

The
HYGIENIC SYSTEM



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THE disciples of Natural Hygiene try to deserve the blessings that the dupes of the drug-mongers attempt to buy across the counter; instead of changing their hospital or their course of medication they will change their habits, and their loss of faith in a few popular superstitions will be compensated by an abundant gain in health.*** The removal of the cause is a remedy which the sufferers from almost any disease might prescribe for themselves.

—Felix L. Oswald.

Index

Chapter	Page
Introduction	7
1 Living Matter Cures Itself	27
2 The Rationale of "Disease"	58
3 The Rationale of Fever	114
4 The Rationale of Inflammation	130
5 The Rationale of Crises.	160
6 Self-Limited Diseases	169
7 Biogony Not a Radical Cure	174
8 The Course of Biogony	179
9 Prognosis	188
10 Unity of Diseases and Symptoms	192
11 The Evolution of Pathology	213
12 The Causes of Pathology	254
13 The Causes of Enervation	342
14 The Conditions of Recovery	385
15 Results of Suppression of Biogony	434

DEDICATION

To all who believe in the omniscience of phenomena—that action and reaction are inherent—a part of an object and its environment—and that the two forces are equal—that compensation is ever and forever in the balance of necessity"; that the law of adjustment is always immanent, and demand and supply are ever-present; that "the cause of any and every need of a living entity is at the same time the cause of the satisfaction of that need"; that every noxious influence "acting" on the human body is extinguished eo ipso; that the noxious agent itself occasions the creation of the protective device which renders it innocuous; that the movements of the living organism, in "disease" as in health, are always teleological, always lawful, and always in the highest interest of Life; that the disposition of the forces of Life may safely be left to the eternal and immutable laws of Life; this book is dedicated by

The Author



Robert Walter

THE progress of Medical Reform has reached a stage which to all who can read the signs of the times is a sufficient presage of its victory. Its exponents have obtained a hearing. The transition period of the present age still struggles with the mists of the past, and thousands wander aimless from doubt to doubt; but they have at least ceased to follow the **ignus fatuus** of the long night. A spirit of free inquiry is abroad: the morning dawns, and light has ever been the ally of Truth. *** "If the right theory should ever be discovered," says Emerson, "we shall know it by this token, that it will solve many riddles." *** The gospel of Natural Hygiene, too, can appeal to the evidence of that crucial test. The theory that disease is something essentially abnormal and can be cured by the adoption of less unnatural modes of living, cannot hope to avoid a conflict with the representatives of the drug interest***. No sophistry is apt to explain away the self-experienced fact that dietetic precaution will completely cure digestive complaints that defy the most elaborate compounds of the drug-store; that fevers which refuse to yield to "antiseptics" can be controlled by refrigeration; that out-door exercise and sunshine will save city children for whose ailments materia medica seemed to have no remedy. And there is an effective difference between time-proved experience and momentary impressions. The dyspeptic who mistakes the effect of a stimulant-fever for a symptom of returning strength, may write a gushing testimonial to the merits of his nostrum, but before his gratitude can exuberate in further efforts, its ardor is apt to be cooled by the discovery that the drug-forced excitement is always followed by a depressing reaction, leaving his torpid liver more torpid than before, and that he might as well have tried to cure the exhaustion of a weary traveler with a shower-bath of vitrol.*** Quacks cannot appeal to constant experience. Sooner or later the load-stars of credulity will set in a mist.

—Felix L. Oswald

INTRODUCTION

On March 4, 1834, a Graham Association was formed in Providence, R. I., "to keep alive and extend the interest already awakened, on a subject of vital importance to the well being of man," and "through which the dissemination of correct principles may be accelerated;" and "to learn the results of practical experiments among the members." This association declined after about three years, at the end of which time efforts were made to revive it.

In 1837 the **American Physiological Society** was formed by a group that had begun holding meetings in the latter part of 1836. The purpose of this Society, as set forth in its constitution, was "to acquire and diffuse a knowledge of the laws of life, and of the means of promoting human health and longevity". Dr. William A. Alcott was elected president. During its short lifetime (it ceased to exist in 1839) this society, which was the first of its kind in the world, issued many tracts on health and held three annual meetings. Weekly papers, as the **Graham Journal of Health**, the **Journal of Health**, the last named edited by Alcott, were founded to carry the new message of living reform to the masses.

The **Graham Journal of Health and Longevity**, Devoted to the Practical Illustrations of the Science of Human Life as Taught by Sylvester Graham and Others; and edited by David Cambell, began publication in April, 1837, at 9 Washington St., Boston. Later the **Journal** was published simultaneously in Boston and New York. Efforts were made to get Graham to edit the **Journal**, but he desired to devote his time to the completion of his books. The **Journal** which was at first a weekly, but later became a semi-monthly, was the official organ of the society, and was published to meet the demand of the people who said: "Give us facts, not theories! Let your facts convince us and we will believe."

In 1838-39 the Society sponsored two American Health Conventions. The first of these, held in Boston, May 30 to June 1st, 1838, was well attended. The first two days were devoted to the Health Convention and the last day to the Society. One of the questions, for which the Health Convention was called to consider, was, "should physiology be introduced into schools and colleges?" At the convention the Rev. John Pierpont, of Boston, offered the following resolution: "Resolved, That in view of the intellectual and moral benefits to be derived from the diffusion of popular information on anatomy, physiology and hygiene, we look forward with much satisfaction to the day when this class of studies will be introduced into all our colleges and schools."

At this Health Convention the following resolution was passed: "Resolved—That we view with deep regret the waste of human life from abusive medicine through learned and unlearned quackery and that nothing will so soon arrest this alarming evil as a correct knowledge of the Science of Human Life."

At the session of the Physiological Society it was resolved "that it is of great importance that health societies be formed in every town in our land, and that we use our best endeavors to effect the formation of such societies in every place in which we have any influence". Speaking in support of this resolution, Graham thought the organizations would "attract attention to this important subject, and serve in some measure to awaken a spirit of inquiry *** and lead to considerable improvements in their habits"! In a letter addressed to Dr. Alcott, President of the society,

dated June 27, 1838, Dr. Isaac Jennings urged that "men who are themselves 'rooted and grounded' in correct hygienic principles must give their whole and undivided attention to the work", of lecturing, forming societies and securing funds to carry on the work.

A Health Society was formed in Brookfield, Mass. In February, 1838, while Graham was lecturing in New York City, his class appointed a committee to arrange for a Physiological Society similar to the one in Boston. They held their first meeting in Lyceum Hall, Thursday evening, February 5, and organized under the name, the New York Physiological Society and adopted the constitution of the American Physiological Society.

The Physiological Society in Boston conducted numerous series of lectures on physiology and the Science of Life. A Ladies' Physiological Society also held monthly meetings in Boston. Because of the many objections offered to Mr. Graham lecturing to ladies on physiology, a call was made for women who would prepare themselves to lecture to female audiences on physiology. Mrs. M. S. Gove of Lynn, Mass., was the first woman to answer the call and after an introductory lecture given August 22, 1838, she started a series of lectures on physiology before the Ladies' Physiological Society, on the first Wednesday in September. About four hundred women attended this first series of lectures and it must be said, to the credit of the leading members of the Boston Medical College, that they encouraged her in her undertaking and offered her every facility as regards drawings and preparation. Mrs. Gove may have been the world's first woman lecturer on anatomy and physiology. Dr. Alcott thought Providence had called her to the work. She was later joined in her educational work by Mrs. Paulina Wright. Mrs. Wright was assisted by Mrs. Oliver Johnson.

In 1837 an effort was made to establish a "Graham Hospital," where "invalids would not only be restored to health, but might be taught the principles which, when properly applied, would tend to continue to them the permanent enjoyment of so great a blessing." That same year a member of the American Physiological Society offered "a block of two new, spacious brick houses, in the vicinity of the Boston Common, for an Infirmary—that the principles taught by Dr. Sylvester Graham, and other physiologists, in the curing and preventing disease may be fairly tested and diffused, throughout this country and the world." A medical man who had been "in very successful practice, on physiological principles, for the last three years, has offered his services as a physician at the Infirmary—and another gentleman, who is well acquainted in dietetics and regimen—having kept a Graham boarding house for sometime past, may be engaged as Superintendent of the establishment."

In August 1838, Temperance House, 21 Beckman St., New York arranged to set a Graham table. The **Graham Journal**, September 29, 1838, carried the following announcement: "We learn that a son of Dr. Jennings, of Derby, Conn., is engaged in a boarding school, in that village, conducted on physiological principles, and aided by his father, is doing great good. We rejoice to hear of every new accession to our cause, in every form; especially of schools conducted on right principles. *** The younger Mr. Jennings, the principal, is already a teacher of some distinction."

This Society was succeeded by the Christian Physiological Society, which lasted through 1840-41-42. In 1840 the American Anti-Tobacco Society was formed and elected Dr. R. T. Trall, president. In 1850, at the American Vegetarian Convention, held in Philadelphia on May 15, the

American Vegetarian Society was founded. Dr. William A. Alcott was elected President, Sylvester Graham and Drs. Mussey and Joel Shew were made vice-presidents; Dr. R. T. Trall was made recording secretary, and S. R. Wells, secretary. At the first annual meeting of this society in September of the same year, Dr. Alcott was retained as president, while, Dr. T. L. Nichols, Dr. Isaac Jennings and Dr. R. T. Trall were made vice-presidents. The society lasted fifty years.

In 1849 the **American Hydropathic Society** was founded. Joel Shew, M. D., was made president and R. T. Trall was made Chairman of Directors. "Any physician residing in the United States of America, having received the degree of Doctor of Medicine, or a license to practice the healing art, and who can exhibit satisfactory proofs of his competency to practice hydropathy" was eligible for membership in this society. In the preamble to the constitution, the "undersigned physicians and surgeons, believing in the doctrine of the vis medicatrix naturae, or the inherent tendency of the human constitution to free itself from disease" affirm their faith in water as almost a panacea. In the following year the name of the society was changed to the **American Hygienic and Hydropathic Association of Physicians and Surgeons**. In 1861 Trall was president of this association.

These meetings and organizations and publications and schools, and others like them, represented the birth movements of a new system of caring for the body, both in health and in sickness. During the ensuing decades the lusty infant was destined to keep the old man of medicine walking the floor night and day, not because the child had colic, but because he had given the hoary, decrepit old monster insomnia and convulsions—or was it rheumatism complicated with St. Vitus dance? Ignoring, for the nonce, its antecedents, which may be traced back to the dawn of history, here was the beginning of the **Hygienic System**, of which the principle of orthopathy is an integral part.

The term **Orthopathy** was coined by Jennings to express a new and radically different conception of the essential nature, the rationale, of disease. The term was intended to express his conception that "Nature is always upright—moving in the right direction", in disease as in health. In his own words:

"Orthopathy: from two Greek words, **Orthos**, upright, erect, true, and **Pathos**, affection,—right affection. The vital economy always maintains an upright position. The tendency of all her movements, in the lowest depths of disease, as well as in the most vigorous natural action, is as true to the pole star of perfect health, as is the needle to the poles."

In his debate with Trall, Jennings says: "In all conceivable conditions of the human system, under existing circumstances, whether in a perfectly sound and vigorous state of health, or in a greatly impaired state, attended with extreme derangement and distress, all vital action is under the immediate control of a perfect and immutable law, that makes a just and equal distribution of power among the several departments of the body according to rank and importance, having respect to present necessity and safety, and the ultimate good of the entire organism; giving to each and all an ample supply of sustaining energy when the resources are adequate, and netting out in equitable proportional supply when the resources are scanty."—**Herald of Health**, August 1864.

Orthopathy is not the name of a school of healing; nor is it a system of therapeutics; nor yet a system of philosophy. One of my contemporaries and erstwhile co-workers has attempted to identify the term with long-winded and thoroughly useless speculations about the origin and Nature of



SYLVESTER GRAHAM.



WM. OSGOTT



JAS. C. JACKSON



DIO LEWIS



CHAS. E. PAGE



HERMANN REINHIMER

life, of God and the hereafter. He has linked it up with theories of a hypothetical hermaphrodite ancestry of man, and of virgin births; he has entwined it in a mass of metaphysical speculations; and has used it in connection with dozens of vague, ill-defined, and unformulated so-called laws—laws, which, in most instances, at least, do not exist. He has founded his treatment of the sick, not upon the Hygieo-Orthopathic principles, but upon his unverified and unverifiable opinion of the Nature and source of life and, as a consequence, has gone back to the principles and practices rejected by Jennings and not covered by the term Orthopathy.

Orthopathy has no connection whatever with any theory or hypothesis of the source and nature of life (biotic force) ; but, as a principle of biology, is true whatever the nature and source of life. Orthopathy is that branch of biology which treats of the reactions of living matter to abnormal conditions.

To the other systems then in vogue, Jennings applied the term **Heteropathy**. It is equally applicable to all systems of today, other than the **Hygienic**. Defining this last term he says: "**Heteropathy**:—From two Greek words, **eteros**, another, different, and **Pathos**, affection, changed

condition or disease, differing in kind from the natural unchanged state; wrong or subversive action. Opposed to orthopathy."—**Philosophy of Human Life.**



R. T. Trall

Over against the heteropathic doctrine of disease which runs throughout the theories and practices of all schools today, Jennings placed the great fundamental fact of Orthopathy, which he states thus in the preface to his "**Philosophy of Human Life**": "It will be the subject of the following pages—to show the unity of human physical life; that its tendency is always upward towards the highest point of health; in the lowest as well as the highest state of vital funds; and that what is called disease is nothing more nor less than impaired health, feeble vitality; that recovery from this state is effected, when effected at all, by a restorative principle, identical with life itself, susceptible of aid only from proper attention to air, diet, motion and rest, affections of the mind, regulation of the temperature, etc., with occasional aid from what may be justly denominated surgical operations and appliances."

Thus, at the very outset, the Hygienic System differs from all heteropathic systems, past or present, in that it regards disease as a state of health, a low state of health, in which the efforts of the body are all directed toward the normal health standard. Every action of the body is "**Right Action**", instead of "**Wrong Action**" as is held by all other schools.

The term Orthopathy was coined to express a new conception of the essential nature of disease, a conception that is the very antithesis of the ancient and still prevailing Heteropathic conception. The Orthopathic conception of health and disease leads to pure **hygiene**, while the Heteropathic tradition places its chief reliance on **therapeutics**. The one is a natural system, the other an artificial structure. Therapeutics changes from day to day, hygiene remains always the same. Its principles are eternal. Theory for theory, we do not want Allopathic, Homeopathic, Eclectic, or Bio-chemic theories, but simple Nature. A Hygienic System which maintains the structures of "Medicine" cannot give us health.

"Nature ever points the true and perfect way, Therefore, learn betimes ne'er from her path to stray."

The System built by Jennings, Trall, Graham and their contemporaries and successors, they called the **Hygienic System** or **Hygieo-therapy**. In the first volume of this series we saw how Trall

became skeptical of the value of drugs and the bleeding practices then in vogue, and of the correctness of medical principles, while still a medical student. Jennings was forced to abandon the medical doctrines and practices he had been taught, after years of practice, by experiences that revealed the incorrectness of (he theories and the evil of the practices.

These two men worked independently. While their theories differed in some particulars, as did their practices, fundamentally, both their theories and practices agreed. This becomes all the more plain when one reads their long-drawn-out debate of the subject. Graham, whose work, also, was begun independently, was influenced by these men and in turn, influenced them, converting Jennings to vegetarianism.

These men agreed to call the principles and methods they launched, the **Hygienic System**. In the Jennings-Trall debate, which ran serially in Trall's magazine during 1864, Jennings says of Trall; "he only needs to understand the hygienic theory a little 'more perfectly' to place him on a vantage ground where he can chase a thousand Allopaths, and two can put ten thousand of them to flight".

In a biographical sketch of Trall, which appeared in the **Herald of Health** for July 1864, are these words: "His writings and books have placed him at the head of a new system, which he has entitled the 'Hygienic' or 'Hygieo-Therapeutic'—repudiating the term 'Hydrotherapy', as expressive of only a single one of its remedial appliances.' His school, founded in 1852, as the **Hydropathic and Physiological School**, was chartered in 1857 under the name of the New York Hygieo-Therapeutic College.

This biographical sketch says: "Dr. Trall may justly claim to be the father of the literature of the Hygienic Medical System, and the chief exponent and, indeed, the discoverer of its philosophy: and his writings are accepted as standard if not authoritative in this country and in Europe."

In 1872, a small book, by Trall, was published under the title. **The Hygienic System**, in which he defined the **Hygienic System** to be the "treatment of disease by hygienic agencies". In this booklet he listed as "Nature's Materia Medica", the following agencies and forces: "air, light, temperature, electricity, magnetism, exercise, rest, food, drink, bathing, sleep, clothing, mental influences, and mechanical or surgical appliances". He explained that "truly remedial agents are materials and influences which have **normal** relations to the vital organs, and not drugs, or poisons, whose relations are **abnormal** and **anti-vital**" and added that, "the true Healing Art consists in supplying the living system with whatever of the above it can **use** under the circumstances, and not in the administration of poisons which it must **resist** or **expel**".

Drs. Jackson, Densmore, Walter, Page, and others accepted and employed the term, **Hygienic System**. For example, in his **How to Treat the Sick Without Medicine** (1868) Dr. James C. Jackson uses the term, "hygieo-therapeutic agencies" and calls himself a "hygienic physician." Doctor Walter uses the term "The Hygienic School," although he seems to have preferred the terms, "nutritive cure" and "nutritive system". In 1877 he began the publication of a magazine under the title **The Laws of Health** in which he advertised his sanitarium, at Wernersville, Pa., as one that "relies for its success upon proper hygienic conditions in connection with special application of the best hygienic agencies".

Another magazine of the period, **The Science of Health**, was "an independent health monthly which teaches the Laws by which Health is preserved and Disease eradicated, and Life prolonged, on Hygienic Principles. Its agencies are: Food, Drink, Air, Exercise, Light,

Temperature, Sleep, Rest, Bathing, Clothing, Electricity, Right Social Relations, Mental Influences". I am unable to locate any reference to the **Hygienic System** in the works which I have of Dr. Dio Lewis; he does refer to "Natural Methods" and he makes almost exclusive use of Hygienic or Natural Methods and placed practically no reliance in hydrotherapy. Even Dr. Lahmann, of Germany, though associated with Kuhne, and a strong advocate of the "water cure", entitles one of his books, **Natural Hygiene**.

In his **How Nature Cures**, Dr. Densmore, repeatedly refers to hygienists and "hygienic physicians who use no medicine whatever," and refers to Hygienists as "Physicians of the reform school". Dr. Page, who was born in 1840; in his **True Healing Art** (1906) poses "genuine hygienic treatment" opposite that of the "anti-Naturalists" and defines the "hygienic physician" as one who "knows how to apply all known hygienic agencies", and speaks of the necessity of "having the hygienic instead of the unhygienic physician in attendance" upon the sick.

Shryock says, "During the seventies and the ensuing decades many of the 'cures' (institutions) were established practicing what became known as the 'Hygienic System'. Most of these were located in towns of the East and Middle West, and a considerable number owed their origin to men trained by Trall."—**Mississippi Valley Historical Review**, Sept. 1931.

Similar evidence could be offered from other sources, but this is enough to establish the fact that the **Hygienic System** is the original and correct name for our System. Orthopathy is one principle of the system, not the name of the system.

Reference has been made to the Water Cure System (Hydrotherapy). This was early mixed and mingled with the **Hygienic System** and has been more or less mingled with it in the practice of most Hygienic practitioners. Trall, Shew, Jackson, Walter, Page, Densmore, Tilden, and others have employed it, some of them but little, others extensively. It seems necessary to say a few words about this system of palliation at this point. It was introduced into this country from Germany during the fourth decade of the last Century and proved far less deadly than the old system. When Trall broke away from the old school, he seems to have adopted the "water cure" at once. Only with the passage of time was he led step by step into the hygienic practice. Jennings, on the other hand, rejected the "water cure" and penned some very strong criticisms of it.

In his **Philosophy of Human Life**, (p. 251-2-3) Jennings says: "The great Hydropathic experiment is also most effectively sustaining the claims of Orthopathy, and nullifying those of Heteropathy. Hydropathic physicians as a body, discard medicine as the rule in practice as much as Orthopathists do; and when they come to steer clear of the old Heteropathic bug-bear notion of disease, and depend less on water as a curative means, their practice will be admirable.

"The Hydropathic organ of intelligence, **The Water Cure Journal**, has a very extensive circulation, has obtained a strong hold on the public mind, and, all things considered, takes a very commendable stand on the subjects of medical and dietetic reforms, and is exerting a wide-spread and salutary influence in these directions. The name, if applied to individual cases of disease is a misnomer, but viewing the work in its adaptation to effect a thorough eradication of the whole evil of human physical disorders, to its deepest foundation, the name is entirely appropriate. As this work is now in the field under a good organization and extensive patronage; it seems to me that economy would dictate that all the friends of health reform possessing a general similarity of views with those

promulgated through this periodical, on its main topics, should throw the whole weight of their influence into this medium of communication with the public mind, to do what they can to augment its circulation, and improve its matter.

Although Dr. Jennings never accepted the Hydropathic or water-cure practice, indeed he condemned it strongly, he combined forces with Dr. G. W. Strong, a Hydropath, and together they opened the Orthopathic Water Cure Institute in Forest Dale, Cleveland, Ohio, in 1854.

Although Graham devoted most of his energies to the Hygienic Movement, in 1854 he lectured on the water-cure. His greatest influence was in the field of diet. **Harpers New Monthly Magazine**, Jan. 1880, says in an article entitled "Isms of Forty Years Ago"; "His (Graham's) rank as a benefactor will not seem slight to those who reflect on the gain to the public health and wealth resulting from the enlarged use of fruits and vegetables, and that variety which so distinguishes the American from the European table."

In his **Nervous Debility**, Trall says: "It has been most unfortunate for the Hygienic system, that so many of its early advocates, authors and practitioners put water so prominently forward as a remedial measure. In consequence of this error, misapprehension or indiscretion, the people generally have been led to suppose that our system is what its opponents (who, by the way, know better) are continually misrepresenting it to be, viz., a method of treating all disease with water alone." It must be admitted that in his earlier years Trall was, himself, guilty of this same fault.

Most of the early American Hygienists and Hydropaths were medical men who had grown skeptical of drugs and bleeding and were seeking other means of caring for their patients. Perhaps there was nothing more natural than that they should turn to the "water cure", which came well recommended from Europe. Only gradually, under the influence of Graham and Jennings, did they evolve the **Hygienic System**.

The fact is that the popular protest against drugs and bleeding had been gaining headway for nearly a century before the Grahamites appeared upon the scene; and though, at first, haphazard, finally took form in a number of medical sects—homeopathy, physio-medicalism, eclecticism, bio-chemistry (after Schussler), hydropathy. Graham held that right living is a more certain means to health than is a resort to doctors and drugs, so that Grahamism, which was a synonym for hygienic living, soon began to be looked upon as a substitute for drugs. Indeed it was asserted that if the laity would practice hygiene, there would be no need for the physicians to practice medicine. Graham is the real father of the Hygienic movement, an honor he must share with Jennings.

Graham was an advocate of the popular teaching of physiology, always contending that hygiene must rest on a rational basis of physiological principles, and his followers were the first group to urge the introduction of the study of physiology into the public schools. The **American Physiological Society** resolved, "that a thorough knowledge of the anatomy and physiology of the human system is essential to the highest intellectual development; and that the greatest mental activity and power cannot be secured without a correct observance of physiological law". If the following resolution was not framed by Graham's own hand, it was undoubtedly taken from his published writings: "Resolved—That life, health, and all the physical interests of the human body are established upon precise and determinate principles, and that the highest welfare of man as an organic and animal being depends on the fulfillment of the

constitutional laws of his nature." The Grahamites seem also to have been the first to demand the popular teaching of sex hygiene.

