in perfume, as the rose, orange, and violet,—than in their humble colors and forms from the grace and splendor of those higher tribes; thus allowing themselves to be summed under the general word 'balm' more truly than the balsams from which the word is derived. Giving the most pure and healing powers to the air around them; with a comfort of warmth also, being mostly in dry places, and forming sweet carpets and close turf; but only to be rightly enjoyed in the open air, or indoors when dried; not tempting any one to luxury, nor expressive of any kind of exultation. Brides do not deck themselves with thyme, nor do we wreath triumphal arches with mint.

4. It is most notable, also, farther, that none of these flowers have any extreme beauty in color. The blue sage is the only one of vivid hue at all; and we never think of it as for a moment comparable to the violet or bluebell: thyme is unnoticed beside heath, and many of the other purple varieties of the group are almost dark and sad colored among the flowers of summer; while, so far from gaining beauty on closer looking, there is scarcely a blossom of them which is not more or less grotesque, even to ugliness, in outline; and so hooded or lappeted as to look at first like some imperfect form of snapdragon: for the most part spotted also, wrinkled as if by old age or decay, cleft or torn, as if by violence, and springing out of calices which, in their clustering spines, embody the general roughness of the plant.

5. I take at once for example, lest the reader should think me unkind or intemperate in my description, a flower very dear and precious to me; and at this time my chief comfort in field walks. For, now, the reign of all the sweet reginas of the spring is over—the reign of the silvia and anemone,

of viola and veronica; and at last, and this year abdicated under tyrannous storm,* the reign of the rose. And the last foxglove-bells are nearly fallen; and over all my fields and by the brooksides are coming up the burdock, and the coarse and vainly white aster, and the black knapweeds; and there is only one flower left to love among the grass,—the soft, warm-scented Brunelle.

6. *Prunell*, or *Brunell*—Gerarde calls it, and *Brunella*, rightly and authoritatively, *Tournefort*; *Prunella*, carelessly, *Linnæus*, and idly following him, the moderns, casting out all the meaning and help of its name—of which presently. *Selfe-heale*, Gerarde and Gray call it, in English—meaning that who has this plant needs no physician.

7. As I look at it, close beside me, it seems as if it would reprove me for what I have just said of the poverty of color in its tribe; for the most glowing of violets could not be lovelier than each fine purple gleam of its hooded blossoms. But their flush is broken and oppressed by the dark calices out of which they spring, and their utmost power in the field is only of a saddened amethystine luster, subdued with furry brown. And what is worst in the victory of the darker color is the disorder of the scattered blossoms;—of all flowers I know, this is the strangest, in the way that here and there, only in their cluster, its bells rise or remain, and it always looks as if half of them had been shaken off, and the top of the cluster broken short away altogether.

8. We must never lose hold of the principle that every flower is meant to be seen by human creatures with human eyes, as by spiders with spider eyes. But as the painter may sometimes play the spider, and weave a mesh to entrap the heart, so the beholder may play the spider, when there are meshes to be disentangled that have entrapped his mind. I take my lens, therefore—to the little wonder of a brown wasps' nest with blue-winged wasps in it,—and perceive there-with the following particulars.

9. First, that the blue of the petals is indeed pure and

* Written in 1880.

lovely, and a little crystalline in texture; but that the form and setting of them is grotesque beyond all wonder; the two uppermost joined being like an old-fashioned and enormous hood or bonnet, and the lower one projecting far out in the shape of a cup or cauldron, torn deep at the edges into a kind of fringe.

Looking more closely still, I perceive there is a cluster of stiff white hairs, almost bristles, on the top of the hood; for no imaginable purpose of use or decoration—any more than a hearth-brush put for a helmet-crest,—and that, as we put the flower full in front, the lower petal begins to look like some threatening viperine or shark-like jaw, edged with ghastly teeth,—and yet more, that the hollow within begins to suggest a resemblance to an open throat in which there are two projections where the lower petal joins the lateral ones, almost exactly like swollen glands.

I believe it was this resemblance, inevitable to any careful and close observer, which first suggested the use of the plant in throat diseases to physicians; guided, as in those first days of pharmacy, chiefly by imagination. Then the German name for one of the most fatal of throat affections, Braune, extended itself into the first name of the plant, Brunelle.

10. The truth of all popular traditions as to the healing power of herbs will be tried impartially as soon as men again desire to lead healthy lives; but I shall not in 'Proserpina' retain any of the names of their gathered and dead or distilled substance, but name them always from the characters of their life. I retain, however, for this plant its name Brunella, Fr. Brunelle, because we may ourselves understand it as a derivation from Brune; and I bring it here before the reader's attention as giving him a perfectly instructive general type of the kind of degradation which takes place in the forms of flowers under more or less malefic influence, causing distortion and disguise of their floral structure. Thus it is not the normal character of a flower petal to have a cluster of bristles growing out of the middle of it, nor to be jagged at the edge into the likeness of a fanged fish's jaw, nor to be

swollen or pouted into the likeness of a diseased gland in an animal's throat. A really uncorrupted flower suggests none but delightful images, and is like nothing but itself.

11. I find that in the year 1719, Tournefort defined, with exactitude which has rendered the definition authoritative for all time, the tribe to which this Brownie flower belongs, constituting them his fourth class; and describing them in terms even more depreciatingly imaginative than any I have ventured to use myself. I translate the passage (vol. i., p. 177):—

12. "The name of Labiate flower is given to a single-petaled flower which, beneath, is attenuated into a tube, and above is expanded into a lip, which is either single or double. It is proper to a labiate flower,—first, that it has a one-leaved calyx (ut calycem habeat *unifolium*), for the most part tubulated, or reminding one of a paper hood (eucullum papyraceum); and, secondly, that its pistil ripens into a fruit consisting of four seeds, which ripen in the calyx itself, as if in their own seed-vessel, by which a labiate flower is distinguished from a personate one, whose pistil becomes a capsule far divided from the calyx (à calyce longè divisam). And a labiate flower differs from rotate, or bell-shaped flowers, which have four seeds, in that the lips of a labiate flower have a gape like the face of a goblin, or ludicrous mask, emulous of animal form."

13. This class is then divided into four sections.

In the first, the upper lip is helmeted, or hooked—"galeatum est, vel falcatum."

In the second, the upper lip is excavated like a spoon—"cochlearis instar est excavatum."

In the third the upper lip is erect.

And in the fourth there is no upper lip at all.

The reader will, I hope, forgive me for at once rejecting a classification of lipped plants into three classes that have lips, and one that has none, and in which the lips of those that have got any, are like helmets and spoons.

Linnaeus, in 1758, grouped the family into two divisions

by the form of the calyx (five-fold or two-fold), and then went into the wildest confusion in distinction of species,—sometimes by the form of corolla, sometimes by that of calyx, sometimes by that of the filaments, sometimes by that of the stigma, and sometimes by that of the seed. As, for instance, thyme is to be identified by the calyx having hairs in its throat, dead-nettle by having bristles in its mouth, lion's tail by having bones in its anthers (antheræ punctis osseis adpersæ), and teucrium by having its upper lip cut in two!

14. St. Hilaire, in 1805, divides again into four sections, but as three of these depend on form of corolla, and the fourth on abortion of stamens, the reader may conclude practically, that logical division of the family is impossible, and that all he can do, or that there is the smallest occasion for his doing, is first to understand the typical structure thoroughly, and then to know a certain number of forms accurately, grouping the others round them at convenient distances; and, finally, to attach to their known forms such simple names as may be utterable by children, and memorable by old people, with more ease and benefit than the 'Galeopsis Eu-te-trahit,' 'Lamium Galeobdalon,' or 'Scutellaria Gale-riculata,' and the like, of modern botany. But to do this rightly, I must review and amplify some of my former classification, which it will be advisable to do in a separate chapter.

CHAPTER VI.

MONACHA.

1. IT is not a little vexing to me, in looking over the very little I have got done of my planned *Systema Proserpinæ*, to discover a grave mistake in the specifications of *Veronica*. It is *Veronica chamædrys*, not *officinalis*, which is our proper English Speedwell, and Welsh Fluellen; and all the eighth paragraph, p. 238, properly applies to that. *Veronica officinalis* is an extremely small flower rising on vertical stems out of recumbent leaves; and the drawing of it in the *Flora Danica*, which I mistook for a stunted northern state, is quite true of the English species,* except that it does not express the recumbent action of the leaves. The proper representation of ground-leafage has never yet been attempted in any botanical work whatever; and as, in recumbent plants, their grouping and action can only be seen from above, the plates of them should always have a dark and rugged background, not only to indicate the position of the eye, but to relieve the forms of the leaves as they were intended to be shown. I will try to give some examples in the course of this year.

2. I find also, sorrowfully, that the references are wrong in three, if not more, places in that chapter. S. 971 and 972 should be transposed in p. 237. S. 294 in p. 238 should be 984. D. 407 should be inserted after *Peregrina*, in p. 239; and 203, in p. 241, should be 903. I wish it were likely that these errors had been corrected by my readers,—the rarity of the *Flora Danica* making at present my references virtually useless: but I hope in time that our public

* The plate of *Chamædrys*, D. 448, is also quite right, and not 'too tall and weedlike' as I have called it at p. 236.

institutes will possess themselves of copies: still more do I hope that some book of the kind will be undertaken by English artists and engravers, which shall be worthy of our own country.

3. Farther, I get into confusion by not always remembering my own nomenclature, and have allowed 'Gentianoides' to remain, for No. 16, though I banish Gentian. It will be far better to call this eastern mountain species 'Olympica': according to Sibthorpe's localization, "in summâ parte, nive solutâ, montis Olympi Bithyni," and the rather that Curtis's plate above referred to shows it in luxuriance to be liker an asphodel than a gentian.

4. I have also perhaps done wrong in considering *Veronica polita* and *agrestis* as only varieties, in No. 3. No author tells me why the first is called polite, but its blue seems more intense than that of *agrestis*; and as it is above described with attention, vol. i., pp. 53, 54, as an example of precision in flower-form, we may as well retain it in our list here. It will be therefore our twenty-first variety,—it is Loudon's fifty-ninth and last. He translates 'polita' simply 'polished,' which is nonsense. I can think of nothing to call it but 'dainty,' and will leave it at present unchristened.

5. Lastly. I can't think why I omitted *V. Humifusa*, S. 979, which seems to be quite one of the most beautiful of the family—a mountain flower also, and one which I ought to find here; but hitherto I know only among the mantlings of the ground, *V. thymifolia* and *officinalis*. All these, however, agree in the extreme prettiness and grace of their crowded leafage,—the *officinalis*, of which the leaves are shown much too coarsely serrated in S. 984, forming carpets of finished embroidery which I have never yet rightly examined, because I mistook them for St. John's wort. They are of a beautiful pointed oval form, serrated so finely that they seem smooth in distant effect, and covered with equally invisible hairs, which seem to collect towards the edge in the variety *Hirsuta*, S. 985.

For the present, I should like the reader to group the three

flowers, S. 979, 984, 985, under the general name of *Humifusa*, and to distinguish them by a third epithet, which I allow myself when in difficulties, thus:

V. *Humifusa*, *cærulea*, the beautiful blue one, which resembles *Spicata*.

V. *Humifusa*, *officinalis*, and,

V. *Humifusa*, *hirsuta*: the last seems to me extremely interesting, and I hope to find it and study it carefully.

By this arrangement we shall have only twenty-one species to remember: the one which chiefly decorates the ground again dividing into the above three.