Shryock says: "What Trall and his followers really did was to superimpose Grahamism upon hydrotherapy, and later, in the most catholic spirit imaginable, to add every other hygienic procedure available. Trall acknowledged his indebtedness to Graham and Preissnitz (Silesian founder of the 'water cure'), but claimed to improve both." His evolution may be traced in the changes of names his magazines underwent. Beginning as the **Water Cure Journal**, it became, in turn, **The Hygienic Teacher**, **The Herald of Health**, **The Gospel of Health**, and **New York Journal of Hygiene**.

From its very inception the Hygienic School took radical issue with the schools of medicine, rejecting both their theories and their practices. It repudiated their fundamental principles and built upon a new and radically different basis. It rejected the old conceptions of the nature of disease and its relation to health and life. Trall says: "It is a prevalent opinion that the advocates of this system accept the philosophy of the Allopathic System but rejected its remedies, employing water, diet, etc., as substitutes for drug medicines.

"The true system of the Healing Art—hygienic medication—rejects not only the drugs, medicines or poisons of the popular system, but also repudiates the philosophy or theories on which their employment is predicated. It is in direct antagonism with the Drug System, both in theory and in practice. It does not propose to employ air, light, temperature, water, etc., as substitutes for drugs, or because they are safer or better than drugs. It rejects drugs because they are intrinsically bad, and employs hygienic agencies because they are intrinsically good. "I would reject drugs if there were no other remedial agents in the universe, because, if I could not do good I would 'cease to do evil'. I would not poison a person because he is sick."—**True Healing Art**, p. 22.

Again, he says: "I charge and shall undertake to prove—nay, I shall prove, for it is true, and I have the evidence—that the regular medical profession, in all of its standard authorities, text-books and schools, and in all its current periodicals, and in all of its floating literature, and in all of its history, and in all the lectures of its living authors, teaches—

1. A False Doctrine of the Nature of Disease.
2. A False Doctrine of the Action of Remedies.
3. A False Theory of Vitality.
4. A False Theory of the **Vis Medicatrix Naturae**.
5. A False Doctrine of the Relations of Disease and the **Vis Medicatrix Naturae**.
6. A False Doctrine of the Relations of Remedies to Disease.
7. A False Doctrine of the Relation of Disease to the Vital Functions.
8. A False Doctrine of the Relations of Remedies to the Healthy Structures.
9. A False Theory of the Relations of Organic and Inorganic Matter.
10. A False Doctrine of Diseases in Relation to their Causes and Effects.
11. A False Doctrine of the Law of Cure.
12. A False Doctrine of the Nature and Source of Remedies."

—**The True Healing Art**, p. 24-25.

Jennings introduced the principle of evolution into pathology. This appears all the more remarkable when it is realized that this was several

years before Darwin's **Origin of Species** resulted in the acceptance by the scientific world of evolution as a working principle in nature.

These two principles—**Orthopathy** and **Evolution**—constitute a new solvent cast into the alembic of the world's thought and are destined like a chemical solvent, to bring about the disintegration of those old crystallizations of ancient fallacies that are necessarily so barren and unfruitful. These two principles serve to co-ordinate and vivify the many important discoveries in the fields of biology, physiology, pathology and etiology during the past few centuries. They end that state of doubt and uncertainty in which the whole medical world has floundered for ages.

We are often reminded that science is searching for some new and all-important development which will coordinate and vivify the many important discoveries which have been made during the past century and a half. This unifying work can only be accomplished by a recognition of the principle of Orthopathy in the manifestations of "disease" and of the principle of unity and evolution in the development of pathology. The old cave-man conceptions must be forever abandoned. Only in the **Hygienic** principles can the spirit of truth be found.

Unfortunately, early ideas, when woven into the texture of medical systems, are not given to lose their vitality with increasing age. Medical practices are based, not on biological and physiological principles, but upon ancient fallacies about disease and cure. Trall said: "The only foundation *.* of a true medical science, is correct physiological principles and here is precisely where the whole orthodox medical system utterly and totally fails." "It has no physiological science upon which to practice the Healing Art."—**Hydropathic Encyclopedia**, Vol. 1, p. 33.

We may, with complete justice, use the following words of Trall in reference not only to the drugging schools, but with reference to the drugless schools which have since arisen; for except that they tend to reject drugs, they are all heteropathic: "There are but two medical systems in existence, the Drug-Medical System and the Hygienic Medical System. One employs poisons as the proper and natural remedies for disease; the other employs normal or hygienic materials and agencies."—**True Healing Art**. p. 20-21.

Herward Carrington has indeed paraphrased Trall's words and includes the drugless schools when he says: "there are, broadly speaking, two and only two schools of healing in the world; the Hygienic, on the one hand, and every other school, sect, or system on the other. No matter what the physician may be—Allopath, Homeopath, Osteopath, Eclectic, Faith-Curist, Mind-Curist, Christian Scientist, or what not, he is not a Hygienist, in that he does not know the real cause and cure of disease. The theory, or the philosophy of disease which the Hygienist defends is totally opposed to all other medical systems, being directly opposite to them in theory."—**Vitality, Fasting and Nutrition**, p. 4.

It is not to be expected that such a radical departure from all past principles and practices found a ready acceptance, especially in the ranks of the professionals. It is unfortunately true that those "interested" men, who having studied long and carefully the erroneous systems then and now in vogue, and found them both "honorable" and profitable in practice, even if not very satisfactory otherwise, are unwilling to acknowledge their errors and the futility of their labors and abandon these for the truth.

The principles and practices promulgated by Jennings, Graham, and Trall, were chiefly combatted, not from any inherent error they were believed to contain, but simply because they ran in direct opposition to the older and more primitive conception of the nature and origin of disease,

which, formulated in systems, and elaborated in books, had come to be received as an article of unquestioning faith by cultured and uncultured alike.

Indeed, Graham, Jennings, Trall, Walter and others had their difficulties. In August 1847, Jennings published his **Defense and Appeal**, so strong was the persecution directed against him. Trall's death was not due to old age or to "disease" so much as it was to slow starvation and his desertion by his family after his failure in business. The medical profession succeeded in keeping most would-be students, living in New York City, out of his school. However, the real blow struck when his son, Russel T. Trall, Jr. M. D., business manager of the Florence Heights Institute, died of smallpox, about 1876 or 1877.

Efforts to discredit Graham began immediately upon the heels of his first series of lectures in 1833. He had delivered a series of lectures on the causes, prevention and "cure" of spasmodic or Asiatic Cholera. Shortly thereafter an epidemic of cholera spread over the U. S., and Canada. The doctors, bakers, butchers, wine merchants, etc., spread the story that the Grahamites were dying like flies, of cholera. Doctors rushed into print with stories of death from cholera in his followers.

Graham returned to New York and made a most searching investigation of the matter. Mr. Goodell, editor of the **Genius of Temperance Journal**, had preceded him with an exposure of the lies spread by the above groups with an interest in sickness. Not a single Grahamite had cholera. The physician who had been loudest in shouting that the Grahamites were dying like flies of cholera actually denied that he had made the statement. He was unable to point to a single case of the disease or to a single death from cholera in a Grahamite. Graham's first challenge to the disease trades had been met with a whirlwind of lies and Graham made them swallow their lies; although this did not deter them from further lies and furious opposition to the truths he announced.

Although Graham was a preacher and many preachers of high standing were allied with him in his reform work; because he declared disease to be man's own creation and not a punishment sent by God, the many religious people denounced him as an infidel. "Every man makes his own health", as Horace Mann, who espoused Grahamism, expressed it. This doctrine was referred to as Graham's "heaven-daring infidelity". The idea that "every man is the keeper of his own health" was declared to be "nonsense" and "impiety". Did not the Bible declare that sickness and health come from God? that "in His hands are the issues of life?". Graham replied that "it is the fashion to appeal to the Bible to justify intemperance as well as other vices". Shryock thinks, because of their stand against bad habits, Grahamism was a "sublimated puritanism".

In reply to the charge of infidelity, the Grahamites proclaimed that the assertion that "every misfortune and sickness is a dispensation of Divine Providence, which no foresight nor care on our part could have prevented" is "unreasonable and irreligious, and only a miserable apology for our own ignorance and indiscretion, and intended to throw from ourselves the blame upon Him who never afflicts willingly. It is no further evidence of Divine will, than as it teaches us that the laws of Nature and of Nature's God cannot be broken with impunity by any creature. How common it is for the unhappy dyspeptic to cram his diseased stomach to a painful repletion, and then quietly address his friends and his conscience with the soothing reflection that it is God's will that he should thus suffer, and therefore he should not murmur! As well may the beastly inebriate who reels into the ditch and breaks his head, moralize upon the wise

Providence of God in having so ordered it. and thus endeavor to repress the complaints and griefs of his afflicted family."

Some of Graham's followers thought that "the doctrines are not of Graham nor of any man, but of God! and the excellency of the power is in Him".

Among the uninformed such objections were offered as, "of all the deaths in the world, death by starvation is the most terrible". Graham and his followers did not merely oppose the use of alcohol and tobacco, but they opposed the use of tea, coffee, white bread, condiments, animal foods, and all other bad habits. Graham declared that "Health without good habits is a superstructure without a base, and the attempt to restore lost health by a course of drugging without reforming bad habits, is as useless as to attempt to ease a burn whilst remaining in the fire". It was held that the appetite has held regency over the nobler part of man so long that the whole world is sick. The difficulty of securing the living reform necessary to health was seen to lie chiefly in the difficulty of convincing the people of the need for reform. "For such a conviction would be wholly at war with those opinions and practices which they greatly prefer."

To those who attempted to distort his teaching and make it seem ridiculous in the eyes of a meat-loving people, by declaring his system to be merely one of abandoning meat, Graham replied in a talk before the Health Convention in Boston, May 1838, "Flesh-eating, whatever may be true of its propriety, is of small importance in comparison with many other errors in the voluntary habits of man. The success of our cause demands not merely that its followers should abstain from this or that kind of food or drink, or subsist on this or that kind; but that they should have a clear cut perception of first principles,—that they should understand the physiological laws of their nature—*** in short, they should know clearly and fully understand the science of life."

Although many doctors of the various schools of "healing" embraced Grahamism, in whole or in part, most of them carried on a regular campaign against this form of "quackery". The Grahamites replied: "Let medical men be what they should be and quackery would die of starvation," a fact that medical men of the present would do well to consider. The followers of Graham asserted that "both Nature and common sense are struggling for the ascendancy over the mysticism that has so long dimmed the eyes of the community", and said to the doctors who condemned their plan of eating; "if men stop breaking the laws of life, and eat simple natural food", their medical critics "and the rest of the medical faculty, would find their sources of gain dried up".

In spite of the opposition of ignorance, habits, the clergy, the medical professions, distillers, brewers, tobacco growers and sellers, millers, bakers, packers, butchers, and condiment sellers, Grahamism spread so fast that the medical journals carried articles against the Graham system, while professors in Medical Colleges felt it necessary to combat Grahamism in their class rooms. Prof. A. G. Smith, in his introductory lecture before the New York College of Physicians and Surgeons, 1837, felt it necessary to discuss Grahamism. This should indicate the extent to which the new doctrines had spread in the short space of five years. In that same year, Dr. Drake, of Cincinnati, writing in the **Western Journal of Medical and Physical Science**, refers to the new movement as the "Graham School".

Graham was scheduled to lecture March 2nd, 1837, in Armory Hall, Boston, to ladies, on Physical Education. Many women attended, but so great was the tumult made by persons adverse to Graham, the object of the

lecture was defeated. Graham afterwards completed his course of lectures to women in the Hall of Marlborough Hotel, protected by the city authorities. Subsequently a new and well-attended course of lectures was given in Armory Hall without disturbance.

Graham was persecuted not alone by the medical profession, but by the butchers and bakers as well. As a matter of fact, in the same town where Garrison and Phillips were mobbed, Graham was set upon by a mob also. He continued to outrage the butchers by preaching the physical and moral advantages of a vegetable diet and the bakers by extolling the superiority of home-made whole wheat bread. The bakers took measures to suppress him. It was in the winter of 1837, while he was lecturing in Armory Hall, Boston, that the uprising of the bakers occurred. The owners of the Hall, fearing for the safety of their property, closed it on him.

The dining room of the nearly completed Marlborough Hotel was offered to Graham in which to complete his lectures. Graham had been and still was a temperance lecturer, and it was fitting that he should find shelter in the first temperance house in America, which this hotel had the honorable distinction of being. The mayor interposed, protesting that he could not protect the meeting with his constables, but the warning was unheeded and the meeting held.

The lower story of the hotel was barricaded and the upper stories provided with a quantity of slacked lime and a shovel brigade. The hotel proprietor parleyed with the mob that gathered, and then, as the crisis approached, gave the signal, which caused the shovelers above to throw lime on the mob and they hurriedly adjourned.

Walter's own family was not in full sympathy with his work and I am informed that his own wife destroyed the manuscript of Vol. 2 of **Life's Great Law** after his death. Dewey and Tilden each had their share of persecution, in fact, Tilden is still the object of medical attacks.

Brave men, these, who deliberately chose to uphold unpopular doctrines, principles and practices, because they were convinced these were right, and fought it out with the powerful opposition until the latter was not only beaten, but forced to accept, even if only to pervert, at least part of what these men stood for, in order to prevent being destroyed altogether.

In spite of all opposition, the orthopathic principle has, at long last, found its way into modern biology and the hygienic practice has found an ever-widening acceptance, until, today:

Heteropaths start and wonder
At the Orthopathic thunder;
While it shakes their sandy footing,
From the mountain to the shore.
And the doctors in their raging,
Seem to think the war that's waging,
Will be all their thoughts engaging,
Making trouble ever more.

Living Matter Cures Itself

CHAPTER I

The greatest engineering feat of which we know anything is the building of a complex animal organism from a microscopic ovum. Think, for instance, of the marvels of the human body with its pulleys and levers to perform mechanical work, its channels for distribution of food and drainage of sewerage, its means of regulating its temperature and adapting its actions and functions to its varied environments and needs. Its nervous system and the eyes, ears, etc. are constant sources of wonder. We regard the radio as a wonderful invention, as indeed it is, but we are all equipped with more wonderful "sending" and "receiving" sets than any radio manufacturer will ever produce. All human inventions have their prototypes in the animal body.

In studying the wonders of the human body, its structures, functions, development, growth, and its varied powers and capacities, it is well to keep in mind that the power, force or intelligence that evolves the adult body from the fertilized ovum is in the body, is part of it and is in constant and unceasing control of all its activities. Whether it is an intelligent power or a blind energy, it works determinately towards the latest results in complexity of structure and function. In development and maintenance, health and disease; the movements of life appear to be guided by intelligence greater often than the conscious intelligence of man.

Vital processes have a definite object and pursue that object with a persistency that knows no let-up. If we view a few of the engineering feats performed by the body in cases of injury and disease we are forcibly struck with the truth of Graham's remark: "In all these operations the organic instincts act determinately, and, as it were, rationally, with reference to a final cause of good, viz., removal of the offending cause." Dr. Walter says: "Vital processes are mental processes. Life begins with thought and ends with it."

Dr. Alexis Carrel utters a similar thought, saying: "If we attribute to tissues an intelligence of the same kind as ours, as mechanists and vitalists do, the physiological processes appear to associate together in view of the end to be attained. The existence of finality within the organism is undeniable. Each part seems to know the present and future needs of the whole, and acts accordingly." He uses the embryonic development of the eye as an example, but any structure and function of the body would serve equally well. He employs as another example the changes that occur in the vulva and vagina when pregnancy is nearly completed. The tissues of these structures are invaded by fluids and they become soft and extensible. This change in their consistency renders possible the passage of the foetus a few days later. Coetaneous with the vaginal and vulvar changes, the mammary glands multiply their cells and begin to function before the baby is born. They are ready and waiting to feed the newborn. All of these processes are so obviously preparations for future events that it were egregious to argue the point. Similar preparations for the future are made during the entire period of embryonic development. Dr. Carrel says: "Organic correlations take place as easily between different periods of time as between different regions of space."

We do not need to claim rationality for the unconscious or the organic world anymore than we need to claim the same for the forces that control the formation and repair of a crystal. A watchful automatism is in control. Every force in man's body is governed by immutable law which disposes of them to the highest interests of life and which wisely adapts means to ends. Outside the voluntary powers of man, all matters and forces or agencies, are punctiliously and eternally subject to law. These laws, uniform in all places and all times, shut up the involuntary actions of man's body to their designed ends. The economy of life cannot relax its grasp upon the working powers of man's body and permit these forces to take on wrong or subversive action and thus endanger life. The law of life, itself, cannot become recreant of its high trust and misdirect the forces of life, or any part of them, and by this reason, create discord in the body, disturbing its peace and threatening its destruction. So firmly and indelibly is the law of life impressed with the "instinctive" inclination, or tendency, or actual necessity to maintain life in its highest condition, that it must, at all times, and under all circumstances, employ the power it has—be this more or less—with a wise adaptation to the end in view; the preservation and prolongation of life.

The same adjusting of means to ends are observed in abnormal conditions that arise during life. The organs always improvise means of meeting every new situation. The body replies to all enemies in a specific manner. Dr. Oswald says: "The organism of the human body is a self-regulating apparatus. Every interruption of its normal functions excites a reaction against the disturbing cause. If a grain of caustic potash irritates the nerves of the palate, the salivary glands try to remove it by an increased secretion. The eye would wash it off by an immediate flow of tears. A large quantity of the same substance could be swallowed only under the protest of the fauces, and the digestive organs would soon find means to eject it. The bronchial tubes promptly react against the obstruction of foreign substances. The sting of an insect causes an involuntary twitching of the epidermis. If a thorn or splinter fastens itself under the skin, suppuration prepares the way for its removal. If the stomach be overloaded with food it revolts against further ingestion."—**Nature's Household Remedies**, p. 9.

The living organism is abundantly supplied with safety factors. Indeed all physiological activities are adaptive, so that adaptation may assume many forms. When the tissues are damaged by club, knife, bullet, or fire, the organism immediately adapts itself to the new situation. Every thing moves as if a series of measures, some immediate, some delayed, were employed by the body in order to repair the injury. Heterogenous and converging "mechanisms", all turned to the end of reconstructing the destroyed tissues, are set in motion.

If the small intestine is cut, or part of it removed and the ends brought together and sutured, it requires four hours for the plastic exudate that is thrown out to make the joint tight. Despite the regular or routine wave of contraction in the stomach, the sphincter muscle (pyloric valve) holds tight for five hours after suture, before it permits the contents of the stomach to escape into the intestine. Whether we see in this an intelligent or an automatic adaptation of means to ends, we must see that the individual is a whole, and that the adaptive functions extend to all organic systems. One system cannot modify its functions without occasioning correlative changes in all other systems. The nervous system and the organic fluids serve to correlate the organs. Each part of the body adjusts itself to all

other parts and all other parts to it. This process of adaptation is essentially teleological.

The power of cure is inherent in living matter. Beginning with the tiniest microscopic cell or germ and extending to the most highly complex organism of which we know, the power of healing or cure is seen in operation. Indeed it is one of the grand distinctive marks of living things that they can repair their own injuries. If a leg of a table is broken, the table cannot repair the break; if the leg of a man is broken his system will be able to repair the fracture without any artificial assistance.

It required thousands of years of torturing the wounds of sufferers with almost every substance in the three kingdoms of nature, before surgeons finally discovered that there is no healing virtue in any "remedy" and that the healing of a wound is not the result of any application, but is the work of nature, that is, of a restorative principle identical with the principle of life, and by which each organ and tissue is to a certain extent, enabled to repair the damages it sustains. In vain would the surgeon set the ends of a broken bone in a case of fracture, except for the power of the bone to reunite itself; or to reduce a dislocation, if the torn ligaments were not able to heal themselves. In vain would he bring together the severed edges of a wound if the power of healing possessed by these did not exist in them.

They have not yet learned that there is no healing, strengthening, or helping virtue in any "remedy" used in disease and that the healing of internal as well as external injuries is not the result of "drug action", or "serum action", but of the inherent restorative principle which is identical with life and which enables each organ to repair its own damages.

The general public still believes in healing salves, ointments, balsams, etc., which will heal wounds and open sores. The medical profession still believes in healing remedies which will heal internal injuries. Wounds heal of themselves—so, also, do "diseases".

In the reparative process, a certain series of changes must necessarily take place in the damaged part before it can be restored to soundness, and these changes require time. It was an easy matter for those who did not know of these changes, nor of how and by what they were made, to attribute the healing of a wound or bruise to whatever happened to be used on it. The remedy was applied, the wound healed—ergo, the remedy healed the wound! The child had diphtheria, antitoxin was given, the child recovered. Ergo! antitoxin saved the child's life.

Reparation and cure are not effected by any entirely new action in the body, but by a modification of some of the nutritive actions. Cells possess latent powers and properties that actualize under the influence of pathogenic influences and agencies, when the organic medium undergoes physicochemical changes. Due to possession of these latent powers, which are capable of becoming active in response to changes in their media, the cells are able to deal with unforeseeable events which occur in the course of a lifetime. Let us look at the healing processes of life. To do this, we will consider them under a few general heads, as follows:

1 The capacity of redintegration following the disintegration of tissues. Of this power, no evidence is needed, for it is well known to physiologists and, even, by the unlearned in science. It is the process of repair which is continually making good the eternal wear and tear of the tissues consequent upon the operations of life. Regeneration of tissue is a continuous physiological process in health and disease and operates to restore tissues that have been destroyed, although here its sphere is more limited. Were it not for this process of repair and replenishment the bodies

of all animals would begin to gradually wear and waste away from the moment of birth and in the course of a few days would perish or wear out. Animals would not live through the period of infancy.

Carrel and Burrows discovered that cells which showed signs of what is called old age require only to be placed in a new culture medium to become young again and to multiply and grow. Dr. Woodruff kept groups of cells alive for 8,500 generations without loss of cellular vitality.

Parts of the stomach, kidney, the lungs, the liver and other organs have been rebuilt by being fed with blood. Lung tissue added to the piece of lung, kidney tissue to the kidney, liver tissue to the liver, etc. Almost all parts of the body have been subjected to experiments of this kind and have proven themselves capable of growth and repair under such conditions. Each part of the body renews and repairs itself, by its own intrinsic power to absorb nutritive material from the surrounding medium and assimilate, organize and transform it into material identical with its own substance, and endow it with vital properties.

Part of a newly-born rabbit was placed in cold-storage and allowed to remain there for a year. It was then placed on a slide, given food and warmth, and it began to grow as soon as the proper temperature was reached. A piece of bone of a young pig began growing quickly, but a piece of bone from an old pig was slow in beginning its growth. Experiments have shown that parts taken from very young life begin to grow soon, those from middle life require more time to start growing, while those from old life require much more time. The practice of grafting plants and trees is familiar to all, in fact, it is so common that everyone considers it a matter of course. In recent years grafting of animal parts has been successfully accomplished. For instance, pieces of skin have been put in cold storage to prevent decay, and after they have been there several months, have been taken out and fed warm blood and they began to grow. New pores and layers were built in perfect order, and all the intricate apparatus involved in perspiration were constructed. Fresh pieces of skin placed on the denuded flesh where the skin was torn or burned away grew and united with the surrounding skin.

Pieces of bone have been taken from freshly killed animals and fed with fresh blood with the result that they selected from the blood, elements necessary to the building of new bone and rejected the rest. Pieces of new bone have been grafted into the bones of those who from some cause have had part of their bone destroyed. The bone grew and united with the surrounding bone.

The power to regenerate impaired, degenerated, atrophied parts depends not alone upon the abilities of depleted and "aged" cells to revive and grow young again, but also upon the power of the organism to replace dead and dying cells with new ones. This power has its limits. Tissues that are destroyed and have had their places filled by other tissues of a lower grade cannot regenerate, at least, not fully. Thus in cirrhosis of the liver, where the functioning cells have been replaced by, connective tissue the system has no means of dissolving the connective tissue and filling the space occupied by it with liver cells. Experiments upon all the tissues of the body, both of young, middle aged, and old animals have shown this power of regeneration to belong to all of them. The exercise of this power of regeneration, however, depends upon the existence of certain definite conditions which need not be discussed here.

2. The power of healing which is evidenced either by what is termed "healing by first intention", or "healing by second intention", upon the occurrence of any wound or abrasion. Whether the continuity

of the tissues has been broken either by bursting of an abscess or by a clean cut, the process of repair is always the same. The wound is filled with new connective tissue, its surface is covered by the proliferation of the surrounding epithelium, the nervous and circulatory Channels are re-established and the wound healed. Clean cuts, on healthy individuals heal with a minimum amount of connective tissue so that the results are scarcely apparent to the naked eye. This is called "healing by first intention" or "primary union."

"Healing by second intention" does not differ in any great respect from "healing by first intention." There is, however, an obvious formation of granulation tissue and the formation of a superficial scar. The same formation of granulation tissue (embryonic connective tissue), coagulation, fibrin formation and proliferation of capillaries and connective tissue take place in both forms of healing. Both are accompanied by more or less of inflammation with the destruction of some tissue. Bone and nerve tissue are the best regenerators, although there is more or less regeneration in other tissues.

Let us consider the natural healing of a wound, scratch or broken skin. We have become so accustomed to this familiar phenomenon that we have come to regard it as an almost mechanical process. But a close examination of the process shows us the presence of that same marvelous "intelligence" that builded the body from a tiny microscopic speck of protoplasm to its present state.

Whenever the skin, and maybe the deeper tissues, is broken or cut, there is an exudation of blood which coagulates and forms an airtight scab. This scab serves as a protection to the wound, and remains for a shorter or longer time as needed. Underneath this scab a wonderful thing occurs. Blood is rushed to the injured part in large quantities. The tissues, nerve and muscle cells, etc., on each side of the wound start multiplying rapidly, and build a "cell-bridge" across the gap until the severed edges of the wound are reunited. But this is no mere haphazard process. Everywhere is apparent the presence of directing law and order. The newly formed cells of the blood vessels unite with their brothers on the other side so that in an orderly and evenly manner the channels of circulation are re-established. In this same lawful and orderly manner the connective tissues reunite. Skillfully, and just as a lineman repairs a telegraph system, do the nerve cells repair their broken line. Muscles and other tissues are repaired in a similar manner. And what is a wonderfully marvelous fact to observe, no mistakes are made in this connecting process—muscles do not connect with nerve or blood vessels, or with connective tissue, but each tissue connects with its kind.

Experiments have shown that if, in the repair of wounds, one factor of repair is interfered with, this is compensated by acceleration of others. If one regenerating mechanism fails it is replaced by another. After a hemorrhage, two converging mechanisms re-establish arterial pressure and blood volume. The arteries contract on the one hand and liquid is brought from the tissues and digestive tract on the other. If either of these mechanisms fails, the other is capable of compensating the failure. The body is thus seen to have more than one means of accomplishing the same adjustment, so that the result alone and not the procedure is invariable.

After the wound is healed, when a new skin has been formed, so that there is no longer any need for the protecting scab, nature proceeds to undermine and get rid of it. As long as the scab was useful it was firmly attached to the skin so that it was not easy to pull off, but when there was

no longer need for it, it was undermined so that it fell off of its own weight.

If heat or friction is applied to the skin of sufficient intensity and duration a blister forms. That is, a watery exudate or serum is poured out of the surrounding tissues and circulation into the "space" between the dermis and epidermis and detaches the dermis from this, raising it up and thus protecting the tissues beneath. The accumulated fluid holds back the heat or, in the case of sun burn, the actinic rays, and protects from the friction. This little piece of engineering work is quite obviously a defensive work. In both burns, and sunburn, inflammation and healing follow the blister and, in the case of sun-burn, pigmentation to protect from future sun-burn.

We get, if possible, a still more wonderful view of how nature performs her work, if we observe the healing of a fractured or broken bone. If a limb is broken so that the sharp ends of the fractured bone tear the muscles and blood vessels, the break is speedily surrounded by a bloody clot of fibrin and by osseous and muscular debris. Circulation increases and the limb swells. The blood brings to the wounded section the nutritive substances necessary for the regeneration of tissue. In and around the fracture all structural and functional processes are directed toward repair. In order to accomplish this, tissues become what they need to be. As an example, a shred of muscle near the fracture metamorphoses into cartilage. A liquid substance is secreted and deposited over the entire surface of the bone in each direction from the point of fracture. This secretion quickly hardens into a bone-like substance and is firmly attached to the two sections of the bone. Until nature can repair the damage this "bone ring" forms the chief support whereby the limb can be used. By the same process of cell multiplication which we saw in the healing of the wound, the ends of the bone are reunited. Cartilage, which forms to temporarily unite the broken ends of the bone, is later transformed into bone, so that the bone is regenerated in the same way it was built up during embryonic life. The circulatory channels are re-established through the part. It is then that the "bone ring" support is softened and absorbed, except about an eighth- to a quarter of an inch about the point of fracture.

During the few weeks required to repair a broken bone, an immense number of chemical, nervous, circulatory, and structural changes, correlations, and adjustments are instituted and carried out. They are all directed to and concentrated upon the work of repair. The physiological processes of regeneration are set in motion by the flow of blood from the vessels at the time of the accident, by the accompanying pain, and by the juices from the bone marrow and lacerated muscles. Each phenomenon results from the preceding one.

You strike your finger with a hammer. A very painful bruise is the result. There is an effusion of blood under the surface, with inflammation and discoloration. The tissues are mangled, the cells are broken, and many of them are killed. But the thumb does not remain in this condition. As time passes, new tissues are formed to replace the dead ones, the dead cells and the dark, wasted blood are absorbed and carried away. The inflammation subsides, the pain ceases, the bruise is cured, and soon forgotten. Thus again is manifested the marvelous intelligence of the power that superintends the workshop, which we call our body. Once, again, we watch his work and see his marvelous efficiency as a workman.

If an artery is cut, blood gushes in profusion, lowering arterial pressure. Syncope (swooning) occurs; the hemorrhage decreases; a blood clot forms, sealing the artery; the hemorrhage definitely ceases. Leucocytes

and tissue cells invade the fibrin clot and in a few days progressively regenerate the arterial wall. The clot is dissolved and removed.

If an intestine is cut or wounded, the wounded loop becomes immobile. It is temporarily paralyzed so that no fecal matter runs into the abdomen. Another intestinal loop on the surface of the omentum now adheres to the wounded section so that within four or five hours the opening is occluded. Healing is due to the spontaneous adhesion of the peritoneal surfaces, even if the edges of the wound have been drawn together by the surgeon's needle.

A remarkable engineering feat is presented to us in abscess formation. Ordinarily the abscess is limited by a thick protective wall of granulation tissue, which prevents the abscess from spreading and prevents rapid escape of puss into the circulation.

In appendicitis the loops of the bowels around the appendix form friendly adhesions. They adhere together and form a strong wall against further spread of the trouble. Within this enclosure the abscess forms. The line of least resistance, normally, is into the bowels so that practically every case, if not interfered with by meddling doctors, will rupture into the bowels and the pus will pass out with the stools.

The potential properties which give to anatomical structures the power to regenerate are actualized within the cells by the physio-chemical conditions in the wound and by the chemical composition of the fluids set free in the tissues. Each tissue is capable of responding, in its own way, at any time in the future, to all physiochemical changes of the blood and lymph in a manner consistent with its own and the body's best interests.

3. The power to immediately reproduce a lost part: A power displayed to the fullest extent by the lower orders of animals, and measurably, by even the highest. This reparative or regenerative power which is common, in a higher or lower degree, to all organic beings, and which was formerly designated by physiologists as the *nisus formativus*, is a very primitive power. Darwin said: "this power is greater in animals, the lower they are in the scale of organisms." The reason for this lessened reproductive power, in the higher animals, is, that such animals are more complex, the conditions of growth are correspondingly more complex and less easily supplied, when required.

Experiments upon protozoa show that if the cell is divided into two parts, the part containing the nucleus soon again becomes a complete cell with all the properties and powers which it originally possessed. If even a small part of the nucleus remains in the cut-off piece of cytoplasm, reconstruction may take place.

The great utility of many of our garden vegetables,—such as spinach, parsley, cress, etc.—depends upon the possession of a power to repair injuries, so that new shoots speedily take the places of the leaves that have been removed. If a branch is forcibly torn from a tree, or if a cut is made in the tree with an axe, the bark is gradually built up around the wound and cicatrization is finally accomplished.

Heteromorphoses are commonly known in plant physiology. Cut a slip from a willow and place it in the ground and it will develop roots and grow. Either end of the slip may be made the root portion. Many similar examples are known to every one.

Cut a leaf from a begonia plant, place it in a suitable soil and water it; it puts out roots and shoots and in due time a full grown begonia plant results. Cut off a minute part of the leaf, as small as can be seen, and care for this properly, and a full grown plant, just like one grown from the seed,

will result. Something like a hundred plants may be produced from the fragments of a single leaf.

The power of regeneration is almost universal, although as we pass from the simplest to the more complex forms of life we observe that this power falls off as organisms become elaborately specialized. Worms, polyps, sponges and other low forms are capable of total regeneration. Fragments of the body are capable of building up a whole new individual, just as are fragments of the begonia leaf. If a naus, or fresh water worm, is cut into fifty pieces, each will reproduce a perfect new animal. The slow-worm reproduces lost parts.

If Planaria are cut into small pieces and the pieces placed where they can absorb nourishment, each of them will grow into a whole worm. If they cannot get nourishment, they cannot grow; each piece, therefore, completely rearranges its materials and becomes a perfect but very minute worm. The piece that happens to contain the pharynx, finding this too large for its present size will dissolve it and make a new one that fits its new size. Many other worms, when cut, grow new heads or tails.

The tubularia is a kind of sea anemone which grows on a stalk with two rows of tentacles surrounding the head and mouth. If the head with its tentacles is cut off, the first sign of regeneration consists of two rings of lines, one above another, running down the sides of the stem from the cut. These are gradually stripped off keeping one end attached and thus forming new tentacles. The head then forms in their midst. But if before this, you cut off part of the stem, leaving only one of the two rows of lines, the creature, as if in disgust, sometimes erases the one row left and then divides it in the middle thus forming two lines, one end of each, thus forming two very small tentacles, and then grows these to their proper length and size.

A Hydra from which the oral disc and tentacles have been cut, a Nais deprived of its head or of its tail, a snail from which a tentacle with its terminal eye has been amputated, will reproduce the lost parts, sometimes in a very short time—the Hydra, the oral disc with its tentacles; the Nais, the head with its sense organs and special groups of muscles; the snail, the tentacle with its compound eye composed of structures as different as retinal rods, pigment cells, nerve cells, lens, etc. The lobster that has lost its claw, the water newt that has lost an extremity or an eye, the crawfish that has lost a limb or a tentacle will reproduce these as the spinach or parsley reproduces new leaves. Craw-fish can reproduce almost every part of their structure.

The glass snake, which is a lizard and whose family name is *squamata lacertilla anguidre ophisarus ventralis*, if caught by the tail, will snap it off and hurry on in its effort to escape from its enemy. It then, without trouble or pain, grows a new tail that serves just as well as the original one. The sphenodon and many other lizards can do likewise. Tritons can reproduce an amputated limb, with the numerous differently shaped skeletal pieces of hand or foot, with their appropriate muscles and nerves.

By cutting off the legs and tail of a salamander, Spallanzi got in the course of three months, six crops of these members. In one season one animal produced 087 perfect bones with their appropriate muscles and nerves. Kellogg tells us that "the long domesticated mulberry silkworm larva possesses the capacity of regenerating any of its legs, if the mutilation has not removed the whole appendage."

In man the power to reproduce a lost part is very limited. New pieces of skin may be grown; when a piece of diseased bone is removed, a new

one sometimes gradually assumes the regular form, and all the attachments of muscles, ligaments, etc., become as complete as before. Children regularly grow new tonsils when they have been removed. Many fingers, the tips of which have been cut off in accidents, grow new tips including even the nails. A finger nail or a toe nail which has been seriously damaged is slowly thrown off as a new nail forms underneath, while in the embryonic state an entire limb, and the supernumerary digits in polydactylism, are occasionally, though imperfectly reproduced after amputation. If a limb is torn from the body, provided the individual does not die from hemorrhage, a reparatory effort is established, and if the severity of the injury does not induce too much irritation in the system, the wound will gradually fill up, and the skin form over it. To a lesser extent we see this power exerted in the healing of ordinary wounds, and in cementing broken bones.

The regeneration of a nerve fiber is an interesting and instructive process. I present the following brief description after Howell (**Textbook of Physiology**), of course, stripping it of all theories and hypotheses of how it is accomplished.

When a nerve trunk is cut or killed at any point by crushing, heating or by any means, all the fibers from the point of injury to the periphery undergo degeneration. The definite changes included in this degeneration are observed only in a living nerve. A dead nerve or the nerve of a dead animal does not undergo these changes. The time required for the degenerative change to begin differs for the different kind of fibers found in the animal organism. In the dog they begin in four days, in the frog from thirty to a hundred and forty days depending on the season of the year. It has been found that if the frog is maintained at a high temperature (30 degrees C) degeneration will proceed as rapidly as in the mammal. In a cold temperature more time is required. In a dog it goes on so rapidly that the process appears to occur simultaneously throughout the whole of the peripheral stump. In the frog and rabbit it is observed to begin at the point of injury and progress peripherally.

The nerve fibers break up into ellipsoidal segments of myelin, each of which contains a portion of the axis cylinder. These segments in turn break up into smaller pieces which finally are absorbed. The central stump, the fibers of which are still connected with the nerve cells, undergoes a similar degeneration for a short distance immediately contiguous to the wound.

In the peripheral portion of the nerve regeneration begins almost simultaneously with the beginning of degeneration. The nuclei of the neurilemmal sheath begin to multiply and form around them a layer of protoplasm so that, as the fragments of the old fibers disappear, their places are filled by numerous nuclei and their surrounding cytoplasm. This eventually forms a continuous strand of multi-nucleated protoplasm. This fiber bears no structural resemblance to the normal nerve fiber and is described as "embryonic fiber."

In the adult animal regeneration ceases at this point unless an anatomical connection is made with the central stump. However, such a connection is almost always accomplished unless special means are taken to prevent it. The two ends of the severed nerve find each other in a remarkable way and several ingenious theories have been invented to account for this. After the two portions of the nerve have grown together the "embryonic fibers" of the peripheral end are gradually transformed into normal nerve fibers with myelin sheath and axis cylinder.

The earlier physiologists thought that if the severed ends of a nerve were brought together by suture they might unite by "first intention"

without degeneration of the peripheral end. It is now known that this degeneration is inevitable once the living continuity of the fibers has been interrupted by any means. Any functional union that occurs is a slow process involving the degeneration and subsequent regeneration of the peripheral fibers. As if in disgust, nature tears down the old fibers and builds them anew.

Closely akin to the power to reproduce an accidentally lost part is the power to restore a long lost (suppressed) part. It goes beyond the individual. In close interbreeding of animals many characters are suppressed or "stopped down." In many cases of close in-breeding there is the loss of one or more vertebrae in the spinal column. In cases of cross-breeding or in "spontaneous reversions" these suppressed characters are restored. Of this Darwin says: "No doubt the power of reparation, though not always quite perfect, is an admirable provision, ready for various emergencies, even for those which occur only at long intervals of time." Again: "That there is a tendency, in the young of each, successive generation, to produce the long-lost characters, and that this tendency, from some unknown cause, sometimes prevails." Lastly: "This subject has been here noticed, because we may infer, that when any part or organ is either greatly increased in size, or wholly suppressed, the coordinating power of the organization will continually tend to bring all the parts again into harmony with each other."

This shows that, with each species, there is a certain ratio of development of its several characters, which cannot normally be varied from, and which could not be varied from very greatly under any conditions, without resulting in such disproportionate development and loss of physiological coordination, and all their attendant evils, as are seen in the results of close-interbreeding. If Darwin had adhered to the principle he states above, in his treatment of the facts of breeding and variation, he could never have propounded a theory of the derivation of one species from another. He himself produced ample evidence to show that the more a form diverges from the primitive normal form, the less its chances of survival and the more need it has for "repair." On the other hand, cross-breeding and "reversion", by restoring one or more of the suppressed characters, increase the ability to survive.

Thus far, we have considered three phases of the living organism's power of self-repair. A few words here about the oneness of this power may not be amiss. Animals begin life as a single microscopic cell and by processes of cell proliferation, differentiation, and organization, grow into complex organisms with many dissimilar organs with their varied powers and functions. The organism is apparently self-evolving dependent only upon certain natural conditions. Each of the three phases of the power of self-repair we have considered are accomplished by the same processes and are subject to the same natural conditions as are involved in the development of the animal from ovumhood to adulthood.

Between the power which repairs a trifling injury in any part, or that knits a broken bone or heals a serious wound, and the power which previously was occupied in maintenance of the body, there is no difference, and this power is identical with the power of development seen in the embryo. The power of production is the power of reproduction; the power of creation is the power of recreation. The power that produces the body is the power that renews it. The power of generation is the power of regeneration. The power that built the living organism also repairs it. The processes which are constantly active in renewing, repairing, and maintaining the body are identical with those processes which have been

used in building the body. The powers of life are within; the power of renewal is within.

This reparative and defensive power, which is nothing more nor less than the ordinary powers of healthy life, never rests day or night, asleep or awake, so long as life lasts, and even, after somatic death has occurred many cells in the body continue, for some time, to repair and defend themselves. This reparative power is inseparable from life and is exercised only by life. It never begins but once—when life begins—and never ends until death. It does not depend upon any special conditions or treatments. The snail only asks for the ordinary or natural conditions of snail life in order to grow a new head. He requires no drugs, serums, salves, antiseptics, vaccines, antitoxins, electrical currents, x-rays, radium, nor any drugless treatment. The celery or parsley stalk needs only the ordinary or natural conditions of plant life in order to grow a new shoot or leaf to take the place of the destroyed one. The same is true of the crab that has lost its claw. Given these conditions, even though not in their perfection, and life is capable of accomplishing all the reparative work possible. What life cannot do, cannot be done by treatment.

4. The power of the living organism to reject and eliminate all waste, useless and injurious substances. The first three powers which we have just considered all depend upon the power peculiar to living things to appropriate dissimilar material from their environment, transform it into matter like themselves, and incorporate it into their own structure. The power to reject and refuse waste, useless and injurious substances and to eliminate these is as fundamental as the power of appropriation and transformation or assimilation. Each of these two powers are equally essential to the continuance of the living state and the living organism equally serves its own end in either set of actions.

The complex animal body is adequately equipped with organs and structures, the function of which is to excrete and eliminate from it all waste matter, toxins etc. Chief among these are the lungs, kidneys, bowels, liver and the mucous surfaces of the hollow organs of the body. No special notice will be given these regions at this place. I desire, however, to direct attention to one phase of the work of keeping the body clean that is frequently overlooked. I refer to the work performed in the nose and throat in filtering the air we breathe and in removing from the air passages dust, etc., that get into these.

These passages are lined with fine hair-like projections called cilia. These are very close together and continually wave to and fro like the stalks of grain in a wheat field. However, the stroke made in one direction is sharp and decisive, the recovery is slower and more gentle, reminding one of the stroke of a whip or an oar or the movements of the hands in swimming. These cilia are overlaid with a thin film of moisture or mucous which is kept moving by their strokes. Any small particles of dust, germs, etc., which adhere to the surface of these passages are carried along with the moving film. In the bronchial tubes the movement is from below upward toward the throat so that dust that might otherwise accumulate in the lungs and result seriously is continually cleared away. It is carried to and gathered temporarily about the root of the tongue where it is usually swallowed but sometimes coughed up and spit out. One physiologist compares us to vacuum cleaners "freeing the air of part of the suspended material and depositing it in our own stomachs." But it is not allowed to remain in the stomach. It passes out with the food and, after traversing the entire length of the digestive tract, is expelled from the bowels.

The nose and trachea filter the air we breathe, warm it and moisten it and thus fit it for entrance into the lungs. The atmosphere is nowhere pure enough and usually not warm and moist enough for man's breathing until it has passed through this process. The air which enters the lungs is as different from that which enters the nostrils as distilled water is different from that which entered the still.

The man with weak or diseased lungs finds it painful to breathe through his mouth but experiences no such difficulty in breathing through his nose. The mouth does not prepare the air for the lungs as does the nose. Some dust does escape the action of the cilia and gets into the lower portions of the air passages where no cilia exists, where it may accumulate and stain the lungs. This is seen in the lungs of coal miners, inhabitants of smoky cities and workers in other dusty places. Further mention of this will be made in the chapter on what is "disease".

Cilia surrounding the edge of the mouth of the sea anemone usually beat from without inward, thus keeping a steady stream of water flowing into the body cavity. However, if a non-nutritive substance, such as a grain of sand, is placed upon the margin of the mouth, the cilia immediately reverse their motion in an effort to expel the foreign particle. Here the power of rejection is manifest.

All orifices of the body are normally self-cleaning. Their secretions are normally antiseptic and so long as their health remains unimpaired, unless overwhelmed from without, they remain clean and clear. A diarrhea soon cleanses the digestive tract when it becomes foul.

The normal undisturbed excretion of waste matter is absolutely essential to life and health and the normal organism is capable of carrying on this process of excretion in an adequate manner so long as the normal conditions of life are present. When these conditions are only imperfectly or partially supplied to the body for a length of time it gradually loses the normal energy of all its functions. The work of excretion is impeded, resulting in an accumulation of toxic matter which is destructive to life and health.

Matter is constantly being formed in the body, or received into it from without, that is both useless and injurious and, if allowed to remain and clog the activities of life, would produce disease or death. If the urine is suppressed for 52 hours, death results; the carbon dioxide exhaled in a day would kill many times over if retained. If a wound is obstructed so that drainage is stopped, septicemia and probably death soon result. There is not a moment of life, from birth to death that the body's processes of purification are not busily engaged in eliminating all wastes and toxins from the system. Closely wrapped up with and inseparable from this power of rejection is the power of the living organism to detoxify, through chemicalization, all waste and toxins that are formed in it as a result of the normal processes of life, or all organic poisons that gain an entrance into it from without. This detoxifying work is accomplished largely in the liver and lymphatic glands or nodes including, also, such lymphoid structures as the tonsils, adenoids (which are also tonsils), Peyer's patches in the small intestines, and the Vermiform appendix.

In a marvelous manner these glands enlarge (hypertrophy) to enable them to meet the extra demand made upon them when the toxins in the body are in excess of their normal capacity to meet and destroy. This enlargement often takes place in a very short time and may be noted by everyone following the bite of poisonous insects or reptiles or following infection. When they enlarge this increases their capacity for work.

The liver appears to be the chief organ of the body engaged in the production of urea. Urea is manufactured out of certain compounds that result from the break down of protein substances and which are constantly present in the blood, coming either from the regular wear of the body, due to its activities, or from the intestines.

Destructive disease of the liver—acute yellow atrophy, suppuration, cirrhosis, etc., and acute phosphorus poisoning—largely diminish the production of urea but increase the quantities of the cell wastes from which urea is produced. This work of the liver in preparing cellular waste for excretion is an exceedingly important one, as, upon the successful accomplishment of this work depends, to a great extent, the success of the kidneys in their work of excretion.

Very similar to and closely associated with urea formation is the conversion, by the liver, of toxic compounds, products of putrefaction of proteins, into non-toxic compounds. These substances—indol, skatol, phenol, and cresol—are absorbed from the intestine and carried to the liver through the portal vein. The liver cells deprive them of their toxicity, after which they are allowed to enter the blood from whence they are excreted by the kidneys. Other toxic substances, as, for instance, alcohol, are likewise reduced in toxicity in the liver. However, the methods by which this is accomplished vary with the varying natures of the compounds. The liver thus forms a chemical laboratory and presents a chemical defense against the entrance into the blood and general circulation, of agents that are more or less toxic.

Special means of elimination are devised in certain conditions in which the ordinary channels of excretion are inadequate, or inefficient. For instance, abscesses everywhere in the body are limited and walled off by the formation of a thick wall of granulation tissue. Gangrene is also walled off in the same manner. The necrosed portion then sloughs off, nature grows new tissue to take the place of the destroyed tissue and the place is healed.