6. These matters being set right, I pass to the business in hand, which is to define as far as possible the subtle relations between the *Veronicas* and *Draconidæ*, and again between these and the tribe at present called *labiate*. In my classification above, vol. i., p. 143, the *Draconidæ* include the *Nightshades*; but this was an oversight. *Atropa* belongs properly to the following class, *Moiridæ*; and my *Draconids* are intended to include only the two great families of *Personate* and *Ringent* flowers, which in some degree resemble the head of an animal: the representative one being what we call 'snapdragon,' but the French, careless of its snapping power, call's muzzle—"Muffier, muflande, or muffle de Veau."—Rousseau, 'Lettres,' p. 19.

7. As I examine his careful and sensible plates of it, I chance also on a bit of his text, which, extremely wise and generally useful, I translate forthwith:—

"I understand, my dear, that one is vexed to take so much trouble without learning the names of the plants one examines; but I confess to you in good faith that it never entered into my plan to spare you this little chagrin. One pretends that Botany is nothing but a science of words, which only exercises the memory, and only teaches how to give plants names. For me, I know *no* rational study which is only a science of words: and to which of the two, I pray you, shall I grant the name of botanist,—to him who knows how to spit

out a name or a phrase at the sight of a plant, without knowing anything of its structure, or to him who, knowing that structure very well, is ignorant nevertheless of the very arbitrary name that one gives to the plant in such and such a country? If we only gave to your children an amusing occupation, we should miss the best half of our purpose, which is, in amusing them, to exercise their intelligence and accustom them to attention. Before teaching them to name what they see, let us begin by teaching them to see it. *That science, forgotten in all educations, ought to form the most important part of theirs. I can never repeat it often enough—teach them never to be satisfied with words, ('se payer de mots')* and to hold themselves as knowing nothing of what has reached no farther than their memories."

8. Rousseau chooses, to represent his 'Personees,' *La Mufflaude, la Linaire, l'Euphraise, la Pediculaire, la Crête-de-coq, l'Orobanche, la Cimbalair, la Velvete, la Digitale,* giving plates of snapdragon, foxglove, and Madonna-herb, (the Cimbalair), and therefore including my entire class of *Draconidæ*, whether open or close throated. But I propose myself to separate from them the flower which, for the present, I have called *Monacha*, but may perhaps find hereafter a better name; this one, which is the best Latin I can find for a nun of the desert, being given to it because all the resemblance either to calf or dragon has ceased in its rosy petals, and they resemble—the lower ones those of the mountain thyme, and the upper one a softly crimson cowl or hood.

9. This beautiful mountain flower, at present, by the good grace of botanists, known as *Pedicularis*, from a disease which it is supposed to give to sheep, is distinguished from all other *Draconidæ* by its beautifully divided leaves: while the flower itself, like, as aforesaid, thyme in the three lower petals, rises in the upper one quite upright, and terminates in the narrow and peculiar hood from which I have named it '*Monacha*.'

10. Two deeper crimson spots with white centers animate the color of the lower petals in our mountain kind—moun-

tain or morass;—it is vilely drawn in S. 997 under the name of *Sylvatica*, translated ‘Procumbent’! As it is neither a wood flower nor a procumbent one,* and as its rosy color is rare among morass flowers, I shall call it simply *Monacha Rosea*.

I have not the smallest notion of the meaning of the following sentence in S.:—“Upper lip of corolla not rostrate, with the margin on each side furnished with a triangular tooth immediately below the apex, but without any tooth below the middle.” Why, or when, a lip is rostrate, or has any ‘tooth below the middle,’ I do not know; but the upper *petal* of the corolla is here a very close gathered hood, with the style emergent downwards, and the stamens all hidden and close set within.

In this action of the upper petal, and curve of the style, the flower resembles the *Labiates*,† and is the proper link between them and the *Draconidæ*. The capsule is said by S. to be oval-ovoid. As eggs always *are* oval, I don’t feel farther informed by the epithet. The capsule and seed both are of entirely indescribable shapes, with any number of sides—very foxglove-like, and inordinately large. The seeds of the entire family are ‘ovoid-subtrigonus.’—S.

11. I find only two species given as British by S., namely, *Sylvatica* and *Palustris*; but I take first for the *Regina*, the beautiful Arctic species, D. 1105, *Flora Suecica*, 555. Rose-colored in the stem, pale pink in the flowers (*corollæ pallide incarnatæ*), the calices furry against the cold, whence the present ugly name, *Hirsuta*. Only on the highest crests of the Lapland Alps.

(2) *Rosea* D. 225, there called *Sylvatica*, as by S., presumably because “in pascuis subhumidis non raræ.” Beautifully drawn, but, as I have described it, vigorously

* “Stems numerous from the crown of the root-stock, de-cumbent.”—S. The effect of the flower upon the ground is always of an extremely upright and separate plant, never appearing in clusters, or in any relation to a central root. My epithet ‘*rosea*’ does not deny its botanical de- or pro-cumbency.

† Compare especially *Galeopsis Angustifolia*, D. 3031.

erect, and with no decumbency whatever in any part of it. Root branched, and enormous in proportion to plant, and I fancy therefore must be good for something if one knew it. But Gerarde, who calls the plant Red Rattle, (it having indeed much in common with the Yellow Rattle), says, "It groweth in moist and moorish meadows; the herbe is not only unprofitable, but likewise hurtful, and an infirmity of the meadows."

(3) *Palustris*, D. 2055, S. 996—scarcely any likeness between the plates. "Everywhere in the meadows," according to D. I leave the English name, Marsh Monacha, much doubting its being more marshy than others.

12. I take next (4 and 5) two northern species, *Lapponica*, D. 2, and *Grönlandica*, D. 1166; the first yellow, the second red, both beautiful. The Lap one has its divided leaves almost united into one lovely spear-shaped single leaf. The Greenland one has its red hood much prolonged in front.

(6) *Ramosa*, also a Greenland species; yellow, very delicate and beautiful. Three stems from one root, but may be more or fewer, I suppose.

13. (7) *Norvegica*, a beautifully clustered golden flower, with thick stem, D. 30, the only locality given being the Dovrefeldt. "*Alpina*" and "*Flammea*" are the synonyms, but I do not know it on the Alps, and it is no more flame-colored than a cowslip.

Both the Lapland and Norwegian flowers are drawn with their stems wavy, though upright—a rare and pretty habit of growth.

14. (8) *Suecica*, D. 26, named awkwardly *Sceptrum Carolinum*, in honor of Charles XII. It is the largest of all the species drawn in D., and contrasts strikingly with (4) and (5) in the strict uprightness of its stem. The corolla is closed at the extremity, which is red; the body of the flower pale yellow. Grows in marshy and shady woods, near Upsal. Linn., *Flora Suecica*, 553.

The many-lobed but united leaves, at the root five or six inches long, are irregularly beautiful.

15. These eight species are all I can specify, having no pictures of the others named by Loudon,—eleven, making nineteen altogether, and I wish I could find a twentieth and draw them all, but the reader may be well satisfied if he clearly know these eight. The group they form is an entirely distinct one, exactly intermediate between the Vestals and Draconids, and cannot be rightly attached to either; for it is Draconid in structure and affinity—Vestal in form—and I don't see how to get the connection of the three families rightly expressed without taking the Draconidæ out of the groups belonging to the dark Kora, and placing them next the Vestals, with the Monachæ between; for indeed *Linaria* and several other Draconid forms are entirely innocent and beautiful, and even the Foxglove never does any real mischief like hemlock, while decoratively it is one of the most precious of mountain flowers. I find myself also embarrassed by my name of Vestals, because of the masculine groups of *Basil* and *Thymus*, and I think it will be better to call them simply *Menthæ*, and to place them with the other cottage-garden plants not yet classed, taking the easily remembered names *Mentha*, *Monacha*, *Draconida*. This will leave me a blank seventh place among my twelve orders at p. 139, vol. i., which I think I shall fill by taking cyclamen and anagallis out of the *Primulaceæ*, and making a separate group of them. These retouchings and changes are inevitable in a work confessedly tentative and suggestive only; but in whatever state of imperfection I may be forced to leave 'Proserpina,' it will assuredly be found, up to the point reached, a better foundation for the knowledge of flowers in the minds of young people than any hitherto adopted system of nomenclature.

16. Taking then this re-arranged group, *Mentha*, *Monacha*, and *Draconida*, as a sufficiently natural and convenient one, I will briefly give the essentially botanical relations of the three families.

Mentha and *Monacha* agree in being essentially hooded flowers, the upper petal more or less taking the form of a cup,

helmet or hood, which conceals the tops of the stamens. Of the three lower petals, the lowest is almost invariably the longest; it sometimes is itself divided again into two, but may be best thought of as single, and with the two lateral ones, distinguished in the *Menthæ* as the apron and the side pockets.

Plate XII. represents the most characteristic types of the blossoms of *Menthæ*, in the profile and front views, all a little magnified. The upper two are white basil, purple spotted—growing here at Brantwood always with two terminal flowers. The two middle figures are the purple-spotted dead nettle, *Lamium maculatum*; and the two lower, thyme: but I have not been able to draw these as I wanted, the perspectives of the petals being too difficult, and inexplicable to the eye even in the flowers themselves without continually putting them in changed positions.

17. The *Menthæ* are in their structure essentially quadrate plants; their stems are square, their leaves opposite, their stamens either four or two, their seeds two-carpeled. But their calices are five-sepaled, falling into divisions of two and three; and the flowers, though essentially four-petaled, may divide either the upper or lower petal, or both, into two lobes, and so present a six-lobed outline. The entire plants, but chiefly the leaves, are nearly always fragrant, and always innocent. None of them sting, none prick, and none poison.

18. The *Draconids*, easily recognizable by their aspect, are botanically indefinable with any clearness or simplicity. The calyx may be five- or four-sepaled; the corolla, five- or four-lobed; the stamens may be two, four, four with a rudimentary fifth, or five with the two anterior ones longer than the other three! The capsule may open by two, three, or four valves,—or by pores; the seeds, generally numerous, are sometimes solitary, and the leaves may be alternate, opposite, or verticillate.

19. Thus licentious in structure, they are also doubtful in disposition. None that I know of are fragrant, few useful, many more or less malignant, and some parasitic. The fol-



XII.

MENTHÆ.

Profile and Front View of Blossoms (enlarged).

lowing piece of a friend's letter almost makes me regret my rescue of them from the dark kingdom of Kora:—

“ . . . And I find that the Monacha Rosea (Red Rattle is its name, besides the ugly one) is a perennial, and several of the other Draconidæ, foxglove, etc., are biennials, born this year, flowering and dying next year, and the size of roots is generally proportioned to the life of plants; except when artificial cultivation develops the root specially, as in turnips, etc. Several of the Draconidæ are parasites, and suck the roots of other plants, and have only just enough of their own to catch with. The Yellow Rattle is one; it clings to the roots of the grasses and clovers, and no cultivation will make it thrive without them. My authority for this last fact is Grant Allen; but I have observed for myself that the Yellow Rattle has very small *white* sucking roots, and no earth sticking to them. The toothworts and broom rapes are Draconidæ, I think, and wholly parasites. Can it be that the Red Rattle is the one member of the family that has ‘proper pride, and is self-supporting’? the others are mendicant orders. We had what we choose to call the Dorcas flower show yesterday, and we gave, as usual, prizes for wild flower bouquets. I tried to find out the local names of several flowers, but they all seemed to be called ‘I don't know, ma'am.’ I would not allow this name to suffice for the red poppy, and I said ‘This red flower *must* be called *something*—tell me what you call it?’ A few of the audience answered ‘Blind Eyes.’ Is it because they have to do with sleep that they are called Blind Eyes—or because they are dazzling?”

20. I think, certainly, from the dazzling, which sometimes with the poppy, scarlet geranium, and nasturtium, is more distinctly oppressive to the eye than a real excess of light.

I will certainly not include among my rescued Draconidæ, the parasitic Lathræa and Orobanche; and cannot yet make certain of any minor classification among those which I retain,—but, uniting Bartsia with Euphrasia, I shall have,

in the main, the three divisions *Digitalis*, *Linaria*, *Euphrasia*, and probably separate the moneyworts as links with *Veronica* and *Rhinanthus* as links with *Lathræa*.

And as I shall certainly be unable this summer, under the pressure of resumed work at Oxford, to spend time in any new botanical investigations, I will rather try to fulfill the promise given in the last number, to collect what little I have been able hitherto to describe or ascertain, respecting the higher modes of tree structure.

CHAPTER VII.

SCIENCE IN HER CELLS.

[The following chapter has been written six years. It was delayed in order to complete the promised clearer analysis of stem-structure; which, after a great deal of chopping, chipping, and peeling of my oaks and birches, came to reverently hopeless pause. What is here done may yet have some use in pointing out to younger students how they may simplify their language, and direct their thoughts, so as to attain, in due time, to reverent hope.]

1. THE most generally useful book, to myself, hitherto, in such little time as I have for reading about plants, has been Lindley's 'Ladies' Botany'; but the most rich and true I have yet found in illustration, the 'Histoire des Plantes,'* by Louis Figuier. I should like those of my readers who can afford it to buy both these books; the first-named, at any rate, as I shall always refer to it for structural drawings, and on points of doubtful classification; while the second contains much general knowledge, expressed with some really human intelligence and feeling; besides some good and singularly *just* history of botanical discovery and the men who guided it. The botanists, indeed, tell me proudly, "Figuier is no authority." But who wants authority! Is there nothing known yet about plants, then, which can be taught to a boy or girl, without referring them to an 'authority'?

I, for my own part, care only to gather what Figuier can teach concerning things visible, to any boy or girl, who live within reach of a bramble hedge, or a hawthorn thicket, and can find authority enough for what they are told, in the sticks of them.

2. If only *he* would, or could, tell us clearly that much;

* Octavo: Paris, Hachette, 1865.

but like other doctors, though with better meaning than most, he has learned mainly to look at things with a microscope,—rarely with his eyes. And I am sorry to see, on re-reading this chapter of my own, which is little more than an endeavor to analyze and arrange the statements contained in his second, that I have done it more petulantly and unkindly than I ought; but I can't do all the work over again, now,—more's the pity. I have not looked at this chapter for a year, and shall be sixty before I know where I am;—(I find myself, instead, now, sixty-four!)

3. But I stand at once partly corrected in this second chapter of Figuier's, on the 'Tige,' French from the Latin 'Tignum,' which 'authorities' say is again from the Sanscrit, and means 'the thing hewn with an ax'; anyhow it is modern French for what we are to call the stem (§ 12, p. 98).

"The tige," then, begins M. Louis, "is the axis of the ascending system of a vegetable, and it is garnished at intervals with vital knots, (eyes,) from which spring leaves and buds, disposed in a perfectly regular order. The root presents nothing of the kind. This character permits us always to distinguish, in the vegetable axis, what belongs really to the stem, and what to the root."

4. Yes; and that is partly a new idea to me, for in this power of *assigning their order* for the leaves, the stem seems to take a royal or commandant character, and cannot be merely defined as the connection of the leaf with the roots.

In *it* is put the spirit of determination. One cannot fancy the little leaf, as it is born, determining the point it will be born at: the governing stem must determine that for it. Also the disorderliness of the root is to be noted for a condition of its degradation, no less than its love, and need, of Darkness.

Nor was I quite right (above, § 15, p. 100) in calling the stem *itself* 'spiral': it is itself a straight-growing rod, but one which, as it grows, lays the buds of future leaves round it in a spiral order, like the bas-relief on Trajan's column.

I go on with Figuiet: the next passage is very valuable.

5. "The tige is the part of plants which, directed into the air, supports, and *gives growing power to*, the branches, the twigs, the leaves, and the flowers. The form, strength, and direction of the tige depend on the part that each plant has to play among the vast vegetable population of our globe. Plants which need for their life a pure and often-renewed air, are borne by a straight tige, robust and tall. When they have need only of a moist air, more condensed, and more rarely renewed, when they have to creep on the ground or glide in thickets, the tiges are long, flexible, and dragging. If they are to float in the air, sustaining themselves on more robust vegetables, they are provided with flexible, slender, and supple tiges."

6. Yes; but in that last sentence he loses hold of his main idea, and to me the important one,—namely, the connection of the form of stem with the quality of the air it requires. And that idea itself is at present vague, though most valuable, to me. A strawberry creeps, with a flexible stem, but requires certainly no less pure air than a wood-fungus, which stands up straight. And in our own hedges and woods, are the wild rose and honeysuckle signs of unwholesome air?

"And honeysuckle loved to crawl
Up the lone crags and ruined wall.
I deemed such nooks the sweetest shade
The sun in all his round surveyed."

It seems to me, in the nooks most haunted by honeysuckle in my own wood, that the reason for its twining is a very feminine one,—that it likes to twine; and that all these whys and wherefores resolve themselves at last into—what a modern philosopher, of course, cannot understand—caprice.*

7. Farther on, Figuiet, quoting St. Hilaire, tells us, of the creepers in primitive forests,—“Some of them resemble waving ribbons, others coil themselves and describe vast

* See in the ninth chapter what I have been able, since this sentence was written, to notice on the matter in question.

spirals; they droop in festoons, they wind hither and thither among the trees, they fling themselves from one to another, and form masses of leaves and flowers in which the observer is often at a loss to discover on which plant each several blossom grows."

For all this, the real reasons will be known only when human beings become reasonable. For, except a curious naturalist or wistful missionary, no Christian has trodden the labyrinths of delight and decay among these garlands, but men who had no other thought than how to cheat their savage people out of their gold, and give them gin and smallpox in exchange. But, so soon as true servants of Heaven shall enter these Edens, and the Spirit of God enter with them, another spirit will also be breathed into the physical air; and the stinging insect, and venomous snake, and poisonous tree, pass away before the power of the regenerate human soul.

8. At length, on the structure of the tige, Figuier begins his real work, thus:—

"A glance of the eye, thrown on the section of a log of wood destined for warming, permits us to recognize that the tige of the trees of our forests presents three essential parts, which are, in going from within to without, the pith, the wood, and the bark. The pith, (in French, marrow,) forms a sort of column in the center of the woody axis. In very thick and old stems its diameter appears very little; and it has even for a long time been supposed that the marrow ends by disappearing altogether from the stems of old trees. But it does nothing of the sort;* and it is now ascertained, by exact measures, that its diameter remains sensibly invariable † from the moment when the young woody axis begins to consolidate itself, to the epoch of its most complete development."

So far, so good; but what does he mean by the complete

* I envy the French their generalized form of denial, 'Il n'en est rien.'

† 'Sensiblement invariable;' 'unchanged, so far as we can see,' or to general sense; microscopic and minute change not being considered,

development of the young *woody* axis? When does the axis become 'wooden,' and how far up the tree does he call it an axis? If the stem divides into three branches, which is the axis? And is the pith in the trunk no thicker than in each branch?

9. He proceeds to tell us, "The marrow is formed by a reunion of cells."—Yes, and so is Newgate, and so was the Bastille. But what does it matter whether the marrow is made of a reunion of cells, or cellars, or walls, or floors, or ceilings? I want to know what's the use of it? why doesn't

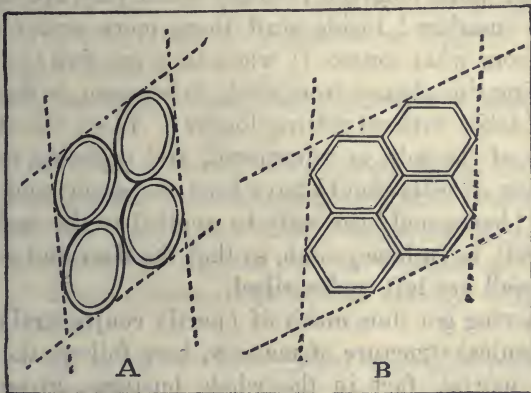


FIG. 24.

it grow bigger with the rest of the tree? when *does* the tree 'consolidate itself'? when is it finally consolidated? and how can there be always marrow in it when the weary frame of its age remains a mere scarred tower of war with the elements, full of dust and bats?

'He will tell you if only you go on patiently,' thinks the reader. He will not! Once your modern botanist gets into cells, he stays in them. Hear how he goes on!—"This cell is a sort of sack; this sack is completely closed; sometimes it is empty, sometimes it"—is full?—no, that would be unscientific simplicity: sometimes it "conceals a matter in its interior." "The marrow of young trees, such as it is represented in Figure 24 (Figuier, Figs. 38, 39, p. 42), is nothing

else"—(indeed!)—"than an aggregation of cells, which, first of spherical form, have become polyhedric by their increase and mutual compression."

10. Now these figures, 38 and 39, which profess to represent this change, show us sixteen oval cells, such as at A, (Fig. 24) enlarged into thirteen larger, and flattish, hexagons!—B, placed at a totally different angle.

And before I can give you the figure revised with any available accuracy, I must know why or how the cells are enlarged, and in what direction.

Do their walls lengthen laterally when they are empty, or does the 'matière' inside stuff them more out, (itself increased from what sources?) when they are full? In either case, during this change from circle to hexagon, is the marrow getting thicker without getting longer? If so, the change in the angle of the cells is intentional, and probably is so; but the number of cells should have been the same: and further, the term 'hexagonal' can only be applied to the *section* of a tubular cell, as in honeycomb, so that the floor and ceiling of our pith cell are left undescribed.

11. Having got thus much of (partly conjectural) idea of the mechanical structure of marrow, here follows the solitary vital, or mortal, fact in the whole business, given in one crushing sentence at the close:—

"The medullary tissue" (first time of using this fine phrase for the marrow,—why can't he say marrowy tissue—'tissue moelleuse'?) "appears very early struck with atony," ('atonic,' want of tone,) "above all, in its central parts." And so ends all he has to say for the present about the marrow! and it never appears to occur to him for a moment, that if indeed the noblest trees live all their lives in a state of healthy and robust paralysis, it is a distinction, hitherto unheard of, between vegetables and animals!

12. Two pages farther on, however, (p. 45,) we get more about the marrow, and of great interest,—to this effect, for I must abstract and complete here, instead of translating.

"The marrow itself is surrounded, as the center of an

electric cable is, by its guarding threads—that is to say, by a number of cords or threads coming between it and the wood, and differing from all others in the tree.

“The entire protecting cylinder composed of them has been called the ‘*étui*,’ (or needle-case,) of the marrow. But each of the cords which together form this *étui*, is itself composed of an almost infinitely delicate thread twisted into a screw, like the common spring of a letter-weigher or a Jack-in-the-box, but of exquisite fineness.” Upon this, two pages and an elaborate figure are given to these ‘*trachées*’—tracheas, the French call them,—and we are never told the measure of them, either in diameter or length,* and still less, the use of them!

I collect, however, in my thoughts, what I have learned thus far.

13. A tree stem, it seems, is a growing thing, cracked outside, because its skin won't stretch, paralyzed inside, because its marrow won't grow, but which continues the process of its life somehow, by knitted nerves without any nervous energy in them, protected by spiral springs without any spring in them.