Acute inflammation of the liver usually terminates in resolution, but sometimes in suppuration with abscess formation. This is more likely to be the case in hot climates. The amount of matter discharged from an abscess of the liver is sometimes enormous and it is wonderful to see in what ways nature operates in getting rid of it.

There are several channels through which the pus may be sent out of the system. The inflammation may extend upward until an adhesion to the diaphragm is accomplished. A dense wall of scar tissue is first formed around the abscess. The abscess then extends through the diaphragm to the lungs, which become adherent to the diaphragm. Liver, diaphragm and lungs form one solid piece. A tight union of these organs prevents the pus from pouring into the peritoneal or pleural cavities. A hole is eaten through the lung, the pus is poured into a bronchial tube, is coughed up emptying the abscess and leaving a clean hole. The wall of scar tissue thrown up around the path of the abscess grows stronger and contracts until, finally, only the scar remains, it having closed the hole, and the patient is well.

The abscess may be directed downward or to the side of the liver. In such a case the process is the same, except the liver becomes united by adhesions, produced by inflammation, to the stomach or intestines or to the wall of the abdomen. If it adheres to the stomach or intestine the abscess will perforate into these and the pus pass out in the stools. If it becomes adherent to the wall of the abdomen the abscess will "come to a head" under the skin and the pus will be discharged on the surface of the

body. In either case cicatrization follows and the patient is well. In some cases the abscess discharges into the gall-bladder and passes from here into the intestine. It has also been known to "point" on the back.

It sometimes happens in weak individuals that nature is not able to make proper connections along the line of march and the pus finds its way into the pleural cavity causing empyema; or into the abdominal cavity where it results in peritonitis and, usually, death.

Another daring engineering feat is often accomplished by nature in the case of gallstones that are too large to pass through the bile duct directly into the small intestine. She frequently causes the gallbladder to adhere, by means of inflammation, to the wall of the intestine, an ulcer forms, making a hole through both the wall of the gall-bladder and that of the intestine. The stone slips through into the intestine and passes out with the stools. The hole heals up and all is well again. In other cases the stone may be sent out through the abdominal wall and skin, on the outside of the body.

A similar manifestation of the body's self-healing, self-adjusting, self-repairing powers, is seen in the common accident whereby a sliver becomes embedded in the flesh. If it is not removed immediately, the forces of life perform a skillful little piece of engineering and remove it for us. Pain and inflammation are soon followed by the formation of pus, which breaks down the tissues towards the surface of the body. Gradually increasing in amount, the pus finally breaks through the overlying skin and runs out, carrying the sliver along as a souvenir. A piece of necrosed bone, in the femur for instance, in a tubercular hip, will be worked up through the thigh and cast out along with the pus. The process by which the bone is expelled from the body is similar to or identical with the process by which the sliver is expelled from the flesh.

In inflammation of the kidneys, due to the impairment of kidney function, the normal constituents of the urine are decreased. They remain in the blood instead of being eliminated. Due to the necessity of removing from the circulation, the salts, etc., that are normally eliminated through the kidneys, and to the necessity also, of keeping these in dilute solution so long as they remain in the body, and to the equal necessity of removing them from the circulation, dropsy develops in various portions of the body, but particularly in the tissues immediately under the skin. It may also collect in the cavities of the body. When kidney function is restored the dropsical fluid is gradually absorbed into the circulation and eliminated.

In this connection, also, may be mentioned the power of the living body to manufacture or secrete protective substances. Pour common salt over a shell-less land-snail or gastropod (slug) and it will instantly secrete a substance that rapidly diffuses throughout the salt, giving it the appearance of finely ground egg yolk that had been boiled hard previous to grinding. Poisonous and irritating substances coming in contact with the lining membranes of the hollow organs of the body or gaining access to the eye, are met with an immediate out-pouring of mucous or tears which both envelopes and dilutes these, rendering them more or less inert, and then washes them away.

The whole of the modern medical practice of vaccine, serum, and antitoxin therapy is based upon the supposition that the body manufactures substances called anti-toxins, anti-bodies, antigens, etc., which are capable of meeting and destroying toxins that get into the body. The idea seems to be sound, although it is possible that the work of destroying such toxins is that of detoxification carried on by the liver, lymph glands, etc. Anti-toxins, anti-bodies, antigens have never been isolated. They have only

been assumed, while the practice based upon their assumed existence has been both a failure and a disaster. However, this may not be due to their non-existence. If they exist it is impossible to separate them from the proteins of the animal's blood and these proteins when injected directly into the blood of another animal are very poisonous. Besides this, there is no evidence that the anti-toxins of one species can be made use of by another species. Where vaccines are employed, it constitutes the introduction of the actual disease matter into the blood. That is, the supposed causitive germs or some product of the disease is introduced into the body. The consequences are often terrible. Real benefits are never observed.

If the hypothesis that the body manufactures anti-toxins, antibodies, etc., is correct it still remains to be proven that the body ever manufactures these greatly in excess of the need for them. It cannot be shown that "free" anti-toxins, anti-bodies, etc., are suspended in the blood serum and can therefore be transferred to another animal in sufficient quantities to be of use to the receiving animal. In keeping with a general law of life, it is very probable that the body does manufacture an excess of anti-bodies, but it cannot be shown that it retains these after the need for them has ceased. On the contrary, in keeping with another general law of life, it is very probable that the body begins to get rid of them the very instant the need for them ceases. If they exist they are chemical substances produced to meet an emergency and will be cast out as soon as the emergency ceases to exist.

5. The power and ability of the living organism to so order and arrange its functions and processes as to enable it to withstand the action of pathoferic agents and influences with the least amount of wear and tear to itself and to stay its inevitable dissolution for the longest possible time, where these agents and influences are too powerful for it to overcome. One of the most familiar examples of this power is that by which the body quickly accommodates or adapts itself to changed conditions or to various poisonous drugs. One's first chew or smoke is met by a violent systemic reaction against the poison. If such reactions were evoked by every chew or smoke they would soon exhaust and kill the organism. Adaptation follows to prolong life as much as possible in spite of the tobacco poisoning. The same is true of other drug poisons.

Man resists hypnotic poisons such as opium and cocaine, and narcotic poisons, such as tobacco, and such poisons as tea, coffee, alcohol, etc., and adapts himself to them, but the adjustment is far from being a victorious adjustment. As Sylvester Graham pointed out, the adaptation is accomplished by organic and mental changes that amount to degeneration. The adaptation results in permanent modification of the body and of consciousness.

Another familiar example is that of suspended animation. This is more often met with among the lower forms of animal life, although, many cases among human beings are on record. In the latter, such cases usually lead to premature burial, although some few have revived in time to save themselves. Suspended animation is simply a state into which the living organism goes under those conditions that are not favorable for continued active life and is a means which enables it to resist such conditions and preserve the status quo. Perhaps more such occurrences would be recorded were it not for the "sustaining" or stimulating practices in vogue. These practices prevent the full institution of this means of defense and render recovery from it impossible. They exhaust the powers

of life while the suspension of animal functions is intended to conserve these.

If an inimical substance or influence cannot be thrown off or overcome, defense mechanisms of a more or less permanent character are called into being to prolong life as long and well as possible.

Of a defensive nature are corns and calluses that form on the feet and hands or any other surface of the body that is subjected to constant friction. The young clerk who deserts the store for manual labor finds his hands are tender and blister easily when he handles tools. However, before many days have passed the skin on his hands has thickened and hardened, ultimately becoming almost horn like. When this occurs he finds that no reasonable amount of hard work blisters his hands.

Still more remarkable examples of defensive structures are those of cyst formation and encapsulation. Encapsulation is the process of surrounding a body or substance with a capsule. A cyst or capsule consists of a cavity lined according to its origin by endothelium (in pre-existing cavities of connective tissue—exudation cysts) or epithelium (in pre-existing epithelial cavities—retention cysts) with a fluid or semi-fluid content.

Those of chief interest to us here are known as **Distention Cysts** and are divided into :

(a) Retention Cysts: which are due to the obstruction of the excretory ducts of glands. The cavity becomes filled with the secretion of the gland which later becomes altered and circumscribed by a fibrous wall. These may develop in any glandular structure, as pancreas, kidneys, salivary glands, mammary glands, sebaceous glands (wens).

(b) Exudation Cysts; which arise in cavities having no excretory duct. These occur in bursae, tendon sheath, thyroid, ovary, tunica vaginalis (hydrocele), canal neck, certain ganglia, hygroma and the central canal of the spinal cord.

The effusion in pleurisy sometimes becomes circumscribed by adhesions, or it may be encapsulated to the diaphragm.

(c) Extravasation Cysts; which result from a collection of blood in a pre-existing cavity, e. g., tunica vaginalis, pelvis, arachnoid cyst.

Cysts also form around foreign bodies and around parasites. The most common parasitic cyst are hydated cysts due to the small tape worm, **Tearia eehinococcus**. These get into the body in food and drink and their larva find lodgement in the tissues. A wall of fibro-cicatrical tissue is formed around them. Such a cyst may become inflamed, suppurate or rupture. If the parasite dies the cyst may become thickened by absorption.

Cysts of disintegration form around disintegrating tissues as in the brain, in tumors, etc.

Around a foreign body, a bullet for instance, such a capsule forms. There is first inflammation and perhaps suppuration. But if this fails to remove the bullet a capsule of tissue in which is also fluid, is formed and the bullet rendered innocuous. A similar thing frequently happens in the lungs in the case of germs. Rausse thought this fluid was a variety of mucous and thought that chemical or drug poisons were enveloped in this same "mucous" to render them harmless, and that they were then deposited in the tissues. He says with regard to the fact that this theory cannot at present be demonstrated:

"This theory is founded upon the incontrovertible principle of nature in the elementary and organic world, that nature operates similarly under similar circumstances. Hence, the theory here offered loses none of its certainty, because we are unable to recognize with the unaided eye, on

account of their minuteness, the inimical atoms and the minute net-work around them, and to exhibit them by section."—**Water Cure Manual**, p. 92, 1845.

The encapsulation of exudates, excretions, extravasations, disintegrating tissues, germs, parasites, bullets and other foreign bodies renders them harmless. The processes and structures it evolves are plainly defensive measures. They once more remind us of the many and varied emergency measures the body has at its command.

A process similar to this is seen in plants that have been invaded by parasites. The large, rough excrescences seen on oak trees form about the larva of a certain fly. This fly lays its eggs beneath the bark of the tree. The larva which develop from the eggs secrete a substance that results in the formation of the huge tumorous mass. Large tumor-like masses form on the roots and stalks of cabbage as a result of parasitic invasion. The olive tree also develops tumors from a similar cause; while, cedar trees present peculiar growths, called "witches' brooms," as a result of a fungus growing on them. There are many other examples and they are all quite obviously protective measures. Tumor formation is undoubtedly due to a variation in the complex relations determining normal growth and is of a distinctly protective nature. A tumor is not a source of danger until it begins to break down.

Of a similar nature to cyst formation is the forming of stones, as in the lungs in tuberculosis. When calcification of an area of the lungs occurs the tubercular degeneration ends in that area. I have seen a piece of metal similarly encapsulated with stone, in the lungs.

An unusual piece of engineering which shows, in a remarkable manner, the ingenuity of nature in her efforts at prolonging life in spite of every obstacle, is recorded by J. F. Baldwin, A.M., M.D., F.A.C.S., in a surgical paper dealing with transfusions. He performed an operation on a middle aged woman who had been having frequent hemorrhages from her bowels for several years. He says: "At the operation I removed a snarl of small bowel, making the usual anastomosis. Examination of this snarl showed that there had been an intestinal obstruction, but Nature had overcome it by ulceration between adherent loops of the bowel above and below the obstruction. The ulcer persisted, however, and it was its persistent bleeding that caused her anemia. She made an excellent recovery and got fat and hearty."

It looks like a real intelligence at work when nature causes two folds of the bowels to adhere together and then ulcerates through them in order to make a passage around the obstruction. There can not be the slightest doubt that the ulcer would have healed, leaving a passage, and the bleeding stopped, had the opportunity been afforded it. Nature probably cried out day after day in unmistakable language for the cessation of feeding long enough for her to complete her engineering feat. But this was never given her. The ulcerated surface was kept constantly irritated with food, and drugs as well.

An aneurism is an inflated portion of an artery. If the walls of an artery become weak at a given place, they either burst, or some of its coats are strengthened, or else it becomes bulged out due to the pressure of the blood from within. The body at once sets about to protect itself by forming a wall of new tissue around the aneurism. Should it rupture so that the blood finds its way along between other organs, a wall of scar tissue is thrown up around the aneurism to limit the escape of blood. This is called a dissecting aneurism.

A thrombus is a small blood-clot formed inside of a blood vessel. The condition is called thrombosis and the vessel is said to be thrombosed. They are the result of injury and inflammation and may completely plug the vessel.

In the intestines are many small glands composed of lymphoid structure just as are the tonsils of the throat, and known as Peyer's patches. In typhoid fever these patches are swollen or enlarged (hypertrophied) and frequently they suppurate. They may slough off. This peeling off may result in a hemorrhage or it may not depending on whether or not all the vessels in that locality are tightly thrombosed. If they are all tightly thrombosed no hemorrhage occurs. If the work of sealing the vessel is not complete or perfect then a hemorrhage occurs with more or less loss of blood before it finally ceases. This is but another evidence of nature's engineering work. These thrombi may later be swept into the general circulation and carried to some vital spot where they are too large to pass through the artery and may there cut off the blood to parts of the organ causing it to die of starvation. Starvation would only occur in cases of stopping of an "end-artery." "Anastomosing" arteries would soon establish sufficient collateral or compensatory circulation to supply the part with blood.

In every disease we observe the living organism altering its function to meet existing conditions. The reactive symptoms of disease may be broadly divided into two general classes—namely, those represented by reduced or suspended function, and those represented by accelerated function. As these will be dealt with more in detail in another chapter we will do no more than mention them here. Suspended or reduced function is intended to conserve power while accelerated function is intended to actively meet and overcome the foes of life. The study of these phenomena is one of the most interesting studies in the whole realm of biology, although, at present, its surface has only been scratched.

As a means of adjustment and adaptation which enables the body to prolong its life **Nature always favors the most vital organs.** This is as it should be. Life would not last long under many conditions, if nature treated all organs alike and caused each organ to suffer equally under those conditions. If the heart or brain, for instance, were not given preference over the hair or nails, if the hair and nails were treated as though they were of equal importance as the heart and lungs, man would perish in many conditions through which he now passes with a minimum amount of harm.

The more important organs are securely packed away in places of greatest safety, and every possible safeguard thrown around them. The brain is carefully wrapped in two delicate membraneous covers between which is a serous fluid which serves as a shock absorber and all this is encased in a hard bony safe which protects from all ordinary influences.

The gray matter of the spinal cord after being carefully wrapped in membraneous sheaths and protected by the spinal fluid is also encased in a flexible column of bone and cartilage. Its branches, the spinal nerves, are carefully cushioned in a fine mesh-work of connective tissue, the meshes of which are filled with a semi-fluid, compressible fat. The spinal column is so constructed that it combines great strength with a maximum of flexibility and the articulations are such that no luxations or sub-luxations are possible without such violence that there is a tearing of ligaments and cartilage and a breaking of the articulating processes of the vertebrae. No vertebra can touch the spinal nerves. To serve as a further shock absorber, preventing jarring of the brain from running or walking, the spinal column

is normally curved in three places so that it acts much as the springs on an automobile.

The heart and lungs are carefully protected by being enclosed in a bony cage made up of ribs, spinal column and sternum. Nature fortifies and places all the vital organs in the least exposed and most inaccessible parts of the body.

When short of nutritive material nature nourishes the most vital organs first. In fasting, or in starvation, the fat is consumed first and then the other tissues in the inverse order of their usefulness and importance. In death from starvation the loss to the nervous system is almost immeasurably small. Given rest and sleep and the nerves seem able to maintain their substance without injury through the most prolonged fast.

In fevers, when nutrition is at a low ebb, the hair often falls out and the nails lose much of their substance. The nutrition that normally goes to these is being utilized by the other organs.

During pregnancy, if the diet is deficient, nature first sacrifices the most dispensible portions of the mother's body—the teeth, hair, nails, etc.,—to supply nutritive material to the developing embryo. The more vital organs do not suffer until the less vital ones have first been sacrificed.

Thus we might continue giving example after example of the wonderful engineering feats of the body and show with what marvelous powers and works it meets emergencies and protects its own vital interests. When we consider the wonderful mechanism of the human body, the certainty with which all organs perform their allotted work, the marvelous ingenuity with which the body meets emergencies, its almost limitless powers of repair and recuperation, we develop a large respect and admiration for the curative power of the body and learn to view with contempt and disgust the means that man employs in his unintelligent efforts to cure.

The compensatory powers inherent in the human body are almost beyond comprehension. It is not merely that there is a body mechanism that acts as a thermostat and prevents the body's temperature from varying more than a fraction of a degree in all kinds of weather; that another mechanism maintains the proper water content of the tissues; while another keeps the chemical balance of the system close to neutral; but there are remarkable examples of people living and maintaining average health after whole organs have been destroyed or removed. One kidney and part of the other may be gone, sections of the intestines may be removed, even the stomach may be cut out, the gall bladder and other small parts of the body, the spleen, etc., may be removed and the individual go on living and enjoying life. Such adaptations reveal the reserve of power and the wealth of resources of the living organism.

Well did Jennings affirm: "But at every step of her (nature's) downward progress (in the face of pathoferic causes she cannot overcome), her tendency and effort have been to ascend and remount the pinnacle of her greatness; and even now, in the depth of her degradation, the tendency of all that remains of her, of principle or law, power and action, is still upwards." Although orthopathic phenomena always tend toward a definite end, they are not always successful. They have their limitations and are capable of successfully resisting only a given amount of poisoning or of repairing or compensating only a limited amount of injury. Whether success or failure crowns the effort, the healing processes are carried out in the same orderly manner and by the same processes and functions, modified, of course, to meet different exigencies, with which the body is built and maintained.

Cure or healing is the restoration to normal function and the repair of damaged structure. These are accomplished by the same powers, processes and agents that maintain health. The same power that determines the development of the embryo from the germ or ovum, is identical with that which is the source of the constant preservation, and renovation, purification and reparation, development and growth of the organism after birth. The generation of new structures to supplant the dead and dying ones is due to cell multiplication and involves the same creative forces that operate in the body of the growing, developing babe. By these processes normal health is maintained and if health is impaired, restored. As Dr. Walter was so fond of saying; the power of cure is the power of repair and the power of repair is the power of reproduction.

When the cells of the lungs are injured or sick they repair and cure themselves, assisted of course, by the general system. Sick and damaged kidney cells cure and repair themselves. Sick and damaged stomach cells or brain cells or liver cells or muscle cells cure and repair themselves. All of this is accomplished, not with drugs and treatments, but by virtue of the cell's own inherent powers of self-cure and self-repair and is accomplished by the use of the same light and air and water and food—cell substances—that are used in building new cells. Dr. Moras says: "But, as air is air, and as such is not a cure; and as water is water, and as such is not a cure, therefore, 'cure' is not a thing that exists outside of, or distinct from the particular tissue-cells in whose 'bosom' it (the cure) originally was (performed and pre-ordained by nature) and is again re-formed with the elements derived from air, water, light, and foods."—**Autology**.

Cure begins and ends in the cells, organs, tissues and fluids of the body and is accomplished by the self-same functions and processes and by the use of the self-same materials, agents and forces with which nature builds and maintains the body in health. In other words, cure is simply healthy function working under a handicap. "And that cure," says Dr. Moras (Autology), "is Nature-made and Nature-pre-ordained, and resides in the cell-matter unknown as life, but recognized as function, in the heart-granules of the tissue-cells.

"It is that thing which we call 'function or nutrition', which enables a kidney-cell to manufacture kidney-tissue and urine with the same air and water and food stuffs with which brain cells manufacture brain-tissue and thoughts", or, with which liver-cells manufacture liver-tissue and bile, and gonads manufacture gonad-tissue and spermatozoa and ova.

These are the fundamental processes of life. Their constant and successful performance depends upon the ordinary conditions and requirements of life, and not upon some therapeutic measure. It may answer the purposes of the surgeon to have it supposed that he is possessed of healing salves, etc., but he is well aware that the great art in these cases, is to keep the part entirely at rest, the edges in due apposition, where such is necessary, and extraneous bodies from having access to it—his trust being altogether placed in the sanative influence of the instinctive power situated in the injured part, and in every part of the frame.

There is not the slightest evidence that the living organism can make any use whatever of any influences or agents in the cure of disease or repair of injury that it does not and cannot use in maintaining health. There is, however, a world of evidence that the living organism can get along without all these therapeutic agents and influences and equally as much evidence that it does often get along in spite of them. There is, also, a world of evidence, that many, if not all, methods and systems of therapeutics are harmful and, as a consequence, retard healing and cure.

The voice of history and the laws and powers of life cry aloud in praise of hygiene and in denouncing therapeutics.

It will be noticed in all the examples given of the power of self-repair that no special condition or treatment is required—just the normal ordinary conditions of plant and animal life. Take the ease of the begonia leaf; all that is required for the development of a plant from the fragment of a leaf are those same conditions required for the daily growth and sustenance of the plant, or for its development from the seed—suitable soil, water, air, warmth and sunlight. In a word, hygienic conditions, not therapeutics, are all that are required and development, regeneration, repair and cure follow spontaneously and independently of art. It is worthy of special notice, as well, that these follow even under unfavorable conditions and often in spite of actual hindrances. This will be made more clear in another chapter.

The famous sympathetic powder of Sir Kenelm Digby was credited with the wonderful power of healing wounds when merely applied to the bloody clothes of the wounded person, or to the weapon that had inflicted the wound. This powder once enjoyed an astounding reputation. The cures credited to this powder were accomplished by the intrinsic healing powers of the organism and the results of the use of this powder supplied surgeons with the first hint, which led them to the improved practice of healing wounds by first intention.

This self-healing power is seen not alone in cases of external injury but in the gravest internal troubles and brings about recovery, not only without the aid of a practitioner, but even in spite of him and his remedies. This inherent defensive reparative power is actively engaged in defending the body against external and internal mischief at all times.

There are those who believe that cure is accomplished by anything that will effect the mind strongly enough. It will be noted that no mental influence aids the decapitated snail to grow a new head, nor does the asparagus plant receive any help from this source, in growing a new shoot. Crabs do not employ mental influences in growing new claws, nor do trees in healing a wound where a limb has been torn away. The identity of the reparatory powers and processes employed by both plants and animals cannot be doubted. Man cannot grow a new head like a snail, nor a new limb like a crab, and treatment cannot grow these for him. Man can heal a wound or a broken bone, but treatment, beyond bringing the edges of the wound together or setting the bone, cannot aid him in healing these. Cleanliness and rest are all that wounds require and many heal without either of these, although, not rapidly.

It is the contention of the present writer that the power of healing and cure is inherent in living protoplasm and that it does not inhere in anything else. Living matter cures itself where cure is possible. Where cure is not possible, no outside "aids" will or can effect it. All cure is self-cure. It is spontaneous and independent of art. Indeed, with the exception of a few surgical cases, art is a hindering agent or force, impeding or preventing cure or healing and both increasing and prolonging the suffering.

The Rational Of "Diseases"

Chapter II

For ages men have sought the answer to the question, what is disease?" Today it is generally admitted that this question cannot be answered. They are now content to say, "disease is a departure from health."

The secret of this mighty enigma, for whose solution the whole world has sought, has been shouted from the house tops for over a century and has been staring in men's faces for the whole of that time, so that it is impossible that they could have failed to learn the truth had they not shut their eyes and stopped their ears against it.

Men early conceived disease to be a thing or entity foreign to the living organism, and making war upon the vital powers. It was an enemy which should be counteracted, subdued, destroyed, exorcised—"cured". The ancients (and most moderns) conceived of this enemy as an evil spirit or demon; the self-styled scientific moderns conceive of the enemy as a malignant germ. Spirit invasion was called possession or obsession; germ invasion is called infection.