Stay—I am going too fast. That coiling is perhaps prepared for some kind of uncoiling; and I will try if I can't learn something about it from some other book,—noticing, as I pause to think where to look, the advantage of our English tongue in its pithy Saxon word ‘*pith*,’ separating all our ideas of vegetable structure clearly from animal; while the poor Latin and French must use the entirely inaccurate words ‘*medulla*’ and ‘*moelle*’; all, however, concurring in their recognition of a vital power of some essential kind in this white cord of cells: “*Medulla, sive illa vitalis anima est, ante se tendit, longitudinem impellens.*” (Pliny, ‘Of the

* Moreover, the confusion between vertical and horizontal sections in pp. 46, 47, is completed by the misprint of vertical for horizontal in the third line of p. 43, and of horizontal for vertical in the fifth line from bottom of p. 46; while Figure 45 is to me totally unintelligible, this being, as far as can be made out by the lettering a section of a tree stem which has its marrow on the outside!

Vine, liber X., cap. xxi.) ‘*Vitalis anima*’—yes—*that* I accept; but ‘*longitudinem impellens*,’ I pause at; being not at all clear, yet, myself, about any impulsive power in the pith.*

14. However, I take up first, and with best hope, Dr. Asa Gray, who tells me (Art. 211) that pith consists of parenchyma, ‘which is at first gorged with sap,’ but that many stems expand so rapidly that their pith is torn into a mere lining or into horizontal plates; and that as the stem grows older, the pith becomes dry and light, and is ‘then of no farther use to the plant.’ But of what use it ever was, we are not informed; and the Doctor makes us his bow, so far as the professed article on pith goes; but, farther on, I find in his account of ‘Sap-wood,’ (Art. 224,) that in the germinating plantlet, the sap ‘ascends first through the parenchyma, especially through its central portion or pith.’ Whereby we are led back to our old question, what sap is, and where it comes from, with the now superadded question, whether the young pith is a mere succulent sponge, or an active power, and constructive mechanism, nourished by the abundant sap: as Columella has it,—

“*Naturali enim spiritu omne alimentum virentis quasi quædam anima, per medullam trunci veluti per siphonem, trahitur in summum.*” †

As none of these authors make any mention of a *communication* between the cells of the pith, I conclude that the sap they are filled with is taken up by them, and used to construct their own thickening tissue.

15. Next, I take Balfour’s ‘*Structural Botany*,’ and by his index, under the word ‘Pith,’ am referred to his articles 8, 72, and 75. In article 8, neither the word pith, nor any expression alluding to it, occurs.

* “Try a bit of rhubarb” (says A, who sends me a pretty drawing of rhubarb pith); but as rhubarb does not grow into wood, inapplicable to our present subject; and if we descend to annual plants, rush pith is the thing to be examined.

† I am too lazy now to translate, and shall trust to the chance of some remnant, among my readers, of classical study, even in modern England.

In article 72, the stem of an outlaid tree is defined as consisting of 'pith, fibro-vascular and * woody tissue, medullary rays, bark, and epidermis.'

A more detailed statement follows, illustrated by a figure surrounded by twenty-three letters—namely, two *bs*, three *cs*, four *es*, three *fs*, one *l*, four *ms*, three *ps*, one *r*, and two *vs*.

Eighteen or twenty minute sputters of dots may, with a

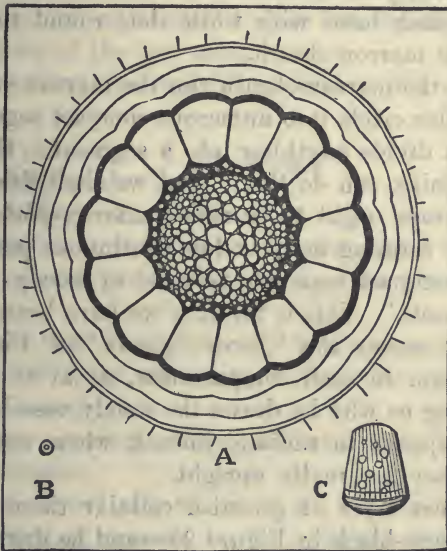


FIG. 25.

good lens, be discerned to proceed from this alphabet, and to stop at various points, or lose themselves in the texture, of the represented wood. And, knowing now something of the matter beforehand, guessing a little more, and gleaning the rest with my finest glass, I achieve the elucidation of the figure, to the following extent, explicable without letters at all, by my more simple drawing, Figure 25.

16. (1) The inner circle full of little cells, diminishing in size towards the outside, represents the pith, 'very large

* 'Or woody tissue,' suggests A. It is 'and' in Balfour.

at this period of the growth'—(the first year, we are told in next page,) and 'very large'—he means in proportion to the rest of the branch. *How large* he does not say, in his text, but states in his note, that the figure is magnified 26 diameters. I have drawn mine by the more convenient multiplier of 30, and given the real size at B, *according to Balfour*:—but without believing him to be right. I never saw a maple stem of the first year so small.

(2) The black band with white dots round the marrow, represents the marrow-sheath.

(3) From the marrow-sheath run the marrow-rays 'dividing the vascular circle into numerous compact segments.' A 'ray' cannot divide anything into a segment. Only a partition, or a knife, can do that. But we shall find presently that marrow-rays ought to be called marrow-plates, and are really mural, forming more or less continuous partitions.

(4) The compact segments 'consist of woody vessels and of porous vessels.' This is the first we have heard of woody vessels! He means the '*fibres ligneux*' of Figuier; and represents them in each compartment, as at C (Fig. 25), without telling us why he draws the woody vessels as radiating. They appear to radiate, indeed, when wood is sawn across, but they are really upright.

(5) A moist layer of greenish cellular tissue called the cambium layer—black in Figure 25—and he draws it in flat arches, without saying why.

(6) } Three layers of bark (called in his note Endo-
 (7) } phloëum, Mesophloëum, and Epiphloëum!), with
 (8) } 'laticiferous vessels.'*

(9) Epidermis. The three layers of bark being separated by single lines, I indicate the epidermis by a double one, with a rough fringe outside, and thus we have the parts of the section clearly visible and distinct for discussion, so far

* Terms not used now, but others quite as bad: Cuticle, Epidermis, Cortical layer, Periderm, Cambium, Phelloderm—six hard words for 'BARK,' says my careful annotator. "Yes; and these new six to be changed for six newer ones next year, no doubt."

as this first figure goes,—without wanting one letter of all his three and twenty!

17. But on the next page, this ingenious author gives us a new figure, which professes to represent the same order of things in a longitudinal section; and in retracing that order sideways, instead of looking down, he not only introduces new terms, but misses one of his old layers in doing so,—thus:

His order, in explaining Figure 96, contains, as above, nine members of the tree stem.

But his order, in explaining Figure 97, contains only eight, thus:

- | | |
|-------------------------------|------------|
| (1) The pith. | } Circles. |
| (2) Medullary sheath. | |
| (3) Medullary ray = a Radius. | |

(4) Vascular zone, with woody *fibers*, (not now vessels!)
The fibers are composed of spiral, annular, pitted, and other vessels.

(5) Inner bark or 'liber,' with layer of cambium cells.

(6) Second layer of bark, or 'cellular envelope,' with laticiferous vessels.

(7) Outer or tuberos layer of bark.

(8) Epidermis.

Doing the best I can to get at the muddle-headed gentleman's meaning, it appears, by the lettering of his Figure 97, my 25 above, that the 'liber,' number 5, contains the cambium layer in the middle of it. The part of the liber between the cambium and the wood is not marked in Figure 96;—but the cambium is number 5, and the liber outside of it is number 6,—the Endophlœum of his note.

Having got himself into this piece of lovely confusion, he proceeds to give a figure of the wood in the second year, which I think he has borrowed, without acknowledgment, from Figuier, omitting a piece of Figuier's wood-cut which is unexplained in Figuier's text. I will spare my readers the work I have had to do, in order to get the statements on either side clarified; but I think they will find, if they care

to work through the wilderness of the two authors' wits, that this which follows is the sum of what they have effectively to tell us; with the collated list of the main questions they leave unanswered—and, worse, unasked.

18. An ordinary tree branch, in transverse section, consists essentially of three parts only,—the Pith, Wood, and Bark.

The pith is in full animation during the first year—that is to say, during the actual shooting of the wood. We are left to infer that in the second year, the pith of the then

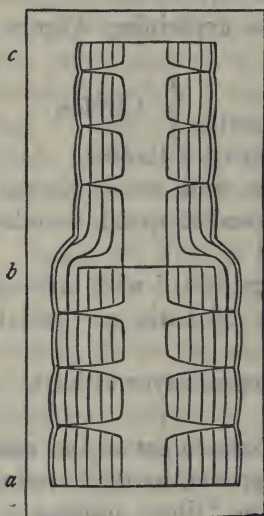


FIG. 26.

unprogressive shoot becomes collective only, not formative; and that the pith of the new shoot virtually energizes the new wood in its deposition beside the old one. Thus, let *a b*, Figure 26, be a shoot of the first year, and *b c* of the second. The pith remains of the same thickness in both, but that of the new shoot is, I suppose, chiefly active in sending down the new wood to thicken the old one, which is collected, however, and fastened by the extending pith-rays below. You see, I have given each shoot four fibers of wood for its own; then the four fibers of the upper one send out

two to thicken the lower: the pith rays, represented by the white transverse claws, catch and gather all together. Mind, I certify nothing of this to you; but if this do not happen,—let the botanists tell you what *does*.

19. Secondly. The wood, represented by these four lines, is to be always remembered as consisting of fibers and vessels; therefore it is called ‘vascular,’ a word which you may as well remember (though rarely needed in familiar English),

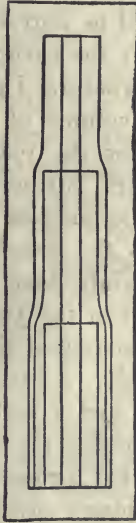


FIG. 27.

with its roots, *vas*, a vase, and *vasculum*, a little vase or vial. ‘Vasculum’ may sometimes be allowed in botanical descriptions where ‘cell’ is not clear enough; thus, at present, we find our botanists calling the pith ‘cellular,’ but the wood ‘vascular,’ with, I think, the implied meaning that a ‘vasculum,’ little or large, is a long thing, and has some liquid in it, while a ‘cell’ is a more or less round thing, and to be supposed empty, unless described as full. But what liquid fills the vasculum of the wood, they do not tell us.* I assume that they absorb water, as long as the tree lives.

* “At first the vessels are pervious and full of *fluid*, but by degrees thickening layers are deposited, which contract their canal.”—BALFOUR.

20. Wood, whether vascular or fibrous, is however formed, in outlaid plants, first outside of the pith, and then, in shoots of the second year, outside of the wood of the first, and in the third year, outside of the wood of the second; so that supposing the quantity of wood sent down from the growing shoot distributed on a flat plane, the structure in the third year would be as in Figure 27. But since the new wood is distributed all round the stem, (in successive cords or threads, if not at once), the increase of substance after a year or two would be untraceable, unless more shoots than one were formed at the extremity of the branch. Of actual bud and branch structure, I gave introductory account long since in the fifth volume of 'Modern Painters,'* to which I would now refer the reader; but both then, and to-day, after twenty years' further time allowed me, I am unable to give the least explanation of the mode in which the wood is really added to the interior stem. I cannot find, even, whether this is mainly done in spring-time, or in the summer and autumn, when the young suckers form on the wood; but my impression is that though all the several substances are added annually, a little more pith going to the edges of the pith-plates, and a little more bark to the bark, with a great deal more wood to the wood,—there is a different or at least successive period for each deposit, the carrying all these elements to their places involving a fineness of basket work or web work in the vessels, which neither microscope nor dissecting tool can disentangle. The result on the whole, however, is practically that we have, outside the wood, always a mysterious 'cambium layer,' and then some distinctions in the bark itself, of which we must take separate notice.