The fact that the "attack" theory was framed in an age when primitive ideas and mythologies, now completely consigned to the limbo reserved for exploded myths, constituted the philosophy of mankind, naturally militates against the truth or probability of the hypothesis in question. Being a primitive imagining it would be most likely a wrong and untrue one. Yet, in this age of science, we still employ the language of the "attack" theory.

"Disease" is said to **attack** us; to **run its course**; to **run through a patient**; to **travel** from one place to another; to **settle** in some organ of the body; some "diseases" are said to be **very malignant**, and others **very mild**; some **yield easily** to treatment, others **persist obstinately** despite all "science" can do; the patient must be **supported through the disease**, or **supported while the disease runs its course**. There is much talk of **resistance** to disease and about **immunity** to and **susceptibility** to disease. One is **struck down** by disease as by an avenging angel. It **seizes** him as does a roaring lion or **consumes** him as does a fire. A man is said to have died of a **heart attack**; or he has an **attack** of pneumonia or of typhoid. We read of an **outbreak** of measles, small-pox or cholera. Medical books speak of the **onset** of disease. Disease is man's **greatest** enemy, or a thing with which the doctor and the boards of health are in **constant warfare**. We must **combat** an enemy whose every move is dark and malicious.

Our whole terminology is a hang-over from the days when evil spirits caused "disease". Whether malignant spirits or malignant germs, it makes no difference; we are "attacked". Some evil spirits were **very malignant**, some evil germs are **very malignant**. We cannot escape the conviction that our conceptions of "disease" are those of the troglodyte. Hence, we are still fighting with a fictional entity.

Jennings says, "In the improved light of human physiology, reason and experience conspired to show that the common idea of disease was a great bug-bear, an illusory figment of the darkest portion of the dark ages; and that the combined expedition of medicine of all ages, all countries, and of all descriptions, that had been, and is yet arrayed against this spectre, and in hot pursuit of it, through veritable living human flesh and

blood, was the most tremendous and quixotic movement that had ever been engaged in by deluded mortals. ***"—**Philosophy of Human Life.** p. 36.

RECOVERY WITHOUT TREATMENT

If "disease" is an antagonistic element of any nature, and has succeeded in making a successful "attack" upon the body and obtained so firm a hold that the powers of life are unable to throw it off; if, from this time onward, from day to day, it should continue to grow stronger, and extend its dominion deeper and wider, while the powers of life are, to the same extent, overpowered and driven before it, until there is the merest breath of life left, and in some cases hardly that, what possible chance would there be for the little remnant of life that remains to rally and regain its so thoroughly devastated dominion? Obviously there would not be the slightest chance for recovery in the absence of saving treatment, and yet, if such cases ever recover, it is after hope is abandoned and treatment forsaken.

Nearly ninety years since, Dr. Hawthorn, a standard medical author of that day, in a treatise on **Epidemic Cholera**, after recommending much and varied heroic treatment for the prevention of collapse, admitted that patients did occasionally revive and return to health after this stage has been reached, but added: "Almost all the recoveries from collapse I have ever witnessed, were of persons who refused to take any medicine whatever, and who recovered through the **Vis Medicatrix Naturae**—**healing power of nature!**"

If there was a "tendency to death" in those cases, if cholera is a real antagonistic principle, which carries on a relentless warfare against the powers of life, why did it yield the conflict and permit its victims to escape, when they were so completely in its power? How, if disease is antagonistic to life, did patients who were already in a state of collapse, rally the forces of life and, unaided by treatment of any kind, throw off their foes and return to health? If the current theories of disease are correct, it should be obvious to the least discerning that such recoveries would be impossible.

In a preceding chapter we have supplied evidence that the human body is a self-protective vital mechanism, capable of purposive activity and possessing power to produce within itself its own remedial agents and to preserve or restore its own functional and structural integrity. Let us begin our study of "disease" by analyzing some of its phenomena.

IRRITATION

A slight sense of uneasiness, we call irritation; if it is severe, we call it pain. Irritability and excitability are terms employed to describe the ability, disposition, or property of cells and tissues to respond to the influence of "stimuli"—appropriate and inappropriate.

It is unfortunate that with our loose use of terms, the words **irritation**, **excitation** and **excitement** are used to signify both the application of an irritant to a tissue, and the action or response of the tissue or organ when so irritated. In other words, in regular usage, both the vital excitement and the means or process by which the excitement is aroused are called irritation. Apply a small amount of mustard to the skin and there follows a stinging, burning sensation, redness, mild swelling and vesication. The mustard is called an irritant; its "action" is called

irritation. But the burning and redness, and the swelling and vesication, all of which are vital actions, are also called irritation.

Irritation is purely physiological action. It does not matter what the irritant may be—fire, sword, poison, or electricity—the irritation itself is vital action; is a defensive response to the injurious agent. It is necessary that we distinguish between the irritation (vital excitement) and the thing that occasions the irritation (the irritant) and not confuse these under the same term.

In like manner no distinction is made between the "irritation" provoked by poisonous substances, harsh or ill treatment, etc., and the "irritation" which is a response to physiologically compatible things, like food, which "excite" the organs to the full performance of their physiological functions. This comes of permitting medical men to dictate the terms to be employed. Due to their adherence to drug-therapy, they are constitutionally incapable of differentiating between the body's reaction to food, for instance, and its reaction to poison or violence.

It is quite true that whether the action of the body is provoked by poison or violence, or elicited by food, air, water, sunshine, etc., the action is always produced by one and the same cause—vital power—and is always sustaining, conservative, and curative. But there is a vital distinction between the two forms of response. The organism reacts to food, air, sunshine, etc., to appropriate these and make them part of itself; it reacts to poisons, violence, etc., to reject them, escape them and in various ways to defend itself against them.

Irritation, inflammation and fever are not essentially different from each other and are not entitled to the appellation of pathology. Irritation corresponds to certain qualities of the organism. It is vital, or physiological action aroused and concentrated for the purpose of performing extra duty. It is a protective response of the living, irritable organism to the goading, pricking influence of the irritant. If we close our eyes when an intense light is thrown into them; if the cow shakes her skin to cause the flies on her to cease biting, the purpose of these forms of irritation is to protect against or remove an offending agent. The excitement, or irritation in the stomach in vomiting and in the bowels in diarrhea, is defensive vital action and should not be regarded as evil in itself.

Irritation is a most faithful sentinel and tends to preserve us from injury. Faulty or strained positions produce irritation and this causes us to alter our position. If we do not alter our position the irritation becomes pain. Heat provokes irritation, which if prolonged or intensified becomes pain. Irritation no less than pain is intended to compel us to get away from the heat. Whether the action is "high" or "low", "regular" or "irregular", local or general, the vital process called irritation is always a lawful and orderly adjustment of means to ends.

I am well aware that there are those who cannot comprehend the lawful and orderly adjusting of means to ends that is present in so-called "disease." If the bowels are "sluggish," these must be made to act promptly, else the patient will die of poisoning; if heart action is rapid, it must be depressed, else immediate death will occur; if an irritant in the air passages occasions coughings, the coughing must be checked, etc. In other words, mistaking the processes of life for the devouring work of the fell monster, "disease," they seek to suppress, and subdue these processes.

Irritants demand to be removed because of their ability to injure the tissues. Indeed it is the injury they inflict that occasions the irritation. But it is one thing to remove an irritant and another to depress the nerves. Irritation should be treated only by removing the occasion for it. In no case

should the power of the nervous system to produce the "irritated action" be destroyed, or inhibited.

The prevailing notion that "over excited" nervous action is disease and should be treated by depriving the nerves of the power to produce action, has led to the use of "medicines" called narcotics and drugless methods that depress ("soothe") the nervous system. The deadening of the nerves permits us to endure the irritant, of which we are no longer conscious, and thus it continues to damage us. Local narcotization must also greatly impair the local reparative processes as much as general narcotization. Sedatives are agents which directly depress the vital powers and, as such action is not consonant with biological law, we cannot accept these agents nor their influences.

None are so nervously irritable and disquieted as the habitual users of nerve-quieting "remedies", whatever their form or nature. The healthy person making use of these things soon becomes the same way.

PAIN

An excitant applied to an organ or part occasions exaltation of its functional activities and an elevation of its sensations. If the irritating effect is prolonged or intensified there follows sensations of uneasiness, which increase to tenderness, and then to decided pain, or, if the irritation is great enough, stupor results. Irritated parts become exhausted and incapable of vigorous physiological action.

Pain is simply sensation or feeling so intensified as to be uncomfortable. It is the nervous system noting the presence of danger, giving warning of the damages being done to the part, and arousing the vital energies to vigorous resistance to pathogen. Pain does not merely warn us against intrinsically damaging things and influences, but also against damaging excesses of wholesome things and influences. Pain is excess feeling and serves a very useful protective function.

Things that give pleasure may be carried far enough that the pleasurable sensation passes into pain. Pain is an exaltation of the sense of feeling and depends on the capacity to feel and enjoy.

It is literally true that the capacity of an organism for enjoyment may be measured by its capacity to suffer. The more elevated is an animal in the scale of life—the more highly organized its nervous system—the greater are its capacities for pleasure and pain.

Suffering, that is the capacity to suffer, is absolutely necessary for our protection and preservation and, to this extent, in both the moral and utilitarian sense, pain is good and not evil. Enjoyment comes from obedience to the laws of being and suffering from violating these laws. Fixed laws of life are essential. They injure only when violated, and the consequent suffering acts as a school master to compel man to behave himself. It is the warning voice of Nature telling us that something is wrong or that the thing we are doing is harmful.

Suffering is an incentive to man to adjust himself to the laws of life, to adapt himself to his natural environment, or to adapt his unnatural environment to his needs. Without hunger to drive an animal to eat he would starve; without thirst he would perish in the presence of water; without pain from cold he would freeze without ever knowing the cause; without suffering from heat he would be consumed by fire; without pain from pressure his body would be crushed without warning. Pain from "disease" and injury is an evidence of a need for a rest and a change of life. Gratification of desire becomes painful when carried to excess, and

pain in such cases is necessary to prevent complete exhaustion and death. If man were capable of pleasure only and not of pain he would speedily exhaust the powers of life. Pain is a very effectual check to conduct which would otherwise lead to destruction. The office of pain is not to destroy us, but to save us. It is man's best friend.

All of man's powers are intended for good and serve good purposes when used in harmony with their primitive constitution. Man can govern his powers and use them rightly or wrongly. If he uses them wrongly, pain and suffering call a halt. Pain is Nature's "thou shalt not."

Man's appetites and passions stand on a lower plane than his higher mental faculties. When these passions and appetites are governed by will and reason in harmony with their primitive purposes and are not permitted to become masters over the higher powers, they serve noble ends. But when they become masters and the higher powers are made slaves to them, human nature is debased. From this, it will be seen that man should control and direct his appetites and passions aright and not attempt to eradicate them as certain Eastern religions demand. Their proper exercise brings pleasure. Their wrongful exercise brings pain, and the pain is commensurate with the pleasure their right exercise affords. Pain is life's guardian angel.

The gratification of desire becomes painful if pushed to excess. All pleasures become painful if pushed beyond the limits of safety. The intensest pleasures are the costliest and occasion the most pain if over-indulged. This is the reason that relief of pain is an evil. It checks Nature's check. It enables us to go on heedless of the price we are paying. It is one thing to silence the outcry of nature with pain killers, but quite another to correct and remove the conditions that give rise to it.

Pain is not merely a warning to the one who suffers; it is part of the means employed to rally and mobilize reserve vital energies to the point of the pain to resist the encroachment of Pathogen. It may well be true that pain is essential to the increased flow of blood to the site of injuries and that it is of great importance from a remedial point of view. Pain stimulates the adrenal glands causing more adrenalin to be thrown into the blood and increases the coagulating power of the blood. There are doubtless other beneficial blood changes resulting from its influence. Pain is an index to vitality.

Pain is dull, heavy, acute, mild, severe, lacerating, darting, or stellate, according to its degree, or mode of manifestation; but in all cases it is an evidence of wrong and not itself the wrong. It is not the evil; only the protest against an evil. The exhaustion and feebleness sequent to intense pain and prolonged irritation form no evidence that pain and irritation constitute evil.

If we pinch our arm pain is felt. The nerves recognize and warn us of the injury being inflicted. It does not require much knowledge of vital phenomena to determine whether the pain that warns us, or the pinching that harms us, constitutes the real mischief. If a man is cut by a sharp knife he feels great pain. Is the pain in such a case to be regarded as "disease" and suppressed, or is it the living, vital witness to the outrage done to the body by the knife. Pour undiluted sulphuric acid upon the skin. The structures are chemically corroded and the parts immediately under the ones thus destroyed are extremely sensitive, highly irritated, and painful. Is the pain and (irritation) the "disease", or are these the means of notifying the victim of the damage done?

In neither of these cases does the danger consist in the recognition by the nervous system of the presence of the damage and the damaging agent,

which recognition we call pain, but in the outrage done to the living tissues by these agents. The real danger is the pinch, or cut, or corrosion.

While the capacity to suffer pain, to be irritated and aroused into a vigorous "fever", must ever exist in the healthy body and are all part of the means of preserving life, let no one suppose that because pain and irritation are not themselves evil, they should be present in a state of health. Nor, should it be supposed that when pain is smothered by some form of anodyne the trouble, of which it is a symptom, has been remedied.

However undesirable pain may be, in itself, its suppression is not desirable. Its existence is an evidence of injury and the increase of sensibility may be, and I believe is, a direct means of "exciting" an increase of vital action in the part. If the power to suffer is taken from the damaged nerves, nothing whatever is done toward removing the antecedents of the pain and the repair of damages; but Nature's outcry and rally are forestalled.

Pain arises from many diverse causes, such as traumatic injury—a cut, or bruise—acute irritation, inflammation, chilblains, crude substances passing through the bowels, nervous excitement, an abscess (throbbing pain), etc. It will be obvious at a glance that to administer a pain killing drug in these cases does nothing to remedy any of these conditions. Colic may be "relieved" by a narcotic, but the intestinal condition remains.

A large part of the practice of medicine among all schools has always been directed to suppressing pain—not by removing its cause, but by overcoming the power of the nerves to feel. It has been a killing practice. For the most part, the means employed to relieve pain have been poisons—anodynes. Often, as in the case of morphine, these poisons produce worse pains than they relieve. They are more correctly classed as odynes. The true anodyne is that which affords relief from pain by remedying the condition that gives rise to the pain.

Dr. Oswald rightly likened the suppression of pain to "muffling the alarm bells during a conflagration." But it is worse than this: suppression of pain not only muffles the alarm bells, it cripples the firemen. Opium, for instance, produces constipation, decreased heart action, and respiration, impairs kidney action, and depresses the whole system. Every process and function upon which the sufferer must depend for recovery is crippled. In some cases the depression of vital function is so great that death results. In proportion as the nerves lose their capacity to respond to deleterious influences and herald the extent and character of damage, in exact proportion will the parts become liable to further decay.

The continued employment of "pain killing" drugs greatly impairs the nervous system. The unthinking never realize what a terrible price they pay for a brief respite from pain.

Relief of pain! How? By methods that do everything else than correct cause! By methods which often produce worse pains than those they relieve, or that are the cause of the very pains they relieve. Who does not know that the poppy that grows with the wheat produces worse pains than those it is given to relieve? Who does not know that it relieves the pains it produces only to make these worse? Who does not know that coffee will relieve the headache it has caused? Or, that tobacco will steady the nerves it has unsteadied; and by steadying them makes them more unsteady than ever? And yet, all one requires to be permanently rid of the pains of opium or coffee or the uneasiness of tobacco is to refrain from the the use of these long enough for the body to repair the damages they have created.

"There is something like a charm", wrote Dr. Trall, "in the idea of sending down the sick person's throat a dose which silences his pains and

quiets his distress with magical celerity. But the charm is at once dispelled when we look to ultimate consequences. The very pain which the potent and ill-advised dose of the doctor has subdued is generally (always) the warning voice of the organic instincts that something is wrong, or the effort of the organism to rid itself of an enemy. When the organic instincts proclaim to the whole domain of life, through the medium of the brain, that an enemy is present, that proclamation is felt, not heard, and its language is pain. It is one thing to silence the outcry of nature for help, but it is quite another thing to relieve her by dislodging the enemy."—

Hydropathic Encyclopedia, Vol. 2, p. 11.

The best means of dealing with pain is to grit the teeth, clench the fists and "grin and bear it" until rational care and the processes of life have removed the need for pain. This plan will always mean more rapid and more satisfactory recovery. The plan of "relieving" pain not only hinders recovery and damages the body, but it encourages the patient and doctor to ignore cause.

A patient suffers with pain. Every time he eats, the pain increases. The pain inhibits secretion and impairs digestion. The result of eating under such conditions is more cause of pain. The physician "relieves" the pain (sandbags the nerves), the patient takes a meal and is not conscious of suffering. Both he and the physician are satisfied. This method of "relief" continues until there comes a "sudden" break. The physician is surprised. So is the patient, his relatives and friends. They all thought he was doing so splendidly. The truth is, he was slowly and insidiously undermined, but due to fact that he had destroyed all of Nature's warning signals, neither he nor the physician knew what was going on. His fancied relief enabled him to continue those very practices that were responsible for the pain.

If his pain had not been "relieved" Nature would soon have forced him to stop eating long enough for her to repair the condition. "Relief" prevented him from learning one of nature's great health truths. "Relief" blinds both the sufferer and his doctor; it obscures the sufferer's true condition and prevents the discovery of the cause of the trouble.

"Pain killers" do not really save us from pain. The late Dr. Henry Lindlahr used to say, "suppressed pains are deferred pains". While he had reference only to pains suppressed by drugs, "suppressed pains are deferred pains," no matter how they are suppressed. All methods of "muffling the alarm bells", instead of removing the occasion for the pain, do so by depressing the nervous system and through this they depress the functions of life by which recovery is effected.

While I was still in the curing business, a lady was once under my care who suffered, at times, with considerable pain and congestion in the lumbar region. By means of radiant heat and massage. I easily managed, in a very few minutes, to relieve all pain and to break up the congestion and restore normal movement. But, and here is the crux of the whole matter, in two or three hours her back was as bad as ever. I temporarily broke up the local trouble, but as I did not correct its cause, it returned.

A man suffered with a severe frontal headache. It lasted four days. He resorted to zone therapy for relief. As long as pressure was applied the ache was practically abolished. The instant the pressure was removed the pains returned with renewed force.

Neuropathy was next tried. Results were the same. Spondylolierapy was employed. Same results. Then hot baths were used. Results identical. All these methods gave temporary relief but when the pains returned they came with renewed intensity, no true relief was secured.

A girl lay suffering with encephalitis (inflammation of the brain) and inflammation of the optic nerve. Pains were intense. Efforts to relieve her were made. Hydrotherapy and neuropathy were both employed. Each brought temporary relief. But when the pains returned they were much worse than before the "relief" was secured. The period of increased intensity of pain was, each time, equal to the period of "relief". The girl was not saved any actual suffering.

That pains are increased after morphine wears off is known by every one. But this fact is usually thought to apply to drugs only. There is ample evidence that it applies to drugless methods, as well.

Suppression, per se, is the same by whatever means secured. Nature rejects all plans of vicarious salvation. Every effort to prevent an action from having its full reaction meets with defeat.

Relief, not merely of pain, but of all symptoms, harms more than the original cause, because it makes the sufferer willing to tolerate the cause. It breeds slavishness to cause, which is moral suicide. It is patchwork treatment, and patchwork treatment is but hewing at a hydra. Everytime one symptom is palliated seven others take its place. Penalties cannot be side-stepped by any means. Acts have their consequences. These cannot be avoided.

It may be urged that by the constant application of measures for "relief", pain can be kept suppressed until Nature has time to effect a cure, after which no pains return when measures for relief are abandoned.

Is this true? Can it be true? In a narrow sense it is true, but in a larger sense it is as false as we would expect it, on general philosophic principles, to be. What actually happens under such conditions is the prolongation of the period of the disease, if indeed, the patient is not killed outright, and the other sufferings of the patient prolonged and intensified. Recovery is not only delayed, it is not so complete, the patient is greatly weakened and his ultimate restoration to normal health is long drawn out. He is usually left with some sequae or chronic after-effect, from which he recovers if ever, only after a long time has elapsed.

All the various means employed to secure immediate, though evanescent, relief of pain, react disagreeably on the nervous system and cannot be continued as a part of the treatment without seriously increasing the obstacles to recovery and compromising the patient's capacity for restoration.

Dr. Taylor says "the power of such remedies (pain killers) is limited to its postponement, ***. The nature of this effect appears to be in the main inhibitory; it continues during the presence and contact of the medicament with the source of pain. Being removed through the ordinary physiological processes, the pain returns. ***. The reappearance of pain is often in less bearable form, **** is denoted by the increase of disagreeable sensation; the cause of the pain has not been diminished; the action by which it is evolved has only been temporarily suspended." He adds that the "habitual requisition" of "sedatives in medical practice" causes "these (nervous) energies to assume more and more intense forms of pain."

Pain killers of all kinds lower resistance to pain and make cowards of their victims. In all cases it is also necessary to increase the size and frequency of the dose to secure the desired "relief". A time comes when nothing short of a lethal dose of a drug affords "relief", or when no amount of hot application, for instance, will "relieve" the pain. Both drug and drugless methods lose their inhibiting effects.

Outraged Nature demands the full payment of every debt against her. The law of compensation is one of strict justice. It rewards and punishes with the same exactitude. To return to full health after health has been impaired by wrong living, the full price must be paid.

COUGHING AND SNEEZING

The respiratory movements are inhibited during the act of swallowing, so that food cannot be drawn into the pharynx. If the acts of swallowing and inspiration are not properly correlated, small particles of food or liquid may be drawn into the respiratory channels occasioning an intense irritation of its lining membrane. Violent coughing ensues to dislodge the food or fluid and expel it from the air passages. The irritation results in a forceful contraction of the expiratory muscles furnishing a powerful blast of air which is forced through the cavity of the mouth. The coughing continues until the obstructing and irritating food or fluid is expelled.

A similar powerful reflexly produced expiration results when a particle of dust, a gnat, or other irritating substance is drawn into the nose. In this case, however, the blast of air is diverted through the nose to dislodge and expel irritating and obstructing substances there. The sneezing continues until the upper air passages are cleared. Discussing the rationale of disease, Trall says: "Any person who can explain the philosophy of sneezing, has the key which may be applied to all the problems before us. Does the dust or the snuff sneeze the nose, or does the nose sneeze the dust or the snuff? Which is acted on or expelled, and what acts? Is sneezing a healthy or a morbid process? No one will pretend that it is normal or physiological. No one ever sneezes unless there is something abnormal in or about the nasal organ. Then sneezing is a remedial effort, a purifying process, a disease, as much as is a diarrhea, a cholera, or fever".—**True Healing Art.**

Thus, it is readily seen that sneezing and coughing are each a forceful vigorous expiration—one intended to dislodge and expel irritating and obstructing matter from the lower air passages, the other directed at similar things in the upper air passages. They are but exaggerated expirations produced by more forceful and vigorous contraction of the chest walls and diaphragm than in ordinary expiration. They are truly physiological actions, and serve to protect the air passages.

Given the same amount and degree of irritating and obstructing matter, coughing and sneezing will be in proportion to the integrity and vigor of the membranes lining the air passages. The person "who has been reduced almost to the point of death by a catarrhal affection", says Trall, "has almost lost the power to sneeze at all." Those who have used snuff for long periods and weakened and depraved their nasal mucosa, will not sneeze. The more sound and vigorous the nasal membrane, the more readily will it resent and the more violently will it resist and expel, the snuff, dust, or other substance.

Sneezing is an excess of vital action and its very violence is an index to the body's fighting powers. A man may be too weak to sneeze—he may be so low that he cannot muster enough force for the exertion.

Sneezing that is a "symptom of disease" does not differ in any essential to sneezing caused by dust in the nose. In a cold, in hay fever, or other so-called disease, it is designed to expel irritations and obstructions—mucous in these cases—which is poured into the nasal cavity from the nasal membranes.

"Force is exerted in proportion to the necessity for it", says Trall and "in proportion to the vigor" of the organism, or organ. Coughing, like sneezing, is vigorous in the vigorous, less so in the weak. It is light when there is little to dislodge, powerful when irritation and obstruction are great. In a cold, in asthma, in pneumonia, in tuberculosis, in bronchitis, etc., coughing serves to expel mucous, pus, blood, exudate, that is blocking and irritating the air passages. It is "vital action in relation to things abnormal" ; it is remedial action.

Coughing is a complex act of the organism intended to expel irritating and obstructing substances from the air passages—lungs and bronchi,—and to prevent coughing by disabling the nerves that control the act, no matter by what method they are disabled, is to leave the body helpless in the presence of harmful materials which should be expelled and which the cough is intended to expel.

A friend of the author's was ill with tuberculosis. He was hemorrhaging freely from the lungs. As the blood accumulated in the lungs, coughing would expel it and thus keep the air passage clear. But he had severe pains in his chest and his physician administered morphine, hypodermically, at 4 P. M., to relieve his pains. He is still free of pain. At a few minutes after 7 P. M., he died. The morphine stopped the coughing. His lungs slowly filled and he drowned in his own blood.

VOMITING

Many drugs—epsom salts, ipecac, strychnine, calomel, common table salt, etc.—will occasion vomiting or emesis. The ordinary action of the stomach is reversed and the drug is cast up. When the stomach throws up a poisonous drug the action is so obviously defensive—life and health saving—that no one will dispute it. It is "vital action in relation to things abnormal," and not drug action. The drug is passive.

When a drug occasions vomiting it is called an emetic. Emetics are said to act on the stomach. The reverse is true—the action is organic. The drug is acted upon—it is the living body that acts and in self-defense. The body rejects poisons and irritants by vomiting, but, except under certain circumstances, does not reject wholesome substances in this manner. The undepraved stomach rejects table salt, but not spinach or celery. It will cast up calomel or strychnine, but not bread or cabbage, nor apples or oranges. Such "abnormal" actions are directed against the foes of life, not against her friends. Trall says, if there is no power to vomit "the emetic is no emetic at all." In other words, the promptness and vigor with which the stomach vomits poison is a reliable index to its integrity and functional strength. The weakened and depraved stomach may not be able to vomit. He also says:

"Perhaps I can give an illustration of the leading problems of my subject still more obvious and satisfactory. I read in a newspaper the other day, that a boa-constrictor, while on exhibition in one of the theatres in Paris, having been kept without food for a long time,

'Began to feel, as well he might,
The keen demands of appetite.'

and took it into his fancy to swallow a bed-blanket. The snake was two or three days in getting the blanket down; and after retaining it for some four or five weeks, the blanket, after another two or three days struggle, was found in its former position, and not much the worse for the vain attempt of the monster to digest it.

"Now the questions to be answered are: Did the blanket act on the snake, or did the snake act on the blanket? Again, to expel a bed-blanket from the stomach is not physiological. No boa-constrictor in the normal state ever did it. Then it must be pathological, and pathology is disease. The blanket was the cause of the disease—the obstructing material, and the disease itself was the process—the vomiting, which expelled it. Should this process of ejecting the blanket have been counteracted, suppressed, or subdued, or killed, or cured; or regulated and directed?"—**True Healing Art.**

Vomiting of food is equally with the vomiting of poisons, a curative act. When food cannot be digested, when it is irritating, when it ferments and putrefies, when worry or grief suspend digestion, when one indulges in heavy work in the hot sun after a hearty meal, when a wound (nervous shock) is sustained, and food is vomited, the emesis serves to defend the body against food poisoning.

In acute gastritis, the mucous membrane lining the stomach is red and swollen, it secretes little or no gastric juice and this contains very little acid and much mucous. There is discomfort in the abdomen, headache, lassitude, some nausea, a coated tongue, foul taste in the mouth, bad breath, lack of appetite and often vomiting. Vomiting removes mucous and food and gives relief from the distress. If the decomposing, fermenting, irritating mass is not vomited, it passes out in a diarrhea.

The vomiting of food in such conditions is obviously curative. The lack of appetite is designed to prevent taking more food into a stomach that cannot digest it.

In typhoid fever—acute enteritis—the condition of both the stomach and intestine is worse than that of the stomach in acute gastritis. Vomiting and lack of appetite in this condition serve the same purpose as in the prior condition.

Frequently in cases of bowel obstruction the peristaltic wave, from the point of obstruction to the mouth, is reversed, and the feces are vomited. This is an extraordinarily unusual effort on the part of the body to defend itself and preserve its integrity—an effort that would probably succeed more often than it does, did physicians but stop foolishly forcing more food upon such patients.

DIARRHEA

Purgation, says Trall, "is vital action in relation to things abnormal," and is in proportion to the vigor of the bowels. He points out that "when the bowels expel colocynth or croton oil with a force that seems to tear and rend the whole intestinal tube" that the "force is exerted in ratio to the necessity for it."

When purgatives or laxatives are taken, the excess of healthy bowel action these occasion is intended to expel the irritating and poisonous substance. Tickle the nostrils with a feather and mucous will be poured out to wash away the feather. Drop a grain of sand into the eyes and tears will be poured out to wash it away. In like manner, when irritating and poisonous drugs are taken, large quantities of watery mucous are poured out upon them by the lining membrane of the stomach, intestine and colon to flush it out. The mucous not only washes it away, but envelopes and dilutes it, thus rendering it less harmful.

This is the so-called purgative action of the drug. It is not drug action at all. It is vital action in self-defense. Purgation is not what the drug does

to the body, but what the body does to it. In the relations between living and lifeless matter, living matter is active, lifeless matter is passive.

If the bowels have been weakened or depraved by purgatives, or if the patient is too weak to act upon the drug, the purgative is no purgative at all. The vigor with which the body expels the laxative or purgative is, thus, an index to the integrity and vital vigor of the organism.

Whether a diarrhea is a means of expelling a poisonous drug or rotting food, it is a curative act. It is an extraordinary bowel action an excess of healthy action, and it is extraordinary because of extraordinary conditions. It is an effort to meet the needs of the occasion. It is vital or physiological action.

Look at the putrescent mass of materials rushed out of the digestive tract by a diarrhea in an intestinal "disease" and try to imagine health and such material in the same body. This mass of fermenting, putrefying food is not compatible with health. In some conditions of the digestive tract the most wholesome food acts as an irritant, even without undergoing decomposition, and increased peristalsis with an out-pouring of mucous, hurries it along and out of the system.

In Asiatic cholera the fluid from the bowels comes largely from the blood and tissues. In dysentery (inflammation of the bowels) the stools are often made up almost wholly of blood, pus, and mucous. In both these diseases as well as in fevers the protective and purifying character of the diarrhea is apparent. Its true nature cannot be mistaken. Dr. Tilden has admirably expressed this fact as follows: "Influences that might create pneumonia in the winter time will pass off as diarrhea in the summer time.

"Intestinal diseases are either acute or chronic and are usually named acute catarrh or chronic catarrh. For instance, an acute attack of gastritis is named acute catarrh of the stomach, and the chronic is known as chronic gastritis or chronic catarrh of the stomach. If the inflammation is in the colon it will be acute or chronic, and will be spoken of as catarrh of the large intestines or colitis.

"Diarrhea will sometimes pass off in a few hours or a day. This is really not a disease, as it is caused by irritating foods, for instance; if one eats freely of spinach, it may act on the bowels in two or three hours, causing one or several liquid discharges then the effect is gone. There is no catarrh about this, it is simply a little local irritation, the same as would occur to the nose after inhaling pepper or snuff; so long as the irritation of the pepper continued there would be an extra amount of secretion thrown out. This is nature's way of protecting the mucous surfaces from irritation. If the irritation comes from decomposed food, and this decomposition is continuous day after day, at first it creates irritation of the mucous membrane, and finally, it becomes a chronic inflammation or catarrh. If an irritation is very great there may be a chill caused by the blood being drawn from the surface of the body to the mucous membrane in the bowels, for it must not be forgotten that there are antibodies in the circulating medium; they are the natural defenders of the body, and when there is a threatened absorption in the intestines of a toxic material, nature in self-defense calls an extra amount of blood to the mucous membrane; this causes a pouring out of a great amount of secretion into the bowels. This secretion antidotes the poison and causes such an accumulation of fluid to take place in the bowels that it passes out as a diarrhea.

"In cholera nature's efforts are so great at flooding and washing out of the alimentary canal the poison that threatens absorption that there is copious discharge into the bowels of the serum of the blood. This serum is thrown into the intestines through the mucous membrane which is being

irritated by the toxic material, and if it were not for this copious outpouring of fluid, the poison would be absorbed.

"Sometimes the effort on the part of the system to rid itself of a poison is so great that the subject will die of collapse, brought on from the tremendous loss of the fluids of the body. This is a case of an overworked conservative measure, or in other words, nature kills herself in her efforts at saving herself. The chill that is experienced is very much on the order of the chill that is experienced when tonsillitis or diphtheria begins. The surface of the body is deprived of the circulating fluid and as a result of that there is deficient oxidation and a consequent chilling.

"As I explained in my first volume under the head of tonsillitis, the congestion of a mucous membrane or catarrh, is a conservative effort on the part of the system to prevent absorption of materials that threaten the integrity of the organism, and so long as the defense is required—so long as it is necessary for nature to keep her defenders at certain points in the alimentary canal to prevent absorption—the catarrhal state will be continued in spite of all treatment, except that of removing the necessity for this standing army of defense."

Should the diarrhea be checked; should it be subdued and suppressed? Or, should it be permitted to consummate its work? Suppose the diarrhea that is intended to expel mercury is checked and the drug is permitted to enter the body, there to work havoc throughout the whole system. Would this not be the same as if the diarrhea which is intended to expel the rotting food is suppressed and absorption of the poison formed by the rotting food is forced? In combating what the physician, his patient and the friends and relatives of the patient consider to be "disease", or a symptom of "disease", is not the whole combat waged against the body itself?

To suppress a diarrhea by inhibiting bowel function is to lock-up in the intestinal tract the putrescence and poisons that the diarrhea is intended to eliminate. So far from being curative is such a procedure that it actually lays the foundation for some serious pathology. Dr. Tilden says that many speedy deaths occur from suppression of acute fluxes, forcing the retention of the fluids, which quickly decompose and overwhelm the system with their toxicity.

FLUXES

Under the heading of fluxes I intend to treat acute and chronic discharges, such as "colds", "catarrhs", "running sores", etc.

A few years ago the medical head of a sanitarium with which I was connected, said to me, with reference to a vaginal discharge in a case of uterine cancer; "I'll stop that discharge yet." A few mornings later, while walking over the sanitarium grounds with my wife, I met the doctor. He said, as he came up, "I finally got that discharge stopped. I did it with an ice bag." He passed on and I remarked to my wife; "That is compounded murder." One hour later the patient was in a septic coma, in another half-hour she was dead.

The value of drainage in wounds and abscesses is recognized, but its value in uterine cancer is not. An abscess in the ear presents no danger so long as it drains well. Danger arises only when the pus becomes pent-up. When the doctor suppressed the drainage in the above case; that is, when he stopped the bleeding by which the body was flushing away the septic cancerous matter, he sealed the patient's death warrant. The pent-up "secretion" killed the patient.

To suppress a discharge is to "lock-up", as it were, in the body, the septic materials expelled by means of the discharge, thus, compelling the body to develop another channel of vicarious elimination, providing, of course, the powers of life are not overwhelmed before this can be established. If this does not immediately destroy life it may result in serious damage to the body.

A "running sore" is a drainage canal, a fontanelle, through which systemic poisons are discharged. The discharge is not all locally produced. The elimination of sugar through the urine, in diabetes and some other states, is a means of protecting life. If the elimination of sugar is checked without first correcting the nutritional perversion upon which it depends, the trouble will be metamorphosed into some acute febrile "disease", or into coma. Any sudden tax upon the already impaired nervous system of the diabetic, any influence that suddenly dissipates nerve energy—heavy eating, exposure, chilling, over-work, worry—that interrupts the exit of sugar, may precipitate a fatal coma.

"Colds" and "catarrhs", whether acute or chronic, and in whatever part of the mucous membranes they are located, are characterized by the flow of large quantities of abnormal mucous—watery, thick, white, yellow or green. In a cold, large quantities of mucous are excreted through the membranes of the nose and throat, in leucorrhoea large quantities of mucous are expelled through the membranes of the vagina.

Two antecedent conditions are responsible for fluxes of this kind—namely, enervation, and plethora. The one results in checked elimination with toxic retention; the other in nutritive redundancy—particularly carbohydrate excess in catarrhs—and both of these conditions necessitate the establishment of channels of compensatory or vicarious elimination. A "cold" or a "catarrh" is simply a safety valve. Waste and toxins that are in excess of the excretory capacities of the regular or ordinary channels of elimination are excreted through the mucous membranes. These membranes cooperate in eruptive and other "diseases".

We do not catch a "cold," as popularly believed, nor does it catch us. Instead of 'catching something we are getting rid of something, and the process is too hot and feverish to be called a cold. The prevalent, widespread fear of colds, the opinion that if they are not "broken up" or "thrown off" they will "throw" one into pneumonia or consumption is a delusion. The tendency of a cold is to "throw" one directly the other way. If colds are let alone and not suppressed or interfered with, they will be shorter in duration, more regular in their course, will leave the system in an improved condition and develop less often.

The eliminative work accomplished by catarrh is plainly evident in the following facts presented by Burton-Opitz's text-book of Physiology : "Cilia are found in the respiratory passage, where they beat towards the outside. Their function is to move the particles of dust into the pharynx, whence they are flushed into the stomach by saliva. It is true, however, that a certain proportion of dust always gets beyond these ciliated regions into the finer bronchioles and alveoli of the lungs. Thus, the domestic animals and inhabitants of the cities commonly present lungs considerably stained with dust. It is true, however, that a much greater amount of this foreign material would be able to enter if these tubules were not ciliated.

"Particularly heavy depositions of dust are frequently found in the lungs of coal miners and marble cutters. Nature eventually endeavors to dislodge them by a catarrhal inflammatory reaction which may at times assume the general character of tuberculosis."

ACCELERATED HEART BEAT

All experience and observation reveal that in "acute disease" there is accelerated circulation. The increased circulation is concomitant with and grows out of accelerated heart action and increased respiration. These accelerations are identical with the increased circulation and respiration seen in running and are designed to meet certain existing needs of the body.

All action of the circulatory system is vital or physiological action. Not a heart beat, or a pulse wave, or any other action occurs in the body except as a result of the operation of the vital powers. And though these actions differ in force and rapidity, in "fevers," from what they are in health, they are still vital acts serving vital needs.

The "wrong action" practitioners regard these circulatory modifications as evils in themselves and, accordingly, seek to subdue them. If the heart rate or pulse frequency constitutes the evil ("the disease"), then its reduction should be the great aim of all measures in treatment and its reduction should constitute "cure." But if these increased actions are always vital and assistive to or parts of the biogony, and not the pathology itself, they should not be subdued, unless it is desirable to extinguish life, and their suppression will not constitute cure. If the circulatory organs and energies are depressed or prostrated by the prescriptions of the "wrong action" practitioner, the curative purposes served by the increased circulation are interfered with and the chances of recovery are, to that extent, lessened. All experience and observation show that acute biogonies, in which heart action is very rapid and correspondingly feeble, are less likely to be successful and that the danger in these cases increases in exact ratio to the reduction of the strength of the heart. Any measures, therefore, which depress or weaken the heart, diminish vital resistive capacity and render death more likely.

FITS—CONVULSIONS

Jennings wrote: "Instead of fits tending to the destruction of life, they tend to its preservation; and indeed, are as absolutely necessary, in some cases, for the eking out of life, as the repairs of a ship, everyday thumped against the rocks, are for its salvation. No man ever died by a fit; and when a man dies in a **fit** his life is prolonged somewhat by it."—**Medical Reform**, P. 145.

Improved control of semi-paralyzed limbs following immediately upon a convulsion would indicate that the convulsion is often a means of reestablishing lost nervous channels. Such phenomena are common following inflammation of the brain which has left, as an after effect, only partial control of the limbs.

This hygienic view of fits and convulsions has received confirmation from an unexpected source—the regular medical profession. Dr. "Woods Hutchinson, discussing some experiments conducted by regular medical men, says: "Results followed which are well under way to revolutionize the practice of medicine. First, the discovery that the healthy human organism possessed inherent powers of defense against disease and that many of what we put down as symptoms of disease and even as parts of the disease process, such as pain, fever, vomiting, diarrhea, shivering, fits and some forms of convulsions, are parts of Nature's efforts to get rid of the poison. Our proper function is to intelligently assist Nature in her

efforts, instead of thwarting her at every turn and suppressing every symptom as quickly as we can find a club to beat it down with."

PROSTRATION

In all conditions of "disease" there is a reduction of nervous energy and a lessened ability of the organs of the body to perform their functions. Although certain functions are for a time exalted, this can occur only by drawing upon the blood and nervous supplies that normally should go to those organs which have their functions most reduced. The increased pulse, temperature, respiration, etc., in "acute disease" are so noticeable that we are likely to associate them with increased vitality and overlook the signs of diminished vitality.

Reduction of functional activity may result from exhaustion, or weakness, or structural damage; or, it may result from the withdrawal of energy from one part to be employed elsewhere. In so-called "disease" we see reduced activity from both of these causes. The characteristics of "acute disease" are elevation or heightening of some of the most important manifestations of life, with diminution of others—increased respiration, circulation, flushed skin, suspended digestion, etc.

Increased action means increased expenditure. The funds of the organism are limited. This limitation, together with the dependence of expenditure on compensation, render it impossible that all or many organs should simultaneously increase their function. Goethe says: "In order to spend on one side, Nature is forced to economize on the other." Action can be increased in one direction only by a corresponding reduction of action in another. If blood flows in excess to one part, other parts must do with less. If nervous activity is increased in one direction, it must be decreased in another. The body cannot speed up one function without slowing down another. You cannot engage in intense mental work and carry on physical work at the same time. You must give your whole attention to the mental work. Try solving a simple mathematical problem while running at top speed and you will get a clear example of this. The common expression, "breathless attention", is not without foundation. Breathing is greatly lessened when one is engaged in mental effort. If a heavy meal is eaten there is a marked falling off in mental efficiency and a decided disinclination to do physical work. While engaged in the work of digestion, blood and energy are required in extra quantities in the digestive organs.

The water runs into your bath tub with great force until you turn on the water in your lavatory. Immediately the force of the flow into the tub is lessened. The current of water divided between two outlets, flows with lessened force through each. An electric light burns brightly when it alone is receiving the electrical current. But if another light in another room, or if an electric iron is switched on, on the same current, the lessened brilliancy of the light may be seen at once. If, then, the iron or second light is turned off, the first light will instantly brighten. This same thing is true of all power machines. **Power cannot be expended with full and equal intensity in all directions at once.**

The vital force may be withdrawn from one organ and concentrated at any point desired. The aggregate of powers of the organism may be regarded as a reservoir of force, capable of being called in any direction or to any point needed. The body is capable of directing or concentrating its reparative and defensive efforts at any given locality, as occasion demands. Much greater quantities of blood, than is requisite for the

ordinary functions of the tissue or organ, may be almost instantaneously accumulated in any tissue or organ. It may be almost as rapidly diminished in a tissue or organ. Nervous activity may be "willed" instantly in any direction in response to need, as surely as the reader can will his arm to move.

The living body has means of directing its energies into different channels—increasing them in one direction and correspondingly decreasing them in another. It may so increase activity in one part that it completely suspends the functions of another part. It may simultaneously suspend and reduce all activities at once, as in sleep and suspended animation.

Who has not dozed off to sleep and been suddenly aroused, before becoming soundly asleep, and found himself too weak to rise? There did not seem to be any power in the muscles. Although, a few minutes or seconds before, no feeling of weakness was felt. The usual power and vigor were present. Activity or stimulation, a cold bath perhaps, soon restored the normal feeling of strength. This apparent weakness was not due to lack of power, but to withdrawal of power from the voluntary functions. The body seems to have some way of switching its power on and off, as electricity is switched on or off.

Thus it may be seen that, though the work of an organ in "disease" is a special act, yet the conditions for its continuance are coincidentally transferred from parts quite beyond that of its exercise—from the whole organism. The ability of the organ to perform the extra work thrown upon it, therefore, depends upon the support it receives from its symbiotic partners. All of the processes of biogony are interdependent and involve the cooperation of the whole organism.

In all biogonies the operation of this principle is seen in all of its perfection. First nature suspends the voluntary functions, in order that the power ordinarily employed by these in doing work may be utilized through other channels in the work of elimination. Nature sends us to bed to rest. We find it painful, even impossible to be up and around; much less can we work. Sometimes the sick person is too weak to sit or stand. All muscular power seems lost. He is said to be "prostrated." But little energy is expended through any of the voluntary functions.

Organs with dual functions may have one function increased and the other decreased. Jointly considered, the power of the body is insufficient for the purpose of maintaining healthy action in all organs. When there is a departure from the highest standard of healthy action or condition in the individual, the parts concerned fail in their functions and in maintaining their healthful conditions, not from any want of disposition or tendency to do right, but for want of sufficient power to do what they would do if they could. They do the best they can with the power at their disposal. Mental and sensory power and activities are greatly reduced. Sometimes even consciousness is lost. Mental work is well-nigh impossible. **Diminished action conserves the body's energies so these may be employed elsewhere.**

The body does not merely enforce mental and physical rest. A great amount of physiological rest is secured by the suspension of digestion and absorption. Secretion is reduced to a minimum. There is lack of appetite—*anorexia*—, perhaps a distinct repugnance to food. If food is taken it is likely to be vomited. In all acute diseases, appetite or hunger is lacking. In most chronic diseases appetite is poor. This lack of appetite has been dignified by the euphonious title of *anorexia* and is considered as a disease, or rather a symptom of disease. There is no appetite following the

ingestion of a meal and this absence of desire for food is considered normal. Under other conditions, absence of desire for food is considered abnormal. But is it? Desire or lack of desire for food depends upon conditions. There is **naturally** and **normally** a lack of desire for food when no food is required by the body and there is naturally and normally an absence of appetite when there is lack of ability to digest food. Secretion has been suspended and digestion is not possible. The power to digest is lacking and an absence of all desire for food under such circumstances is normal and natural. Nature resorts to this as a means of conserving the energy ordinarily expended in digestion and assimilation. Appetite is cut off if one receives a severe wound or is in deep grief or sorrow. It is a conservative measure. It is in no sense an enemy of life. It should not be combatted or subdued. Appetite will return as soon as normal secretion is re-established and this will occur as soon as the work of "disease" has been accomplished and recuperation has taken place.

Every function that can be safely reduced is reduced, some are completely suspended. Sometimes strong, vigorous men become "suddenly" ill and collapse while at their work. Was the sudden collapse due to sudden loss of power or sudden withdrawal of power? I am convinced it was withdrawal of power and that this is a wise provision, designed to conserve the energy that is ordinarily and regularly expended through the voluntary channels, in order that it may be used to meet more urgent needs. These are conservative measures without which life would soon end under certain circumstances.

By this enforced mental, physical and physiological rest the body is enabled to employ the energy regularly expended in mental, physical and physiological work in its work of elimination, repair and cure. All the energy that is saved from one class of work may be employed in carrying on another class of work.

In proportion to the need to conserve energy, are the various functions of the body suspended and guarded with just enough vitality to maintain their continuity and preserve them in a state of resuscitability. With the suspension of the nutritive functions and the muscles of voluntary motion at rest, there is little action in the system generally, and consequently little wear and tear, so that the cost of maintenance is almost nothing. Perfect economy is everywhere exercised in the appropriation and use of the vital energies, and the whole process is conducted under perfect law which nicely and minutely adapts the means to the end.