21. Of Cambium, Dr. Gray's 220th article gives the following account. "It is not a distinct substance, but a

* I cannot better this earlier statement, which in beginning 'Proserpina,' I intended to form a part of that work; but, as readers already in possession of it in the original form, ought not to be burdened with its repetition, I shall republish those chapters as a supplement, which I trust may be soon issued.

layer of delicate new cells full of sap. The inner portion of the cambium layer is, therefore, nascent wood, and the outer nascent bark. As the cells of this layer multiply, the greater number lengthen vertically into *prosenchyma*, or woody tissue, while some are transformed into ducts" (wood vessels?) "and others remaining as *parenchyma*, continue the medullary rays, or commence new ones." Nothing is said here of the part of the cambium which becomes bark: but at page 128, the thin walled cells of the bark are said to be those of ordinary 'parenchyma,' and in the next page a very important passage occurs, which must have a paragraph to itself. I close the present one with one more protest against the entirely absurd terms 'par-enchyma,' for common cellular tissue, 'pros-enchyma,' for cellular tissue with longer cells; —'cambium' for an early state of *both*, and 'diachyma' for a peculiar position of *one!** while the chemistry of all these substances is wholly neglected, and we have no idea given us of any difference in pith, wood, and bark, than that they are made of short or long—young or old—cells!

22. But in Dr. Gray's 230th article comes this passage of real value. (Italics mine—all.) "While the newer layers of the wood abound in *crude* sap, which they convey to the leaves, those of the inner bark abound in *elaborated* sap, which *they receive from the leaves*, and convey to the *cambium* layer, or *zone of growth*. The proper juices and peculiar products of plants are accordingly found in the foliage and bark, especially the latter. In the bark, therefore, either of the stem or root, medicinal and other principles are usually to be sought, rather than in the wood. Nevertheless, as the wood is kept in connection with the bark by the medullary rays, many products which probably originate in the former are deposited in the wood."

* "'Diachyma' is parenchyma in the middle of a leaf!" (Balfour, Art. 137.) Henceforward, if I ever make botanical quotations, I shall always call parenchyma, By-tis; prosenchyma, To-tis; and diachyma, Through-tis, short for By-tissue, To-tissue, and Through-tissue—then the student will see what all this modern wisdom comes to!

23. Now, at last, I see my way to useful summary of the whole, which I had better give in a separate chapter: and will try in future to do the preliminary work of elaboration of the sap from my authorities, above shown, in its process, to the reader, without making so much fuss about it. But, I think in this case, it was desirable that the floods of pro-, par-, peri-, dia-, and circumlocution, through which one has to wade towards any emergent crag of fact in modern scientific books, should for once be seen in the wasteful tide of them; that so I might finally pray the younger students who feel, or remember, their disastrous sway, to cure themselves forever of the fatal habit of imagining that they know more of anything after naming it unintelligibly, and thinking about it impudently, than they did by loving sight of its nameless being, and in wise confession of its boundless mystery.

In re-reading the text of this number I find a few errata, noted below, and can besides secure my young readers of some things left doubtful, as, for instance, in their acceptance of the word 'Monacha,' for the flower described in the sixth chapter. I have used it now habitually too long to part with it myself, and I think it will be found serviceable and pleasurable by others. Neither shall I now change the position of the Draconidæ, as suggested at p. 271, but keep all as first planned. See among other reasons for doing so the letter quoted in p. 273.

I also add to the plate originally prepared for this number, one showing the effect of *Veronica officinalis* in decoration of foreground, merely by its green leaves; see the paragraphs 1 and 5 of Chapter VI. I have not represented the fine serration of the leaves, as they are quite invisible from standing height: the book should be laid on the floor and looked down on, without stooping, to see the effect intended. And so I gladly close this long-lagging number, hoping never to write



XIII.

VERONICA OFFICINALIS.

Leafage in Foreground Effect.

such a tiresome chapter as this again, or to make so long a pause between any readable one and its sequence.

p. 261, l. 6, for 'love' read 'be loved.'

p. 261, l. 8, put a semicolon, instead of comma, after 'it.'

p. 262, l. 19 from bottom, dele 'as.'

p. 267, l. 14 from bottom, put 'calf's muzzle' in inverted commas.

p. 269, note, 'never appearing in clusters'; I meant, in close masses.

It forms exquisite little rosy crowds, on ground that it likes.

CHAPTER VIII.

THE FOURFOLD STATE.

1. "HOPING"—and I may now add, resolving,—“never to write such a tiresome chapter again” (as the seventh), I find myself assisted in the fulfillment of such resolve by the printers having broken up the type of half the chapter then following. I take this for providential inspiration on their part,—pin the remaining fragments together, and present them here for what good they may be to anybody. The chapter had its title from old Boston's book on the “Fourfold State of Man.” Neither four nor forty would enough number the manifold states whether of men or trees; only it seems the material of tree trunks may indeed be roughly separated, in idea at least, into the four materials—Pith, Wood, Bark, and Cork. I proceed to state the specialties of the four elements of stem, as far as I can make them out.

2. I. PITH.—And, first, respecting the actual diameter and extent of the pith in growing trees, we cannot remain satisfied with the vague statement that the central cord of it does not increase after the first year. If there be any truth in the proportions assigned to Figuiet's plane-stem, the pith of the first year is no thicker than a hair; and I cannot conceive a more valuable addition of material to our knowledge of plants, than an accurate estimate of the quantity of pith substance which, whether in rays or central cord,* is necessary to the proper life of a full-grown tree of any given species. Very clearly, there is no perceptible relation of quantity to strength; but we may at least determine, with

* At page 128, Figuiet casually makes the important statement that medullary rays may be formed in the course of the tree's growth, unconnected with the central pith—“sans être en relation avec la moelle.”

advantage to our botanical conceptions, the actual relation of pith to bulk in a rush, an elder bush, and a Californian pine; and, at the same time, learn if there be any microscopically discernible difference between the pith of rhubarb, or rush, which has only the life of a year to be the nervous center of, and the pith of a cedar of Lebanon, which has to nourish and sustain the sensations of a thousand years.

Here I had entered into the discussion of the medicinal and economical qualities of pith, with special notes on the sago palm, of which I find the only sentence that remains is that "all these questions stand in need of accurate answer." So that it may be quite as well now that I cannot ask them, and am obliged to go on to what I had said about the second of stem constituents, the Wood.

3. II. Wood.—Namely, that besides the distinction of annual rings visible in it, there is another much wider and more curiously formed distinction between new wood and old—separating the *workable* part of the timber, not into many rings or gradations, but into two masses only; of which the inner is called by workmen the *heart* of the wood, and is the only part used for important carpenter's work; and the outer, called by the English workman sap-wood, and by the French "aubier," is separated from the well-knitted timber, in trees of long life and strong make, by a sharp line, and often a conspicuous difference in color. "In the ebony, the heart of the wood is of an intense black, while the aubier is white; in the Judea-tree the heart is yellow and the aubier white; in the Phillyrea, red, while the aubier is white in all three." (White always, then? Why don't you say so, if so? or tell us of a colored aubier, if to be found?) "Workmen who work wood know the difference well; and that only the heart of the wood should be used for works in wood." But on this point the reader will be grateful to me for translating the admirable account given us of old carpentry, by M. Viollet Le Duc, collected from under the heads 'Bois,' 'Charpente,' and 'Menuiserie,' in his noble dictionary of Architecture.

4. "It was above all in the provinces north of the Loire that wood was used with perfect knowledge of its precious qualities. If to-day we possess works full of knowing ('savantes') observations upon wood,—if we know perfectly its specific gravity, hardness, degrees of resistance, modes of culture, yet in practice we pay no regard to these researches; we discourse upon the different kinds of wood à merveille, but employ them too often in defiance of their qualities, and as if we knew nothing of their nature. Unhappily, in our days, the practician scorns scientific observation, and the savant is no practician. The savant works in his cabinet, and never goes down to the wood-yard *; the man of practice does not observe, he seeks to produce quickly and cheap. The bad habits introduced by love of lucre, ignorance, and routine follow their course, while the scientific observer composes books, and establishes formulas.

5. "The middle age, which for many people (not, it is true, practical ones), is still an epoch of ignorance and darkness, has not, as far as we know, left any written treatises on the nature of woods, or on the best means of employing them in construction; that epoch has done better than that: it has known how to use those methods in its work; it has known how to raise pieces of carpentry of which the preservation is still perfect, while our woods, employed scarcely twenty or thirty years ago, are already rotten.

6. "It has been pretended that many of the constructions of the middle ages were of chestnut. We are compelled to confess that no roof we have examined presents the tissue of that wood. All the roofs we have examined—those of the cathedrals of Chartres and Paris, of St. Georges de Bocheville, of the Bishop's palace of Auxerre, of the church of St. Denis, which dates from the thirteenth century, of the cathedrals of Rheims and Amiens, of the church of St. Martin des Champs, the hospital of Tonnerre, and so many others that it would take too long to name, dating from the thir-

* 'Chantier': Latin Canterium, corner; inclosed place for working—chiefly wood, I think, or storing it.

teenth, fourteenth, fifteenth, and sixteenth centuries * — have appeared to be of oak, and bear no resemblance to the chestnut wood that we possess to-day in our forests. But it must be said that the oak-wood then employed was of another essence than that generally † admitted in modern constructions.

7. “The particular characters of these ancient woods are the following: Equality of diameter from one end to the other of the pieces; little aubier, porous and silky tissue, fibers straight, almost total absence of knots and rents, rigidity, equality of color in the heart and at the surface, rings fine and equal, and lightness (probably depending on their great dryness). It is certain that we possessed still in the middle ages, and down to the seventeenth century, in our forests, a kind (essence) of oaks perfectly straight, equal in diameter up to the higher branches, and very high, though of no great diameter. These oaks, which seem grown (‘*poussés*’) to make charpentes ‡ with, had no need of being sawn to make the main roof-timbers; one was contented to square them carefully; not being divided, and the heart thus not exposed, they were less subject to split or twist, and preserved their natural strength. These woods, it is easy to know by their number of rings, are not old: they number usually sixty, eighty, or at most a hundred years, for pieces of stout squaring. The side timbers (‘*chevrons portant ferme*’) are of single shoots (‘*bois de brin*’) unsawn; and though scarcely counting sixty years, attain often twelve or fifteen yards in length, on a square of twenty inches. Evidently our forests produce no more of these woods.

8. “The carpenters of the middle age seem to have feared employing, even in their greatest works, very old wood; if they had need of a great piece, they united four shoots (‘*brins*’), which was another means of avoiding the torsion so frequent in single pieces. If they had a great

* “The old roof of Chartres was burnt in 1836; that of St. Denis is demolished, but numerous fragments of it exist.”

† ‘*Généralement*’ is a more extensive word than ‘generally.’ It has nearly the force, here, of ‘almost without exception.’

‡ Any large framework of straight beams or planks.

roof to execute, they went to the forest to choose the stems, they barked them before cutting down, they put them in the wood-yard many ('plusieurs') years in advance, in the open air, but under cover, and all squared. The cutting down was done in winter, and while the moon was between given ages * ('pendant la durée d'une certaine lune'). True or false, the belief shows the importance attached to the preliminary operations. The wood when thoroughly dry, after long exposure to the air, or an immersion destined to dissolve and carry off the sap, was put in hand. In placing them the care was redoubled: and since wood cut at the end and placed against masonry absorbs the moisture of the stone, to avoid decay arising from this absorption, they nailed to the extremities of the pieces touching the masonry either a sheet of lead or a little ('planchette coupée de fil')? also they took the greatest care to keep the receiving beams isolated from the stone, in order to let the air circulate freely round the ends of the roof-timbers. One avoided as much as possible joining, both that the wood might not be weakened and the chances of decay be less. Often also the beams received a coat of paint, consisting of ocher dissolved in water with salt or alum: this wash prevents insects, and gives a pretty grayish-yellow tone. The woods employed for planks and panels were never, as in our days, shut up within cements—their interior and exterior surfaces were always visible; and under that condition the duration of wood is illimitable."