Nature never wantonly turns aside from her habitual course of action to throw her complex machinery into disorder and give it suicidal motion and tendency. There is always an imperative necessity for her actions and her operations. The work of preserving life devolves upon the vital economy and this economy does not require to be reminded of its duties. Nature does not withdraw power from an organ to destroy life, but to save it. She gives us the strongest possible guarantee that all available power will be put in requisition, and expended most economically in her work of cure and reparation. Her action can never be wrong.

During the course of his debate with Trall, Jennings said: "The function of the nutritive apparatus, which in a sound state of the system requires large outlays of power to work it in all its parts, is suspended; forces are withdrawn from the mental machinery, and its operations, which ordinarily, are quite exhaustive, cease; the muscles of voluntary motion are at rest; and all parts of the body, whose constant motion in some measure, is not immediately essential to life, are left with only a bare

sufficiency of the life-preserving principle to keep them in a salvable state, ready for resuscitation on the replenishment of the vital force."

The tendency of all the movements: of life, in "disease", is to save life as far as that may be in danger and especially to avert threatened injury to any particular organ. The first object nature aims at in her work is to shut down all unnecessary waste-gates for the needless expenditure of power, in order that those organs that must accomplish the greater part of the work of cure may have power with which to do their work. There is no man living who is wise enough to determine just which functions should be diminished and which accelerated. The organism is itself the best judge in the matter. In other words, just as the organism alone can safely manage its functions in health, so it alone can safely manage its affairs in disease.

If there is not power enough in reserve to carry on the restorative operations and, at the same time, continue all the functions of life in their full vigor, the Law of Limitation enforces such curtailments as the exigencies of the case call for, and the power withheld from one organ is supplied to another to accomplish a more urgent and more necessary work. What power the body possesses is used, under the direction of eternal and immutable law, to the best possible advantage, just where it is needed and the curtailment of function is carried just as far as, but no further than, the emergency demands,

SUSPENDED ANIMATION

The following quotation from Jennings well illustrates the principle of conservation of power we are here attempting to make clear: "In the course of my 'let alone' practice, I have many times been astonished to see to what lengths the economy of life could carry the reduction of active processes, and yet restore the machine to new and vigorous animation. Many times have I stood by my patients and seen their eyes closed apparently in death, and yet had the satisfaction of witnessing their return to life and health. To what extent it might be expedient and practicable, in some cases, under the most favorable circumstances, for the vital economy to carry this suspension of all vital action within scope of human ken, and then have it issue in reanimation, it is of course impossible for any man, with his present limited means of knowledge on the subject, to form even a satisfactory conjecture. But I have no doubt that if the theory of unity of vital action prevails, and the practice of leaving the work of renovating the human system in the hands of nature, under such circumstances as further light and experience shall dictate, it will be found to occur occasionally that persons will lie for days and even weeks, to all human appearance within the cold domains of death, and after all be restored to her friends and society on earth. Under the present system of managing disease and interments, it is no unheard of thing for persons to be apparently dead for some length of time, and resuscitate."—**Medical Reform**, p. 294.

To the author there seems little room to doubt that cases of apparent death from which recovery follows, represent merely an extreme outworking of this same principle of conservation through rest. Perhaps the condition, like that of suspended animation, seen in many plants and animals, is a state in which the sick organism is capable of maintaining the **status quo** in face of conditions unfavorable to active life. It is a means of passive defense; a strategic retreat. Let us say it is analogous to sleep, yet it goes beyond any mere reduction or even suspension of functions seen in sleep.

The recuperative or renovating work never begins but once—with the beginning of life—and it never ends until life ends. There is but one difference between this work in "disease" and in health. In health there are sufficient vital energies to sustain all the organs and functions of the body, while in disease, there is not sufficient energies to sustain all these functions adequately to meet the ordinary demands of life. And this lack of power, or disproportion between work to be done and ability to work is the fundamental reason for "disease".

The laws or principles on which "disease" action is conducted are precisely the same as those upon which healthy action depends—namely, to use what power the system possesses, be it much or little, in the highest interest of the organism. This principle will not permit a single function, however small or relatively unimportant, to be unnecessarily reduced or disturbed in its conduct. So long as it can repair damages and waste without depriving the cardinal organs of sufficient force to conduct their work, it will do so. But should it become necessary to enforce the **Law of Limitation** in respect to these organs and diminish their power so that their action is enfeebled, in order that the power may be used elsewhere, the change will be cautiously made and conducted with the greatest regularity if not interfered with. The "old order" will be restored in the same lawful and orderly manner, as soon as the end for which the change was made has been attained.

VITAL SYMPTOMS CLASSIFIED

In considering the above proof that "disease" is a curative process we find two general classes of phenomena to be present in all "acute disease"—namely, (1) increase of function, and (2) decrease of function. There is, in other words, an elevation of some of the most important functions of life, with diminution of others.

Representing the first group are:

1. Increase of temperature.
2. Rapid pulse and rapid heart action.
3. Pain—excess feeling.
4. Inflammation.
5. Flushed skin.
6. Quickened respiration.
7. Coughing and sneezing.
8. Increased action of the mucous membranes.
9. Often increased action of the skin and kidneys.
10. Increased bowel action—diarrhea.
11. Vomiting.

Representing the second group are:

1. Lack of appetite.
2. Absence of secretions.
3. Dry mouth and skin.
4. Suspension of digestion.
5. Often inactive bowels.
6. General "prostration" of voluntary functions.
7. Mental inactivity.

We have grouped these two classes as **eliminative** and **conservative**. The increase of some functions is intended to expel the poisons from the body. The diminution of other functions conserves vitality so that it may be used through other channels—that is, energy conserved by diminished action in one direction is available for expenditure in accelerated function in the work of cure.

In this work, the body acts as though guided by some unseen intelligence which knows just what to do and when to do it. D. A. Simmons has it that "the operation of the life processes requires a wisdom greater than any conscious human mind ever possessed." Under those conditions that necessitate "disease" for their correction every province in the vital domain, from the least to the greatest, is put under the most severe and rigid contribution to the end of saving life. Trall said "disease is directed or remedial force." Every part of the body acts in unison, in "health" and in "disease".

LIFE NOT PASSIVE

Our evidence shows that the organic world, the world of living things, is not passive under the impact or touch of external force and substance, but responds to it, and acts and reacts with a play of counter forces which are essentially its own. Indeed, in the relations between lifeless and living matter, the living acts on the dead and not the dead on the living.

By this it is not meant that "coals of fire, crowns of thorns, spears, goads, and whips applied externally; and concentrated oil of vitrol, aqua fortis, tincture of flies, tartar emetic, alcohol," corrosive sublimate, etc., taken internally, do not "act" chemically and physically upon the tissues and fluids of the body. The body would not kick against the pricks if there were no pricking, it would not violently expel them if they were wholly neutral or inert. Its violence in expelling them, or in escaping them is proportioned to the damage they are capable of doing. As Trall expressed it: "The law of self-preservation implies and necessitates unalterable and perpetual hospitality to whatever interferes with the normal functions, and the hostility is action, defense, organic war—it is disease."—**Trall-Jennings Debate.**

Indeed the existence of decidedly unhealthy conditions in one or several parts of the body without vital efforts to overcome these would afford evidence of impending dissolution. This would indicate that the powers of the body are so low that it is no longer able to arouse itself to vigorous defensive and reparative efforts.

It may be true, as Jennings contended in his debate with Trall, that the arteries, veins, nerves and muscles were not designed for what he called the "flurried disordered action" of "disease", but it would be fatal if they could not perform just such functions. If the pre-arrangements involved in such reflex acts as sneezing and coughing, for instance, did not exist, if sneezing and coughing were not possible, the air passages would easily become blocked and smothering occur. In poisoning, the cells actualize certain of their powers, which, under ordinary circumstances, remain potential. Although in course of an illness the body meets with situations never previously encountered, it tends to adapt itself to these new conditions in a manner to preserve its integrity. The more secret forces of vitality deal at their "will" with all emergencies.

The so-called "symptoms of disease" are the manifestations of an inherent principle of the organism to restore healthy structure and function and to resist offending agents and influences. They are salutary efforts of nature to repair an injury or to re-establish health.

The human body which evolves itself from the ovum to the highest point of completion, and maintains itself in health, under many handicaps and adverse influences, resorts with unerring certainty to the best means for the restoration of its health when this has been impaired from whatever

cause. Not only does the body choose, of its own accord, the best means for a hasty restoration of health, but it possesses as well, the capacity to order its functions and processes so as to delay, as long as possible, its ultimate destruction by inimical forces and influences, which it is unable to overcome or destroy. The symptoms of disease are, therefore for the elimination of the immediate causes that endanger life and the repair of structural damages, or for the longest possible protection of life in the face of the organic destruction that is gradually creeping upon the body, due to pathogenic causes it is unable to destroy or overcome.

"Diseases," with all their many labels, are simply aggregates of the symptoms or processes we have discussed, and a few more like them. Each symptom-complex is given a different name, as though it is distinct from other symptom-complexes.

Let us glance briefly at measles. It begins with a "cold", accompanied with a chill, fever, sneezing, coughing, and headache. These are followed and accompanied by skin eruption. There is lack of appetite, malaise and, even prostration, suspended digestion, often diarrhea and, usually, increased kidney action. Every one of these symptoms is a "symptom of reaction" ; this is to say, every symptom is a curative measure.

In cases of acute or chronic nephritis (Bright's disease), where kidney function is much impaired, dropsy develops as a means of keeping unexcreted waste and toxins out of the circulation. A loose, watery bowel movement develops to aid in casting out the fluid; skin eruptions develop as a compensatory eliminating process.

WHAT IS "DISEASE"

The nosologies of the schools class as evil, as "disease", all vital efforts to get rid of **pathogen**. Hence inflammation, though a vivid effort to remedy trouble, is "a disease" ; fever is "a disease", though it is only part of the vital efforts to destroy and eliminate **pathogen**; diarrhea and dysentery is "a disease" although only Nature's effort to wash away and expel offending matter; a cough is "disease", though only a vital effort to expel irritants and obstruction. These mistakes arise from confounding vital action with the thing against which the action is directed. The moment these efforts are classed as "disease", attempts are made to suppress them, to prevent their continuance. Poisons are the time honored agents with which to suppress the vital efforts, commonly called "disease", but at present there are numerous drugless methods of accomplishing the same end.

Observations of the "cure" of chronic "disease" by acute "disease" led to the present efforts to "cure" various chronic "diseases" by the use of artificial fever. It has long been known that remissions of chronic "diseases" may occur after an acute or "specific" fever, or a long continued suppurative process. As early as 1810 it was noted that cases of general paralysis frequently showed remissions of symptoms, and that often apparent cures followed "fevers."

Improved general health is frequently observed after typhoid, smallpox, acute gout, and other acute, febrile "diseases". Dayton's **Practice of Medicine** remarks of gout: "After the attack the general health may be improved". It will be difficult to account for improved health following "acute disease" on any basis of "attack," except the one that it is the body that does the attacking.

A few years ago the newspapers of England carried the story of a man who was suffering with tuberculosis, developed chicken-pox, and

when he recovered, discovered that he was also well of the tuberculosis. English medical men explained that the chicken-pox germ had destroyed the tuberculosis germ and that, by the "ill-wind" of the battle between these warring germs, the patient had been "blown some good."

Sir Wm. Osier says, "If survived, an infection, such as confluent smallpox, seems to benefit the general health." Sir Wm. Broadbent declares, "Smallpox has been known to eradicate consumption." Wm. F. Harvard, N. D., says, "Patients who are given proper care do not die while under-going an acute reaction to pathogenic influences." The Hygienist "can conduct their convalescence in a manner to build them up into a better state of health than they enjoyed before their acute illness, showing that the body was improved by being purged of an accumulation of impurities. *** He can prove by his experience, if it has been extensive enough, that where a patient develops an acute reaction ("disease") during the course of treatment for some chronic ailment, the progress of the chronic condition is checked and a positive repair begins. Let us cite one case as an example of this. A man of fifty-eight years, suffering from chronic articular rheumatism, presented himself for our care. He was almost a cripple and had been the despair of numerous doctors and sanitariums for fifteen years. According to his history the trouble had started shortly after a seige of malaria. The latter was suppressed with copious doses of quinine. After six months of Naturopathic care, with little noticeable improvement, this patient developed a typical case of malaria, which lasted six weeks. Now for the miracle. On moving about he found that the pain had disappeared from his joints and the motion in them had increased a hundred per cent. His improvement continued, and in a short time he was actively engaged in engineering work."

The biogonic character of small-pox, may be seen by watching the evolution of a case. Chill, perhaps a convulsion, pains, vomiting, rapid pulse, restless delirium, and a high fever and, then, large quantities of toxin-laden blood thrown into the skin causing redness. The toxins are collected into circumscribed lumps, after which the temperature returns to near normal and the other symptoms practically cease.

A similar evolution is seen in measles, scarlet fever, chicken pox, etc., with the addition of a "cold in the head" at the beginning. In the pre-emptive stage of an exanthematous "disease," especially scarlet fever, the convulsions may be followed by coma. **The coma disappears with the appearance of the eruption.**

The eruption is identical with the pustule with which the body removes a sliver from the flesh. It is identical with the eruptions with which many drugs are eliminated from the body. Bromide, arsenic, mercury, iodine, quinine, salicylic acid, morphine, turpentine, chloral, the coal-tar products, copabia, cubebs, belladonna, veronal, digitalis, and all serums, are only a few of the drugs that, taken internally, are eliminated by means of various forms of skin eruption. Various infections, such as vaccination and so-called syphilitic infection are frequently followed by generalized skin rashes, as is also, snake bite.

Hygienists have insisted that skin eruptions expel materials that the regular organs of excretion eliminate with difficulty. Dr. Henry Lindlahr especially emphasized this fact. He says, "the organs of depuration are so constructed that they eliminate only waste materials of comparatively simple chemical composition." The causes of the eruptive diseases are "made up of chemically highly complex substances which cannot be eliminated through the organs of depuration." Dr. Tilden has long insisted that these "diseases" result from protein poisoning. Recently, medical

investigators claim to have isolated some of the "viruses" they have held cause these "diseases", and they turned out to be proteins. Protein poisoning, produced by serum inoculations, occasions all the symptoms—chill, fever, pain, convulsions, eruptions, etc.—seen in the exanthema.

Returning to smallpox, or to other acute eruptive "diseases", the pain, fever, convulsions, coma, etc., are preparatory to the skin eruptions and cease or decrease as soon as they have succeeded in getting the toxins into the skin and the pustules have formed. The eruption rids the system of the poisons that are endangering life. Thus is manifest the truth of the oft repeated assertions of Louis Kuhne, when dealing with small pox, measles, scarlet-fever, and other eruptive diseases, that "the more profuse the eruption the less is the child's life endangered. The less abundant and slighter the eruption, on the other hand, the greater is the danger." "The smaller that portion of the skin which co-operates in expelling the morbid matter, by admitting an eruption to break out, the greater the danger." "As soon as the rash is fully developed, vital danger is over in **most cases.**" This may be questioned by some because confluent smallpox is more severe than the discrete form. But this is only an apparent contradiction. Such cases represent, it is true, more severe forms of the "disease", but the greater severity, is not due to more rash but to more cause for the rash. The fact stands, I believe, that the greater the area co-operating in the work of elimination (eruptions) in these cases, the less is the danger to life in the individual case.

In speaking of smallpox, medical men frequently say: "The chief difficulty in diagnosis lies in those cases where the disease is so virulent that the patient dies before the eruption develops." This statement confirms Kuhne's statements in that it reveals that death is not due to smallpox, but to the failure of smallpox—that is, the body was unable to develop the "disease," particularly the eruption, and was forced to succumb to the poisons it sought to eliminate. The patient was not killed by "disease" but by the poisons. He died because the "disease" failed. A successful acute "disease" would have **preserved life.**

A young boy was all his life, up to six and one-half years, in poor health. He was underweight, suffered with frequent nose bleeds, with the beginning of each spring had bronchitis, and had gone the usual round of treatments and operations. Tonsils and adenoids had been removed. He had been carried from one hospital to another and had had his lungs X-rayed a number of times in search of evidence of tuberculosis.

At six and one-half years of age he developed a very severe case of scarlet fever. His life was despaired of. The eruption was great and scaling afterwards was as great. But after this the whole condition of the boy changed. His weight became normal, his nose bleeds ceased, he had no more bronchitis, and, upon being examined at school, was given a health percentage of perfect. Improved health follows all eruptive "diseases", if they are not suppressed by treatment.

Francis Carter Wood, famous cancer specialist, tells us in his **Notes on Tumors**, that: "In a very small proportion of human malignant tumors spontaneous disappearance for longer or shorter periods has been noted. The greatest number of such disappearances has followed incomplete surgical removal of the tumor; they have occurred next in order of frequency during some acute febrile process, and least frequently in connection with some profound alteration of the metabolic processes of the organism, such as extreme cachexia, artificial menopause, or the puerperium". "Wood also says that there has been long current an idea that the body may develop an immunity to tumors similar to the immunity

medical men regard as existing in the so-called infectious "diseases", and says that the basis for this theory is the occasional occurrence of spontaneous disappearance of neoplasms (new growths or tumors), either following infections *** or subsequent to slight operative procedures, or even without any outside interference at all."

A few years ago a brilliant young English Nature Cure physician showed from the official statistics of that country, that wherever an epidemic of smallpox had existed it was always followed, in the locality, by a falling off in the cancer rate. The rate of falling off in cancer was far in excess of the number of deaths that occurred during the smallpox epidemic.

It has long seemed a curious thing that the great increase in the number of deaths in an epidemic of some "disease" like smallpox, does not increase the general mortality. It really often has the opposite effect. In a book on **Cholera: Its Prevention and Cure**, and later in another entitled **Necessity for Smallpox**, Joseph Wallace, (London) discusses the smallpox epidemic of 1871-2. During this epidemic 44,000 people died of smallpox in England and Wales. Instead of this great death-rate increasing the general mortality, it was ten percent, to a minute fraction, less for that year than for either of the preceding nine years. Wallace says: "and this lessening of mortality takes place in every form of organic or incurable disease." The epidemic, "rooted out organic disease of all those who recovered; giving each a new lease on life; and thus the epidemic was a blessing to mankind. It only requires us to look the subject straight in the face to recognize this fact. Had there been no smallpox that year, what then? Why some forty-four thousand odd people would have died of organic disease."

Dr. B. S. Claunch, Hygienist, declares smallpox to be almost a cure-all. There is no way to estimate how many people are saved from tumors, cancer and other degenerative conditions by the cleansing and reconstructive work accomplished by the biogonies. Were it not for the biogonies, man's present mode of living would produce far more physical degeneracy than exists at present, and would produce it much earlier in life. This is what Graham meant when he replied to a man who said he had never been sick a day within his memory: "that may be very greatly your misfortune."

It is of interest in this connection that this man died but a few days later, after much suffering, and Graham, who was permitted to attend the post-mortem examination, says: "though I have seen many diseased bodies opened after death, yet never in any instance have I found disease so extensive as in this case. The entire stomach and intestinal canal and other portions of the abdominal contents presented one general mass of deep and irremedial disease which clearly indicated a progress of several years, and which was of a character that fully evinced that it was not produced by any sudden or violent cause, but that it was the result of causes which had been gradually operating and by imperceptible degrees developing their effects, probably through the whole course of life."—**Science of Human Life**, p. 94.

All of this does not lead logically to anything so absurd as Galen's "law of antipathies", or that we "cure one disease by producing another (and opposite) disease", or Hahnemann's "law of similars", or that we "cure one disease by producing another (and similar) disease." No disease-producing therapeutics flows from a recognition of the essentially curative nature of what we commonly call "disease".

Since the true nature of acute and chronic "disease" is not understood and there is no proper appreciation of the fact that fever per se is but one of a large group of correlated curative phenomena, antecedent to, and concomitant and coetaneous with, and sequent to the increased temperature, efforts are made to bring about the curative effects of acute "disease" by merely raising the body's temperature. Fever is merely a link in a chain, it does not produce the chain.

So-called chronic disease is characterized by the presence of many active curative processes—coughing, sneezing, pain, inflammation, fever, eruptions, diarrhea, etc.—and conservative processes—lack of appetite, weakness, constipation, etc.—which differ from the same symptoms in "acute disease" only in being milder and prolonged. Repeating what Trall said, "disease is violent just as force is applied in a particular direction. Destroy or lessen the vital force, and just to that extent you diminish the ability of the system to manifest disease."

In **Omego Reprint**, Dr. August F. Reinhold says: "That tuberculosis is a healing process, is proved by every symptom: by the consumptive's cough, his expectoration, high temperature, lack of appetite, night sweats, diarrhea, etc. The cough proves the presence of abnormal material, which the system tries to dislodge by the expulsive efforts of the lungs to exhale. This is called a 'coughing' spell. If successful, the expectorated mass demonstrates that it obstructs free respiration. Thus 'coughing' is one of the cleansing processes, selected by Nature to purify the system."

The conception of disease (biogony) as a benevolent process is the only one possible in view of our present knowledge. It is because all agents that affect the body for evil, if they do not instantly paralyze it, excite it to acts of physiological character—conservative, defensive, sustaining, reparative—which acts are the processes of cure, that we live at all.

ORTHOPATHY

Ours is a universe of law and order. Every law is the expression of a force—every force must act lawfully, being unable to act in any other way. Every organ in man's body is designed for particular functions and is controlled by laws as immutable and inviolable as the law of gravitation. Every involuntary power exhibited in man's body constantly and ceaselessly obeys the laws of its constitution. In the very nature of things it cannot do otherwise. The organs must perform the functions for which they are designed. They can no more violate the laws governing their operations than the earth can reverse its motion, or stones cast themselves upward.

So long as an organ or part is alive it will strive to fulfil its functions in harmony with natural laws. The heart will beat, the lungs breathe, the nerves feel, the glands secrete, so long as they possess even a measure of life. However feeble and insufficient may be their attempts, however defective the materials with which they have to work, they will continue to function according to law—the effort to live does not cease, so long as life lasts. These, efforts, however feeble are not to be regarded as wrong actions.

Violent actions are no less lawful than feeble ones. The dynamic actions of the body in "disease" are subject to the same laws and controlling forces as are the actions of health.

The actions of the body are always right, lawful, and in "disease" are as true to the pole-star of health as the needle is to the magnetic pole. The so-called symptoms of "disease", which puzzle physicians, are not

destructive processes; they are not evils to be resisted, combated, suppressed, subdued, or subverted. They are merely external evidences of a body's striving under control of law to preserve its integrity and existence; and the physician who regards them as anything else, reveals his abject ignorance of the most fundamental facts of life. The laws and forces controlling the body are the same in "disease" as in health, and their action is always for the same purpose—harmony, betterment, improvement.

When cohesive attraction splits rocks; when magnetism arranges needles parallel with the equator; when gravitation casts stones upward; when water runs up-hill of its own tendency, then will we expect to see the organs of man's body disobey the laws of their constitution and act wrongly. So long as they act they must act lawfully—their action must always be "upward", and right, it can never be "downward" and wrong. And this principle of **right action** in "disease" is what is meant by the term **orthopathy**. "Disease action", no less than "health action" is "right action". Orthopathy expresses the conception of the reign of law in physiology. In "disease" the individual suffers and functions are increased or decreased, not because the action of the body is wrong, but because the body under control of law, is struggling in the only way it can struggle to free itself from impending dangers resulting from bad habits—misuse and abuse.

The living organism may not always be able to overcome the causes of pathology and to repair damages done to its structures, and restore the healthy condition; but, if after a vigorous effort to accomplish these ends, the organism must give way to the pathogenic forces, this does not change the essentially lawful nature and useful tendency of the irritation, pain, inflammation, fever and other measures by which it seeks to meet the threat to its integrity and existence.

Whether vital action in "disease" is "right action" or "wrong action" is fundamental—the correct answer to such a question must underlie all proper care of the sick and form the basis of all scientific progress in means of care. If the dynamic and passive vital manifestations of "disease" are regarded as evils in themselves, efforts will be made to suppress or counteract them. It makes all the difference in the world whether fever, pain, inflammation, vomiting, etc., are efforts of the body to remove offending agents, or are, themselves, the things to be removed.