9. Thus much I gather from under the article 'Bois.' That of 'Charpente' ought to be translated for all our schools, and every boy and girl made to understand it, and draw the figures of it: to my present purpose it only contributes the general statement that the ancients, or at least the southern nations, built rather with cedar and pine than oak, of which the use seems not to have been thoroughly understood till the twelfth century. But, under the head of

* This belief in the influence of the moon on wood at the time of its cutting down is still preserved in some of the provinces of central France, to such a point that wood cut at a favorable time of moon brings a higher price than the rest.

'Menuiserie,' M. Viollet tells us farther that wood intended for sculpture was also prepared by the action of smoke, till it looked like Florentine bronze; and of the trees intended to be sawn up for planks, that they were allowed to grow from two to three hundred years, when their diameter, deducting the aubier, was from two to three feet.

10. Yes, but how much aubier has to be deducted? I have never enough thought of this separation of the wood into two distinct parts, for no assigned or assignable reason that hitherto I can find or fancy; and on consulting my gardener, he gives me an entirely new idea also about the sap: he says—(perhaps the botanists say it too, but I haven't understood them)—that the sap *rises* either in the pith or the inner layers of wood, and descends in the sap-wood (aubier)—forming, he believes, a thin ring of wood in the inside, as well as the annual one on the outside of the trunk. This inner ring I doubt—but the ascent of the sap through the pith seems to be assumed in several passages to which I now refer in my books; and the sap-wood may be, I suppose, just the thickness of wood necessary to convey the quantity of sap secreted down from the leaves—the whole of the trunk, that is, in saplings;—in a trunk with twenty rings which I have just cut I find on a total diameter of $5\frac{1}{4}$ inches about an inch of sap-wood all round—and the proportion of the sap-wood to the heart diminishes (I hear) as the tree grows older, good old oaks, like good old men, being nearly all heart. If I am right in considering the sap-wood as the space needed for the sap down-current, the sharp distinction between the two parts of the stem is as natural as between the quiet sea and Gulf-stream.

11. If we allow, then, seven or eight inches of aubier to the three feet diameter of the heart in the French oaks grown for beams, we have an average twelve-foot girth, by fifty to seventy before branching.* The larger and shorter trunks,

* English oaks are chiefly notable for the acreage of their branches and girth of their necessarily then short trunks; but I find in Loudon's 'Arboretum,' vol. iii., p. 1777, that 'the Duke's Walking-stick' in Welbeck Park was higher than the roof of Westminster Abbey; and that the long

which gave four feet or more of heart-wood, were sawn into planks with a care and scrupulous economy of their strength, of which I suppose few sawyers' yards would now afford example, or even tradition. M. Viollet gives the four

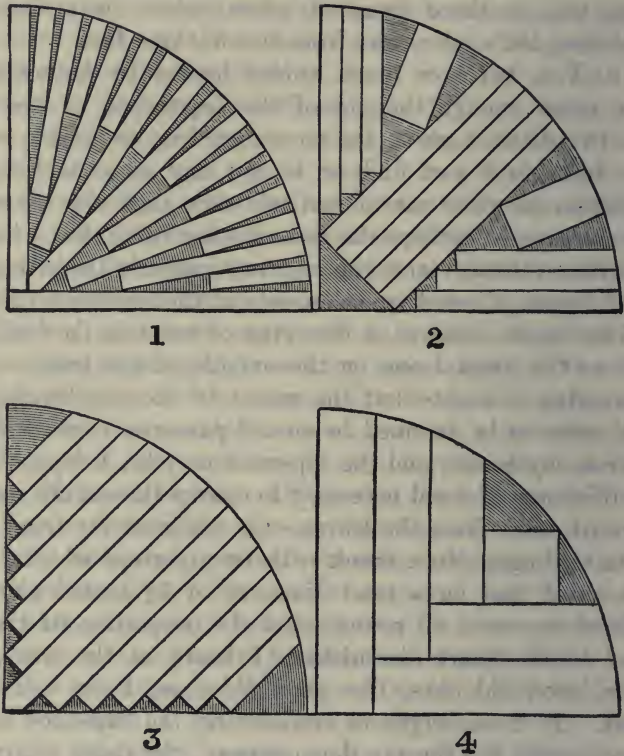


FIG. 28.

methods of division then in practice in his wood-cut at page 346, vol. vi., but with some confusion to the reader's mind, by giving them in the four quarters of a single trunk. In Fig. 28, otherwise a copy of M. Viollet's, I have placed the oaken table in Dudley Castle, a single plank cut out of the trunk of an oak growing in the neighborhood, measured considerably longer than the bridge that crosses the lake in the Regent's Park. The Worksoop Spread-oak was in extent nearly thirty feet longer, and almost four times the width, of Guildhall.

methods in succession, 1 being the best, 2 the next best, 3 the easiest and worst; 4, that necessarily adapted for thicker planks. The waste wood, shown by the tinted spaces, was of course used for wedges, props, and for other minor purposes.

12. The reader will find both in 'Modern Painters,' and the casual references to French landscape in my other books, various notices of the grace of upward growth in French trees; but I knew nothing of their value for timber in consequence. Curiously, I find as I finish this chapter, in Evelyn's description of Cassiobury, *Diary*, vol. iii., p. 24, this note on the tallness of timber encouraged by the soil, though restrained by cold. "The land about is exceedingly addicted to wood, but the coldness of the place hinders the growth. Black cherry trees prosper even to considerable timber, some being eighty feet long. They make also very handsome avenues." We have some wild cherry trees here on the first rise of hillside west of the Waterhead of full that height, though branched all the way up.

13. And now, if the reader will look back to what I wrote in the first volume, twelve years ago, at pages 101, 119, and 121, of the imperishableness, and the various uses, of the substance which in a state between death and its decay abides through the coming and passing away of our many generations, he will, I think, accept with better trust and sympathy what I have always taught respecting the preparation of material for the arts of men, by the laws of nature, not accidentally, but with visibly providential ordinance. During those twelve intervening years this idea of any Providence for anything has been warred against as if it were a dangerous and painful error; nor have I time or patience to say anything here in its defense. But I must allow myself room for a word or two respecting the confusion which recent chemistry and philosophy are throwing upon the general functions of animal and vegetable life.

14. An extremely learned and able pamphlet was sent me only the other day, on the question, "What is a plant?"

The author examined in detail every sort of plant that looked or behaved like an animal, and every sort of animal that looked or behaved like a plant. He gave descriptions of walking trees, and rooted beasts; of flesh-eating flowers, and mud-eating worms; of sensitive leaves, and insensitive persons; and concludes triumphantly, that nobody could say either what a plant was, or what a person was.

Such investigations are extremely amusing, if you have nothing better to do; but for the greater part of mankind frivolous. Broadly thinking, and usefully speaking, an animal is a creature that walks with its legs, sees with its eyes, makes noises with its mouth,* occasionally thinks with its head, and is capable of pleasure and pain. A plant is a creature that is fastened to the ground by its feet, has no brains in its head, and only an imitation of them in its marrow; cannot talk with its mouths, nor see with its eyes; is not proud of being admired, grateful for being tended, nor afraid of being killed. Further, in breathing, animals, as such, change oxygen and carbon into carbonic acid; and plants, as such, carbonic acid into carbon and oxygen.†

15. III. THE BARK.—There is one extremely unimportant, yet interesting distinction between the manner of life in animals and plants: that for the most part in growing plants the skin does not stretch, but cracks, and is worn with the necessary rents; while in animals it either is cast periodically, or stretches and modifies itself with their growth.

16. In the tenth chapter of the first volume—though, as

* The "O mutis quoque piscibus," which seems to spoil the grace of Horace's song to the Muse, fulfills the complete thought that the emergence of kind animal nature out of mere contentious earth is mainly signified by the voice.

† Compare on this head the deeply interesting passage quoted from Figuier, in the note at page 169, vol. i. The final microscopic word of Mr. Worsley-Benison is that "the green parts of plants in darkness, and parts not green, and Fungi, in either sunshine or darkness, evolve, not oxygen, but carbonic acid, precisely as animals do." Be it so;—then a fungus is a sort of scientific animal; and a green plant is a creature that breathes in the light, and redeems the air for us to its purity.

this note says at page 124, it was written to introduce farther inquiry in another place—I find put down all that I now care to say on this matter, my business lying henceforward more with men than trees; but the reader will do well to read the fifth and sixth paragraphs very carefully; following out for himself the thoughts connected with the *total* absence of *pattern* in minerals, the nearly total absence of it in tree stems, the beginnings of it in fish and serpents, and perfections of it in birds: then let him read the passage on the fragrant substances of plants, and the difference between vital fragrance and decaying stench (page 180, vol. i.) This following final passage from the half-lost chapter contains all I can get together for him at present.

17. The Bark is the practically edifying part of the tree, as the pith is its animating power. It is separated, at the time of the year when it is active, from the wood, by the layer of nascent cells called cambium, well named from ‘cambio,’ “the *exchanging*” layer; through which commercial structure each part of the tree gets just what it wants. *Within* this layer, the *crude* sap *rises* in the wood; outside of this layer, the *ripe* sap *descends* in the bark: and in the layer itself, the cells are formed which are to be joined to the wood on one side and to the bark on the other. In the Bark, which is the down-channel of the ripened sap, that sap deposits in a permanent form the peculiar elements which are medicinal,—chemically, instead of mechanically, necessary to the tree’s life, and active, often, on the vital systems of animals also. What is superfluous of these, and capable of being preserved in a dry form, is laid up in this dark-brown store—perfumed cinnamon, strengthening tannin, healing quinine, and the like; knit together in a toughly fibrous web which protects the tree from external violence, and persists in its enduring, for uncounted years, becoming to men the first means of giving useful duration not merely to their dress, but to their thoughts, and as the earliest and strongest basis of their Scripture, rendering all that is intellectually medicinal in their own lives, available for the lives of their descendants;

and giving our English accepted name to the greatest treasure of every living nation—its “Library.”

18. The condition of rent and darn,—or, perhaps more accurately, of stretching so as to admit the insertion of new threads,—is, I suppose, variously combined with the rough-and-ready system of the patch to their bark, in trees of fine temper; but Figuier says, in a piece at page 126, on the ‘*Accroissement des Vegetaux,*’ that autumn wood differs from spring wood by being more and more fibrous, and less and less traversed by vessels. This is to explain how it is we can always distinguish annual rings of wood; but, with the miraculous obtuseness of the modern scientific mind, it never occurs to him to tell us why there are not rings of bark also, nor how the cork, which was before stated to be essential, is distributed at all! for if the cork must always be thrown outside of the bark, as stated at page 53, how is the new cork got through the old bark? The section of the tige-d’érable, twice given (pages 53 and 127), is a mere mass of hopeless confusion; and the entire question of the visible bark structure left untouched, under a heap of, to us, utterly useless wreck of microscopic analysis.

19. One or two fibers of information only I can rake out, chiffonier fashion, and stitch together in my own mind, toughening them with so much tannin as I find there already: namely, that bark is always to be distinguished from cork, botanically, by its polyhedric instead of cubic cells; and that the cork, in most trees, “ne prend que très peu de développement,” but that in the cork tree itself, (when five years old,) “nouvelles cellules apparaissent à la face interne de la zone primitive, et repoussent au dehors celles qui ont été précédemment formées,” that other beds, shorter, darker, and thin like the blade of a knife, divide these successive additions, and that it must be cut off while it is young, “avant qu’elle durcisse et se gerce”—because otherwise “elle se crevasserait si profondément” that it would be unfit for the uses to which cork is destined.

20. Yes,—and how we wine-bibbers and fishers should

have managed without cork, I leave the anti-Providence people to explain:—of what use it is to the trees themselves, we are told by nobody. Happily, most of them wear it thin—and need not crevasse themselves to grow fat, or tear themselves to grow long; and though some sulky ones—for instance, the yew, holly, and hawthorn—accumulate, as they grow old, rugged mountains of stubborn stem, out of all proportion to the height or bulk of their foliage; others, like the poplar and willow, scarcely thickening after a while their tall or pollard stems, throw out the grace and gift of their abundant branches with a springing as of grass from the field; and finally, the true climbers, or wanderers, like the liana and rose, can cast anywhere any length of stem they please, or need, with no necessary proportion at all to the thickness of the dry wood by which they communicate with the ground: while in the center of this complex system of growth, we have an entirely anomalous plant, beloved of all civilized nations, and, in the purpose of it, the most deliberately decorative in the vegetable world—the ivy, which has all the action of a *ground* creeper, in the mode of its attachment, yet is essentially a climber on upright surfaces, and *nourished* wholly by its fantastically inwoven and accumulated vertical stem.

CHAPTER IX.

SALVIA SILVARUM.

1. I HAVE hitherto written both this book, and 'Deucalion,' far too much in apparent play, and as things came into my head; thinking that their real seriousness would be felt in time. But I must try now in all earnestness to get on, and print what pieces of the scattered work of the last twenty years may be useful, and write what more I can, at shortest, to fasten them together and show the value of the entire mode of treatment in classification by changed names; a most important use of what people call my mastership in language,—if they knew it!

2. Of the arrangements hitherto given, that of the Vestals, on coming to detail, proves the least satisfactory; *—by no contrivance can I get their multitudinous families grouped under those five heads, so the scholar is only to learn them as an introductory group, and add the others as he is able.

Of which five orders note shortly these points.

My word for the whole group, 'Vestal,' means a plant of the fireside, that one can make tea, and medicine, and sweet scent with. I put mint first, because it marks that they are all small plants, and apt to be despised: "Mint (*ἡδυσσμον*, anything of sweet scent) and anise and cummin;" then, Melitta, to include the now absurdly separated melissa and melittis, and all the flowers of this family that are rich in honey and straight in stalk; then Basil (Balm), including, with Lavandula, all the sweetest scented kinds; then Salvia, including the tallest and most brilliantly colored kinds; and

* This second paragraph, with portions of the rest of the chapter, were written under the idea that Chapter V. had been lost, and certain repetitions which I must ask the reader to pardon, as they are inextricable from the added text.



XIV.

COTONEASTER SPRAY.
Seen in front.

Thymus, the most precious and lovely of the creeping ones. Under these I thought I could group nearly all familiar forms,—and in a rough way I can, most; but have to ask afterwards the reader's patience in learning a few more. For easy talk of the whole family, if people don't like my word Vestal, it is certainly more simple to call them all 'mints' than 'labiates,' and accordingly Plate XII., which gives characteristic types of blossom, is titled *Menthæ*, not *Vestales*.

3. The said plate is far from satisfactory to me, for the front views of the flowers should have been exactly the heights of the profiles; but one or other got the bigger in correction of contour, and the surface-shadow cost too much trouble, and is a failure; but there is enough done to show what I want.

All the three flowers are enlarged, and the upper one three times, being drawn two inches and a half long, when it is scarcely three-quarters of an inch. The flower itself is pure white with violet veins traced in delicate embroidery on the lower petal. I can find no figure of it in Sowerby, but it grows in the manner of his '*Galeopsis ochroleuca*' (s. 1076), I think with never more than two blossoms at the top of the stem. I shall call it '*Salvia Alba*.'

4. The dark blossom, central in the plate, is that of the common purple 'dead nettle,' so called—a mischievous shame, since it has nothing whatever to do with nettles, dead or living; but is an entirely innocent and pleasant flower, the white variety of it so full of honey, that children, as well as bees, enjoy it: whence Proserpina's name for it, '*Melitta dulcissima*'; called '*Archangel*' in old English—by some corruption of Latin, I fancy,* but my wisely fanciful botanical

* Archangel (?) from being in blossom on the Archangel St. Michael's Day, May 8th, O.S.

Red archangel, *Stachys sylvatica*.

White " *Lamium album*.

Yellow " " *galeobdolon*.

Archangelica "ab eximiis ejus viribus."

Also '*angelica archangelica*,' an umbellifer.—F.

friend writes: "The blossoms do seem to stand in solemn order like Blake's angels in the Book of Job." The purple variety is very pretty when well grown, but the plant is rarely seen in any perfection, the fate appointed for it being to grow where it can, in neglected ground and on roadside banks. We have a beautiful form of it at Coniston, with a bright white streak down the center of the green leaves, forming white crosses all up the stalk.

5. The third figure at the bottom of the plate is the enlarged blossom of thyme, but giving the under view of the flower on the right, instead of the front view, in the two upper figures. But the plate enough shows the general character of all Vestal flowers, that they push themselves obliquely from their stalks, out of a spiky brown or red calyx, and open into a grotesque group of petals, which may, I think, be most conveniently called by children the hood, the apron, and the side pockets—the whole blossom being something like a dress provided at a fairy almshouse for slightly hump-backed old fairies, fond of gossip. I hope to get some pretty studies of the growth of thyme this year—the getting of them longed for this many a year always in vain. Meantime here are some notes on one of the completest and commonest types of the whole family, 'Salvia Silvarum,' which will render account enough of their total structure; and I can gather a stalk of it this moment in my own silva.

6. A stout stalk it is, for having dug some boggy ground well over by a little stream last year, and then left it,—by help of the black and wet autumn it has produced me such a crop of burdocks, thistles, wild grass, and weed tangle in general, as I never saw matched yet for manifold vigor of uselessness; and among the tallest of the weeds, a cluster of this dark purple Betony * has shot up, some five feet high,

* *Betonica officinalis* of Baxter ('British Flowering Plants'), and 'Flora Danica,' v. 726, but there not satisfactorily drawn. *Stachys sylvatica* of Sowerby, translated Hedge Wound-wort (s. 1071), and confusable with *Stachys Betonica*, which he translates *Wood Betony* (s. 1067). The old name of 'Healing Betony' must be learned as well as Proserpina's, seeing that "Antonius Musa, physician to the Emperor Augustus, wrote an

and branched like pine-trees, each plant having some half-dozen lateral flowering shoots, as long as the whole plant is, in most places.

The usual form and scale of it, however, are those which the student should examine; so with the overgrown and luxurious one, I gather another, younger, or more modest, not more than a foot and a half high, and such as the reader can find anywhere in waste ground in July and August, and will find to be constructed as follows:—

7. In the first place its stalk is accurately square, and the squareness finished and emphasized by little purple ridges on the angles. And it is tubular inside, thus;—*a*, fig. 29, natural size near middle of a fine stem; of given quantity of substance you cannot devise a stronger form; and it is heartily tough, moreover, and will sooner come up by the roots than break. If you try, with rather a blunt knife, to make a neat section of it just above a joint, you will remember the character in question without any further effort. It is strange that the botanists never mention as a notability in any species of plants, their toughness or softness of stem! And yet nothing can be more truly vital as a specific character.

8. Getting a section with a sharp knife, you will see that the cylindrical hollow tube is surrounded by a white lining, presumably a kind of pith, but as we don't know yet what pith itself is, we are not much the wiser. And the angle-ridges, seen through a lens, we shall find slightly flattened into a kind of fillet molding, not shown in the enlargement of the section at *b*, as it would have disguised the main plan. The whole stem is hairy, and rough to the touch.

9. From this square stem the leaves spring in pairs, alter-

entire book on this plant, whence it began to be held in such esteem in Italy as to occasion the proverb 'Vende la tonica e compra la betonica' ('Sell your coat and buy betony'); and when they wished to extol a person, they would say, 'Tu hai piu virtu che non ha la betonica' ('You have more virtues than betony'). Experience, however, does not discover any other virtue in it than that of a mild corroborant. As such, an infusion or light decoction of it may be drank as tea" (*Flora Lond.*).

nately from the two opposite sides. It is quite easy to fold a piece of paper into a likeness of the square stem, and cut out two jagged triangular leaves and paste them on it, a little way up, as at *c*, and then two smaller ones and paste them on a little way above, as at *d*; and then, looking down, you will have the crossed group *e*, which in any Vestal plant you will at once perceive to be the normal arrangement of it.

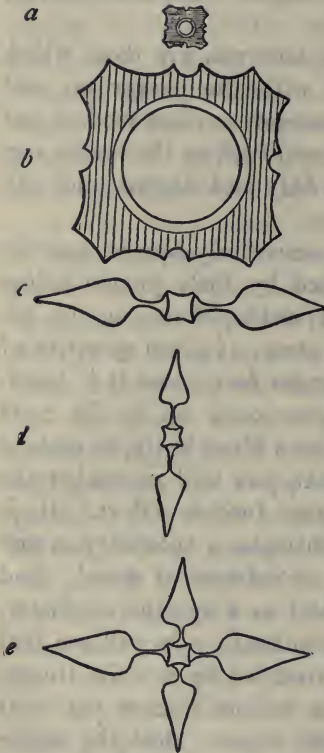


FIG. 29.

10. I call the leaves 'triangular': their actual form, in this plant, is, as in fig. 30, a long shield or heart shape, irregularly and coarsely serrated, ribbed also without any precision so as to give a reticulated surface, of which I engrave the fine network only at the inner edge, as it would be useless trouble to draw it all over. And if you feel the real leaf, you will find it to the touch exactly like a piece of fine soft flannel. This comfortable

and salutary, but rather coarse and unpleasant, character, being preëminently what I have called, for general reference, 'Salvian.' *

11. If the plant be strong and well grown, minor flowering branches grow in the axils of the leaves; but we need not trouble ourselves about these. In ordinary examples, the leaves merely diminish upwards till the clusters of flowers begin, and, under these, taper gradually until they are lost to sight and the flowers are everything. But the little leaves

* Compare pp. 37 and 175, vol. i.

climb on underneath to the last, and terminate the flower cluster with an infinitely diminishing crossleted knot, like a Chinese puzzle.



FIG. 30.

12. The flowers themselves are of a subdued purple, more like a faded stain of some rich fruit than living color, and speckled or daubed with white, in front, in a somewhat tigerish and angry looking pattern; to which if you take a fine lens, it will show that the white is composed of fine silvery short hair, giving a sugary kind of gleam over the purple, the white dust on the stamens above adding to the

farinaceous gleaming,—the blossom, for all that, remaining so gloomy and sad-colored that I had half a mind to call it 'Salvia tristis,' but 'silvarum' will better identify it with the *Wood Betony* of present books.

13. It would be quite impossible to draw and describe the complex form of this flower properly without great pains, and much explanatory and apologetic talk besides, but this rough fig. 31 will indicate the things to be looked at.



FIG. 31

There is first a pale green calyx *a*, fine pointed, and that acutely, as if meaning to grow into thorns; then a purple tube *b*, whose rounded back follows the curve of the springing style within, which shows itself finally outside the flower's mouth, ending in a fork like a viper's tongue. Above this there is a hood *c*, and below it a kind of apron *d*, whose form with the spots on it is better understood in the front view of the flower on the right.

14. Now, the entire tribe of flowers we are examining is

first to be thought of as thus constructed of a vase rounded above so as to comply with the curved spring of the style, (I will return presently to the question of the manner of this compliance,) opening, at its mouth upwards, into the hood—here, though small, remarkably well defined—formed by the upper petal; and below into the essentially triple group of petals, on which whatever stains or dashes of gray color the blossom is to bear will be always laid, and which I call the apron and side pockets. Where these several parts exist



FIG. 32.

clearly, any reader who has some dexterity with the pencil, cannot study the minor divisions of species better than by pulling off this lower part of the flower and laying it flat on white paper, and then painting, magnified, whatever pattern is put on it. The stains are irregular always, yet in some graceful order peculiar to each species, and I find the ordinary botanical plates of these flowers quite beyond identification for want of them, besides failing to note the central curve of profile, which is the primary distinctive character. This Betony we are examining, though so strongly barred with purple that I thought of calling it 'Tigrina,' is not,

either by Baxter, Sowerby, or in the *Flora Danica*, marked as having spot at all! nor can I conjecture the name, among those now accepted, meant for another pretty kind, lilac and white, and spotted as in fig. 32 in pretty waves and ribbons, but I shall call it myself *Salvia Vittata*; the full purple kind, in which the apron is not spotted, but divided into two lobes, each again cloven at the edge like the petal of a pink, will be *Salvia Fimbriata*.

15. In general, fringed flowers are among the most graceful and delicate forms of their families, but among the Vestals, the fringe is apt to take the look of the teeth of a trap. I canceled the two cuts below (fig. 33), of the side and front view of a flower of *Brunella*, magnified five or six times—thinking them unpardonably coarse and ugly; but they show this fanged character in clearness, and are worth retaining, if only to show that things are not meant to be finally studied under magnification.

16. The following note on *Melitta Aurea*, just written in the pretty lanes of the chalk at Orpington, describes one of the best types of the Vestal Family.

Its hood is of beautiful pale yellow, deadened into a mossy texture by minute white hairs, short all over the surface, but the tenth of an inch long at front edges. Apron small, and pockets, though comparatively large, all very subordinate in comparison to the hood, and looking a little as if they had been shriveled or withered; being of deeper, *i. e.*, pure full gold-yellow—spotted and barred with rich warm brown, laid on in fine granular texture, darkening to their edges. Style* and four stamens curving under the hood, so closely pressed back into it that they look like a striped pattern on the inside, the style, being pink, and stamens white, closely embracing it. Anthers edged with brown like a figure of eight opened a little in the middle; stigma merely a little fork like a serpent's tongue. Calyx of one upper, two lateral, and two

* I do not insist on my new nomenclatures of parts of flowers, except in particular references to them. My first object at present is, to get the new groups and names of families arranged and understood.

lower closer set sepals. The central ribs of the lateral ones bent down into them; a small sharp green bract at the base



FIG. 33.

outside; the bud of the flower bossy and firm, apparently formed by the hood, only bent down so as to hide and contain all the rest; the fringe of white hairs, already at their full

length, and close set, holding it hard down within; the stamens, curled close round, hid within the apron. Eight or ten flowers in a cluster, but the first opening group normally of six—set so as to show three at each side of the cluster, placed across the direction of the growth of the alternate pairs of leaves. Grows a foot or fifteen inches high, with six or seven flower clusters on each stem.

Delicately sweet of taste in its honey—with the merest soupçon of pungency. I think honey made out of fields of it would be nicer than other lowland honey; yet I do not remember ever seeing bees busy at it.

To the reader who objects to my simple name of this plant, the information may be useful which I find in the 'Flora Londinensis,' that Linnæus, though he enumerates it with the Galeopsis tribe, seems to think it not perfectly reconcilable with the rest; that Haller considers it a Cardiacæ, Scopoli a Leonurus; and that Mr. Hodson makes a separate genus of it under the name of Galeobdolon. In the same book I find that it "throws up some shoots destitute of blossoms, which, after the flowering is over, are extended to a great length, and afterwards creep on the ground." (Where to, and what for?)

The following correction, by my wild Irish friend, of my statement that the Vestals have no brilliant color, is mingled with other delightful talk from which I cannot extricate it.

"About the Sages.—All the English sages are strictly temperate in color; but I suppose much sunshine drives them to excess more than other plants, for certainly the exotic sages have no moderation in their hues. Gardening books call *Salvia Patens* and *Salvia Splendens* natives of Mexico, and the velvety violent blue of the one, and scarlet of the other, seem to have no gradation, and no shade.

"There's no color that gives me such an idea of violence—a sort of rough, angry scream—as that shade of blue, ungradated. In the gentian it is touched with green, in the cornflower with red, and softened by the light playing through nearly transparent petals, but in the salvia it is simply blue

cloth.* I remember a garden party I was at once, in a very pretty shady place among large trees, where the whole scene was made ugly and put out of tune by one good-sized lady, dressed from head to foot in silk of that shade. No one wears it now.

“There are a great many different salvias, but I don’t think there are any of mixed or uncertain colors (I mean garden salvias), and therefore I don’t think they are changed or changeable by cultivation. If they were, they would long ago have appeared in seedsmen’s lists as ‘Florists’ Flowers’: there would be new varieties every year, with such sweet flower-like names as John Hopper, Thomas Granger, and Pilrig Park, (a rose, and two pansies). I think all the gaudy sages of our gardens are just the same as the parent plants or seedlings, from the tropics. I find that a brilliant blue sage is a meadow plant in Germany.†

“There is a rather excessive tendency to color in the sage family;—those *Coleus* things in our greenhouses with painted leaves are sages, I think—or are they glorified nettles? Their flowers are light blue. *Coleus* is quite an artificial greenhouse person, as far as I know it, splendidly colored as to its leaves, the varieties endless and indistinct. The little white streaks on the leaves of your wood betony show what I think is a tendency in all the mints, to decorate their leaves—smart petticoats to compensate for hooded heads; flannel will take very gay designs. Some of the *coleus* varieties have puckered and frilled leaves. I would send you a blossom or sketch, but it is not in flower yet. I never saw the flowers vary; the shoots end with a tall, loosish, and *not* leafy spike of very small pale blue hoodies. However gaudy the leaves, the blossoms seem determined to assert with great pride their conspicuous humility.

“I have just been given a plant of the tall yellow wood-

* My own feeling is against the clothiness only, not the color—though I admit the after-mentioned lady might more advisedly have been dressed in what the French call a ‘bleu discret.’

† And in Switzerland; but nobody cares for it.

sage, from the Apennines,—the plant you told me of. I had one last year, and it flowered, but found my playground too cold, and died. I will keep this one indoors.

“I’ve been all morning weeding out minx plants. It’s curious how some wild flowers are essentially weeds, and others are not,—just as some minxes are always getting in the way and putting in their word when their betters are in conclave. I have several little round beds, about a yard across, planted with rock-roses, and meant to look like cushions, pink, white, and yellow. Well, I took a whole basket of minx plants out of those little beds. Some of them, notably the plantains, were so anxious to be seen above the rock-roses that they stood on tiptoe, their roots nearly out of the earth. I had brought a trowel, knowing the tenacity of plantain roots, but the conceit of these creatures had left them almost rootless, and a finger and thumb dislodged them. Several of the smaller, pale-eyed veronicas had spread long shoots all over the ground, standing up at the tips,—and there’s an ugly thing called Fat hen, a chenopodium, that springs up everywhere, except in wild places where no one would object to it. Some plants really seem to have no other business than to thwart and provoke cultivators. The docks, which are such an aggravation to the master, come in crowds when he sows his turnips, and drive down long, straight roots, that can’t be dug up.

“*June 1st.*—Bugle is just beginning to blow by the river here, and the leaves that grow high among the flowers are of a bluish bronze. It is all very pretty in color; like Brunella sent to school, and well fed, and taught, and dressed, and made a duchess of. It has a mouth, but no hood. In flowers, some of the monastic orders seem to do without hoods, or gradually cut them down into shawls. Here’s a rough sketch of a greenhouse salvia, fig. 34, certainly not varied by cultivation, and it has no hood. As soon as the bud opens, the style and two stamens shoot out seven-eighths of an inch beyond the petals, and the thing that should be a hood is not only strained back, but pinched in at the sides till it is exactly



XV.

COTONEASTER SPRAY.
Seen from the side.

like the keel of a pea-flower. So the fashion of hoods seems to vary a good deal, and some orders must want to leave them off altogether. As I was going to church yesterday, I picked such a beautiful spire of the white *Melitta dulcissima*. It was quite striking to have such a new view of it, for I had to look up at it,—it was growing from a cleft in the coping stones of a high old wall. There were two ranks or circles of fully robed and hooded ‘Archangels,’ one above the other, ten in one circle, and the whole as straight and stately as an obelisk. ‘Well, so you come to church with a nettle stuck in your gown,’ said a fellow-worshiper.

“I have no experience of minx flowers. There’s no dodder

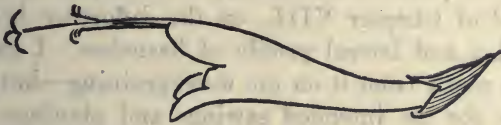


FIG. 34.

here; and our wood-sorrel does not burrow. There is so little of it, that it likes to show itself. And all our flowers here are serious-minded, though sometimes very provoking; some of the veronicas particularly, always forcing themselves among their betters, and spreading themselves out. They are perhaps a little minxy, with their foolish pale-blue eyes. I don't mean the speedwell; she has no such habits. You scarcely ever find them far from a house. And there's a plantain ('way-bread') that can't live without a road to sit beside and see the people go by. Yesterday, I found lots of groundsel in a gravel pit, in the middle of a large pasture far from any house. But there had been battles there and remains of earth-works, and they never take the gravel without finding human bones. I stirred the earth about the groundsel, and came to two human vertebræ, and some ribs and a shoulder-blade. So the groundsel belonged to humanity still.

“Why do some plants follow and haunt man and his habitations, as if they did it on purpose, or had no place of their

own in nature? It would be as strange to meet a plant of groundsel or shepherd's purse in a lonely wood or moor, as it would be to meet a London policeman,—and yet groundsel has flying seeds and can grow in all soils, where it isn't wanted."

The plate principally illustrative of this chapter was given in last number; those which accompany the present one are finished with more care than usual, because having no time now to continue the *Laws of Fésole*, I shall endeavor to make the plates in *Proserpina* answer the further purpose of examples in such drawing schools as may hereafter follow the rules I gave at Oxford.

These two plates were intended to companion some talk, at the end of Chapter VIII., on the difference between the frontal plan and lateral profile of branches. I expected to find some result from it on the wood-graining—but have had no leisure for the intended sawings and planings. Life is really quite disgustingly too short; one has only got one's materials together by the time one can no more use them. But let me say, once for all, in closing this fragment of work old and new, that I beg my friends very earnestly never to mind paragraphs about me in the public papers. My illnesses, so called, are only brought on by vexation or worry, (for which said friends are often themselves in no small degree answerable,) and leave me, after a few weeks of wandering thoughts, much the same as I was before,—only a little sadder and wiser!—probably, if I am spared till I am seventy, I shall be as sad and wise as I ever wish to be, and will try to keep so, to the end.

BRANTWOOD,

10th August, 1886.

The first part of the book is devoted to a general introduction to the subject of the history of the United States. It covers the period from the discovery of the continent to the present time. The author discusses the various factors that have influenced the development of the country, including geography, climate, and the actions of the people.

The second part of the book is devoted to a detailed study of the early years of the nation. It covers the period from the signing of the Declaration of Independence to the end of the Revolutionary War. The author discusses the political and social conditions of the time, and the role of the various states in the formation of the new government.

The third part of the book is devoted to a study of the early years of the nation. It covers the period from the signing of the Declaration of Independence to the end of the Revolutionary War.

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The fifth part of the book is devoted to a study of the early years of the nation. It covers the period from the signing of the Declaration of Independence to the end of the Revolutionary War.

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