All functions, however imperfect these may be, due to impairing influences, are vital acts or processes and are always and of necessity in strictest harmony with the laws of life. Vital acts and processes are not designed to be destructive, else could vitality be correctly accused of self-destruction. At all times and under all conditions the organs and processes of the body do the best they can and obey the laws of life. Organs may be damaged and functions feeble, but functions are never wrong. Crippled function is not wrong function.

Trall's question, "is disease vital action or the opposite", answers itself if we limit the term to the symptoms. They are acts belonging to vitality and cannot be produced by any other power, and their imperfectness is a consequence of the impairment of the vital powers and not due to any want of disposition or tendency to do right. It is of greatest importance that we always keep this principle in mind; for it places before us the fact that pathology is a condition and not an action, and enables us to discriminate between the operations of life and those of pathogen.

Even the strongest Heteropath will usually concede that when the symptoms of a "disease" are obviously improving, the action is **right**

action; but when the symptoms appear to be growing worse—pain more intense, fever higher, restlessness greater, excretions (fluxes) more copious, etc.—he will insist that this is **wrong action**.

The orthopathic principle has this great advantage—that it is not a mere doctrine, nor a mere theory, nor a mere hypothesis, but a visible and demonstrable fact. Nobody can deny or dispute it. A true pathology will teach that the so-called symptoms of "disease" represent a valiant attempt of the organism to eliminate toxins and repair damages.

The principle of right action permeates the whole of our theory and practice. While this principle is really self-evident in the light of physiology and true pathology; the pathological doctrines that have long ruled and now rule the medical professions—based on the principle that "disease" is wrong action—are at variance with the laws of biology, and the therapeutic practices based thereon, are in essence, a warfare upon life itself. Only a true understanding of the nature of "disease" will enable doctors of all schools to cease fighting with the body under the vain delusion that they are fighting a monster called disease; only this will stop them from killing their patients to cure them.

The many uniform needs of the body constitute a unity of function in organs of the widest dissimilarity of form so that however different these may be in shape, structure or position, they all serve the ends of the animal economy, and enable the body to adjust itself to the varying conditions of its environment. The forces and processes of the body are all subordinate to a system of adaptation and adjustment.

The immense number and variety of adjusted changes in the many different organs of the body, co-operating with each other, and all nicely adjusted to the improved functional actions in which they must all partake, which are seen in health are seen in biogony also. The correlations and adjustments of the body in health are not merely analogous to those of biogony, but identical with them. The correlated changes in the body in biogony are so numerous and some of them are so remote that the greater part of them are not even known; much less can they be described. In the face of innumerable and complicated adjustments, such as these, I can see nothing but a grand harmony in the apparent turmoil of biogony ("disease"). Biogony is physiology modified, or intensified, or reduced or re-directed, but not deranged. The course of a biogony constitutes a chain of actions which follow one another in an orderly sequence as the result of a necessity to preserve life.

Suppressive measures of treatment cannot fail to interfere with all of the adjustive measures the body has set in motion. Increased heart action and increased temperature are both vital phenomena and, are, in no proper sense, any real portion of the pathology, though they are evidences of the existence of pathological conditions. The pathological conditions are certainly to be remedied (by removing their causes), but the functional modifications, biogonies, sequent to these, are not, on that account, to be suppressed or extinguished by the physician.

Circulation cannot be slowed and temperature reduced without correspondingly lessening every increase of physiological action sequent to these. A law of physiological compensation forms the basis of all biogonies and to reduce one of the efforts of nature to restore the original condition of health, which has been impaired by wrong living, is to reduce all correlated activities.

NORMAL OR ABNORMAL

The biologist, T. Swann Harding, says that "the sciences of medicine and biology certainly do not know" "what is normal." He says that "the organism tested may be 'abnormal' and may demon-state appropriate 'abnormal' behavior, or it may be entirely 'normal' but may attract attention simply because it responds 'normally' to so-called abnormal conditions."

Normal is "in accordance with an established law or principle; conforming to a type or standard; regular; natural; usual:" We contend that all the body's actions are in accordance with an established law or principle; are natural, typical and conform to a standard. For instance, diarrhea following the taking of a purgative, is the usual, regular, typical, standard, lawful action under such conditions, and is, therefore, normal.

Trall says, "there can be no action in the living system except vital action, for whatever a vital organism does, in health or in disease, is vital action and nothing else." All physiological actions being determined by the vital needs of organs or organism, and all actions of organs being vital actions that conform to the laws of life at large, a rational interpretation of "abnormal" actions must regard them as normal under the circumstances under which they occur.

If we group vital actions as normal and abnormal, in the light of what has gone before, they would fall naturally into two groups, as follow:

1. **Normal**—the regular or ordinary actions of life in its functions, commonly called **physiological**; and

2. **Abnormal**—such modifications of the regular or ordinary actions of life as are essential to meet, overcome, destroy, or adjust to abnormal, unusual, or harmful conditions and agents, commonly called **Pathological**.

The first of these we call **health**. Trall says "health is **normal** or vital action in relation to things usable." (**The Hygienic System**) The second we call **disease**. Trall says, "disease is abnormal vital action, or action in relation to things non-usable." (Supra.) But is not each set of actions equally normal? Health is the normal response of the living organism to normal or wholesome things and conditions; "disease" is the normal response of the living organism to abnormal or unwholesome things and conditions. Trall explains that; "All the functions of vitality may be resolved into two sets of processes: one transforms the elements of food into tissues, and throws off the waste matters; this is Health—Physiology. The other expels extraneous or foreign substances and repairs damages; this is Disease—Pathology."—**True Healing Art**.

Our contention here, is merely that the functions or processes by which the body expels extraneous or foreign substances and repairs damages are as normal as are the functions by which it transforms food into tissue and excretes waste. In other words, we contend that most of what is called pathology is physiology. That so-called abnormal behavior of the body is as normal under the conditions that call it forth as are so-called normal actions under the conditions that elicit these—that it is just as normal for the stomach, for instance, to vomit epicec as for it to digest food. The body slides easily into "disease" when conditions warrant, and glides as easily back into health when conditions justify. Both are automatic.

It is because all agents that affect the system for evil, if they do not instantly paralyze it, excite it to acts of a physiological character—conservative, defensive, or sustaining—which acts are processes of cure in every case, that we live at all. If this view is correct, and who will question

it, there is no more reason for treating "disease" than there is for treating health.

UNITY OF HEALTH AND "DISEASE"

All of this leads inevitably to a recognition of the essential unity of the actions of the body in **health** and its actions in **disease**. Back of "both groups" of actions are the same powers of life and the same effort to preserve and enhance life. The facts enumerated plainly show that fever, pain, coughing, sneezing, vomiting, diarrhea, inflammation, eruptions, night sweats, etc., are vital phenomena and demonstrate conclusively that "disease" has no individual factor-entities other than those that sustain life in general and in particular. The symptoms of "disease" depend upon the same powers and functions that produce the signs of health. Health and "disease" are the same thing—vital action intended to preserve, maintain and protect the body. The unity of vital phenomena, whether called "healthy" or "morbid" is a fundamental principle of the Hygienic System and exists in the principle of orthopathy. Orthopathy recognizes the essential unity of **healthy** and **morbid** phenomena and sees in each a lawful and orderly adjusting of the internal and external relations of the organism.

Health is not a fixed state. It is a constantly varying condition of the organism ranging all the way from almost ideal health to the lowest depth of impaired health. But it is always health. Nor partakes of the same natural variations as does good health. Good is "disease" a fixed state. It is a condition of impaired health and health and poor health (disease) are but varying conditions of life. They are not antagonistic entities but different degrees of the same thing. The oneness and sameness of health and "disease" is as certain as that a bright light and a dim light are both light.

Heat and cold are relative terms. If we assume that heat is the positive condition, then cold is only a little less amount of heat. The hypothetical absolute zero is nothing more than a mere convenience of thought or of measurement. Wealth and poverty are relative terms. If wealth is assumed to be the positive condition, then poverty is only a little less wealth. So, health and "disease" are relative terms. Health is the positive condition; "disease" is only a little less health. There are not many kinds of health or specific forms of health; so there are not many kinds of disease or specific forms of "disease." "Disease" is a unit just as health is a unit and health and "disease" are a unit. There is only one life, only one health, only one "disease." But, just as there are many manifestations of life and many manifestations of health, so there are many manifestations of "disease."

Health and "disease" shade off into each other by insensible gradations so that it is difficult to say where one begins and the other ends; just as it would be difficult to say at what point on the thermometer heat ends and cold begins. In health and "disease" we are not dealing with antagonistic entities but different degrees of the same thing—**Life**; just as with heat and cold we are not dealing with antagonistic entities but with different degrees of the same thing—**Temperature**. Health varies with the varying conditions under which life exists. Health and "disease" shade so insensibly into one another that no differential criteria can be offered to distinguish the one from the other, that can be exact or invariable. It is difficult to say just when a rapid heart, for instance, is to be considered a sign of "disease" or a flushed skin an evidence of congestion. A rapid heart may be due to effort or excitement or stimulation and a flushed skin may

be due to heat or cold or to embarrassment, as in blushing. Blanched cheeks may be due to fear.

The unity and identity of all vital action and the unity and identity of the power back of these actions leads to a recognition of the fact that the cause of fever, inflammation, irritation, like that of all other physiological actions and processes, is always one and the same—the vital forces.

All morbid action is but a modification of the normal functions and processes of the body and all the physical results making up morbid structural alterations are simply modifications of natural or normal textures, produced from the same materials and by the same vital processes. When "disease" results in changes in the structures of the body, or in the functional products of the body, the constituents of these changed structures and products consists of materials identical with the normal or healthy constituents of the body and are aggregated, arranged and elaborated by the very same organic or physiological processes that operate in normal health. These are all the result of the same fundamental processes and functions of nutrition, elimination, reproduction, etc.

Dr. Moras gives us an excellent example of this fact in the following quotation from his **Autology**: "If now you will investigate the products or by-products of the organs and tissues of your body, in health and in sickness, you will readily recognize that there is no real, distinctive difference between any given 'healthy' product and its corresponding 'sickly' product, aside from the difference in the quality or (adulteration) of the two—I mean the 'healthy' and the 'sickly'. For instance, the so-called pale, watery blood of anemia is just as much blood as the red, plastic blood of plethora, except in the proportion of white and red corpuscles and the richness of the serum. So with the saliva, gastric and intestinal juices, cerebrospinal fluids, genito-urinary secretions or excretions of these two individuals. It's only a difference in the 'grade'—not in the 'stuff' itself. The 'mucous' secretion of the mucous membranes anywhere in the bodies of these individuals—one 'healthy' and the other 'sickly'—is exactly the same slime and lubricant; only this; that the sickly kind is more diluted or less oily, or more 'ropy' and less watery, than the healthy kind. That's all."

Again he says: "You understand that all 'symptoms'—such as fever, pain, redness, swelling, etc.—are phenomena manifested by each and every organ or tissue in conditions of impairment or disease; and that there is no real difference between the 'sickly' symptoms and the 'healthy' signs manifested by the organs or tissues in sickness and in health, aside from a mere difference in the degree of heat (fever), or sensation (pain), or color (redness), or size (swelling)."

"Disease" is no new thing superadded to the living organism but is a mere "complex" or aggregation of modifications of structures already existing and of functions and processes always going on in the living economy. The "disease" is always a product of the vital actions and is in no sense an entity or new and novel condition of structure and function. "Disease" is as truly natural as health and is constituted and maintained by the same vital powers, functions and structures as those which constitute and regulate the conditions of normal, as distinguished from impaired, health.

The healing power of nature is inherent in the living organism. It is not a special or unique power, nor is it a single power. It is simply the ordinary vital powers by which we live and grow. How true were Dr. Trall's remarks in his famous lecture on **The True Healing Art**: "What is the **vis medicatrix naturae**? It is the vital struggle in self-defense; it is the disease itself. So far from disease and the **vis medicatrix naturae** being

antagonistic entities or forces at war with each other, they are one and the same. And if this be the true solution of the problem, it is clear enough that the whole plan of subduing or 'curing' disease with drugs is but a process of subduing and killing the vitality. We see, now, the rationale of the truth of the remark of Professor Clark: 'Every dose diminishes the vitality of the patient.'

"The announcement of the doctrine that the remedial powers of Nature and the disease are the same; that the **vis medicatrix naturae** which saves and the morbid action which destroys are identical, may sound strangely at first; and so do all new truths which are in opposition to doctrines long entertained and universally believed. It seems exceedingly difficult, and in many cases utterly impossible, for medical men to get hold of this idea, so contrary is it to all their habits of thought, and all the theories of their books and schools. Their minds have been so long wedded to the dogma, that disease and the **vis medicatrix naturae** are in some inexplicable way hostile powers, that after I have talked with them for hours on the subject, answered all their criticisms, and silenced everyone of their objections, they cannot overcome their prejudices and prepossessions sufficiently to comprehend it. And some of my medical students have revolved, and pondered, and criticized, and controverted this idea for months before they fully understood it. But it is true, nevertheless."

VITAL AND NON VITAL PROCESSES

It is essential that we learn to separate the vital forces and vital activities from the extra-vital, non-vital and anti-vital, mechanical, chemical, thermal and electrical forces and their effects. We must distinguish, for instance between inflammation and its cause on the one hand, and mortification and its causes on the other; or between fever and its cause on the one hand and toxemia and its causes on the other. These two kinds of action—dead and living—are so unlike in their nature that in strictness, they should not be dealt with together. We are compelled not to disregard the distinctions between them.

Physical, chemical, thermal, electrical and vital (parasitic) agents are capable of damaging the body. Their effects may be grouped as chemical and mechanical. Doctors and laymen alike commonly confuse the effects of injurious agents and the efforts of the living organism to meet and overcome and destroy them and to repair damages. Let us try to separate these two groups of phenomena.

Cut the body of a living man and there is pain, bleeding, fibrin-formation, blood-clot, redness, swelling, healing and sloughing of the scab. Cut the body of a dead man and none of these things follow. Strike your finger with a hammer and there is pain, hemorrhage into the tissues, blood-clot, inflammation, healing and removal of debris. Strike the finger of a dead man and none of these things follow. The cut is the only effect of the knife. The bruise is the only effect of the hammer. All of the above enumerated phenomena are examples of the reaction of the living body to physical or mechanical injury.

Put muriatic acid on a dead body and it destroys the flesh it comes in contact with. Put it on a live body and it does the same. These are examples of the action (chemical) of harmful chemical substances upon the body. These destroy. But, whereas, their action is followed by nothing but further decay in the dead body; in the living organism their action is followed by pain, inflammation, and healing.

Put a mustard plaster on the body of a dead man and nothing happens. Put it on a live body and redness, smarting, and blistering follow. A blistering plaster readily occasions inflammation in a healthy and vigorous skin, and difficulty in a feeble skin. Trall describes this as follows: "Apply a blistering plaster to the skin of a healthy, vigorous, young person. It 'draws' readily and the skin is soon vesicated. Apply it then to a feeble, pale, anemic, or dropsical invalid. It 'draws' with difficulty or not at all. Before it will vesicate, the skin must be rubbed with some pungent or irritant, as hot vinegar or red pepper. Then apply the plaster to the skin of a dead person. It will produce no effect whatever. What is the explanation of these facts?"

"If the blister acted on the skin, the effect would be greater instead of less in the cases of feeble persons, for the reason that there is less vital resistance. But the contrary happens to be the fact. The effect of the blister is precisely according to the vigor, integrity, and resisting power of the living and acting machinery; and this I regard as proof positive that it is the living system, and not the dead drug, which acts. And the principle herein indicated explains how it is, and why it is that healthy vigorous persons, when equally exposed to the causes of disease, have more acute and violent maladies. Disease being remedial action, and their vital machinery being in vigorous condition, the defensive action, the disturbance, the disease will manifest proportionally more violent symptoms."—**The Hygienic System.**

Blistering, like diarrhea, is a defensive reaction intended to protect the body from the damaging effects of friction, fire, or irritating drugs.

Give a dose of salts to a dead man and nothing happens; give it to a vigorous man and a violent diarrhea occurs; give it to a feeble man and a feeble diarrhea occurs.

From these last two examples and similar ones we have previously given, we induce the following law: **The actions of the living organism in the presence of a drug are the responses of its own powers to the drug and are proportioned to the degree of its vital vigor.**

The vital powers offer a perpetual resistance to all pathogenic influences and agents. When this resistance is stronger than the pathogenic influence, "disease" does not occur. The body has at its command a wealth of means of meeting conditions and agents that threaten its integrity. In all cases Nature makes the proper efforts to remedy the condition. At successive periods of life the body responds to poisons in different ways, but always defensively.

Emesis, diarrhea and the colliquative perspiration are not the evil. They are but functional efforts to free the body of some offending agent. Poisons are provocative of vital actions and reactions, but they do not produce the actions. To think so is to attribute to these agents that which belong wholly to the vital power. Only a complex organism is capable of all the actions seen in "disease".

Whatever the exciting causes (occasions) of biogony, they all produce the same general effects upon the organs and tissues. The real difference in one biogony and in another is the difference in the complexity of the mechanism which responds, and not in the manner in which the "stimulus" (poison) is received. Complex structures have complex "diseases" (biogonies).

In man we have a complex structure united to a complex physiology or way of life. Organs and parts are arranged in systems and series more or less complicated, with functional activities in turn of a correspondingly intricate character. Some structures or systems are more complex than

others and in all so-called "diseases," one organ or system is most involved in the defensive struggle.

There goes on in "disease" certain interdependent processes and changes in the presence of aiding or hindering influences outside of it. Biogony, considered in its various manifestations and in its oneness, appears as a process of stabilization and organic repair. It assumes as many different aspects as tissues and fluids encounter new situations.

In general, the accommodation to pathogenic agents assumes two different aspects: (1) it opposes their entrance into the body and tends to destroy and eliminate them; and (2) it repairs the damages these have produced in the tissues. Dr. Carrel, who comes dangerously close to asserting the orthopathic character of "disease", says "disease is nothing but the development of these processes. It is equivalent to the struggle of the body against a disturbing agent."

Flesh may be burned with fire, or destroyed with electricity, or consumed by parasites. In these, as in all other cases, the body acts to defend and repair itself. Its actions are mere modifications of the ordinary or normal processes of life and no new or extra-vital super-addition to these powers and processes. "Disease", like "health", is a manifestation of life. By insisting upon the uniformity of the forces underlying developments, we can arrive at no other conclusion.

These modifications of functions are looked upon by the various "schools of healing" as foes of life. The efforts of the body to defend and repair itself are looked upon as the very things that endanger life. They have confounded vital action with the actions of pathogenic agents and influences. Their practice, based upon this false premise, is largely one of suppressing symptoms.

When a poison, mercury for instance, is taken into the system two sets of effects are observable—first, the reaction of the system against the drug, and second, the destructive effect of the drug upon the tissues, fluids and organs of the body. If the drug is taken in by way of the mouth, vomiting or diarrhea follows. These are organic reactions against the drug—**efforts at elimination**. When the drug gets into the blood it begins a work of destruction that may end only in the death of the victim. Just to mention one of its destructive effects, it destroys the tissues and cells of the kidneys, where it is taken for elimination, and produces "Bright's Disease". The part it plays in destroying the functioning cells of the organs of the body and thus producing other degenerative diseases—diabetes, disease of the heart and arteries for instance—should be known. That it does destroy bone and nerve substances, gland substance and the structures of the hollow organs of the body, as well as the skin and mucous membrane, is well known.

Thus it is clear that symptoms of "disease" are of two classes. These should be clearly defined and separated from each other. Functional modifications sequent to pathological changes should be differentiated from functional modifications designed to remove the cause of the pathological changes. The first are the results of degeneration; the latter are the results of vital adaptations. Pathology proper is a regressive metamorphosis of the tissues of the body, due to the united impairing influences to which the body is subjected. We name as "diseases" the terminal stages of the few lines of divergent evolution which pathological change may follow and do not recognize that an indissoluble relationship exists between the terminal pathology and every antecedent pathological condition which preceded its appearance. Thus, we fail to discern the basic unity of the many superficially differing so-called "diseases."

That is only one side of the picture. The organism puts up a stubborn resistance to the causes of deterioration and only slowly yields one tissue after another when it is compelled to do so. To the popular medical systems these phenomena of resistance are purposeless, profitless and wantonly distressful, actually destructive. These, too, are called "disease". Then, there are those who insist upon calling the causes of pathology, "disease".

We use terms so loosely that half the time we don't know what we mean ourselves. Disease, which means, literally, discomfort, or lack of ease, is applied to so many and such varied and distinct phenomena, resulting from almost as many different causes, and its meaning is so vague and indefinite, that we would profit by ceasing entirely to use the term. "Disease" is a process of cure, say many. But, if "disease" is the process of cure, what does it cure? It cures the man! Cures him of what? "Disease" is the inability of an organ or tissue to perform duly its function, say the physio-medicalists. "Disease is a salutary effort of the system to remove disease," wrote Dr. Beach, an early eclectic physician. "That is as bad as making the stomach vomit itself," replied Dr. Curtis of the physiomedical school. "Disease" is a departure from health, say the allopaths, while the homeopath's say "disease" is the "totality of the symptoms".

A man receives a stab wound with a knife. The knife is the cause of the wound. Are we to consider cause (the knife) as "disease"? The wound is a condition of the tissues and a corresponding inability to duly perform their functions. It is a departure from health. Are we to consider the wound as the "disease"? The bleeding, pain, scab, fibrin formation, inflammation, etc., are the curative measures instituted by the body. Are the curative measures to be called "disease"? Or, shall we lump them all together and call the collection, "disease"? Nothing could be more ruinous to our logic, nor more damaging to our practice, than to confound a consequence with a cause. To make this mistake in biological science is to view the vital actions intended to remove pathology as the pathology itself; is to class life's efforts to restore health as the very thing that endangers life.

This one mistake has been the fundamental error that has vitiated medical theory and practice throughout all its past history. In one form or another the idea has prevailed that the vital phenomena constituted the danger, the evil, and this has led to the effort to secure quiescence of function, without regard to the condition upon which the "disturbance" depended, and without consideration for the object aimed at by the active (and passive) operations of the vital powers. For the sake of clarity, symptoms may appropriately be divided into two general classes:

1. **Vital**—the actions (dynamic and adynamic) of the body in defending and repairing (healing or curing) itself—those that are the result of the organic struggle against the toxins or other things that are endangering life. Rausse called these "**symptoms of reaction**". He pointed out that the "symptoms of reaction" in their perfection, totality and greatest strength are only to be found in acute, or as he called them, the "primary or healing diseases," but that they exist although in lessened strength and perfection in the chronic or "destroying diseases." Observe that Rausse's symptoms of reaction include both the conserving reduction and suspension of functions and the actively resisting acceleration of functions. In other words the symptoms of reaction may be subdivided into these two classes.

2. **Degenerative**—the changes and alterations of tissues and fluids directly due to pathogenic causes. This represents those mechanical,

chemical, cellular and organic conditions that are produced by the directly destructive actions of poisons, parasites, burns, mechanical injuries, etc. These are the true pathologies. These Rausse called "**symptoms of destruction**".

"Disease" in its broad sense represents (1) the resistance of the living organism to pathogenic agents, and (2) its destruction by these agents. Any effort to obliterate the separating lines between the vital phenomena (the processes of healing) in "disease", and the destructive phenomena resulting from extra-vital causes, and thus reduce all of the phenomena of "disease" to destructive processes will mislead the doctor as much as would the effort to characterize both groups of phenomena as vital. Either effort veils the actual agencies that are responsible for both groups of phenomena.

TELEOLOGY

There is nothing prenatal in "disease". Its phenomena or symptoms are marked by purpose, and that purpose is beneficent. Except for "disease", the patient would die. Dr. Claunch declares "disease" to be the only curative process known. The inward powers of adaptation are and always have been the chief factors in recovery from injury.

Altogether an astonishing degree of teleological (purposeful) provision is manifest in the whole functioning of the body. It does not allow any unphysiological substances to circulate in the blood without resistance: it strongly objects to anything that is not in line with its physiological processes and purposes. It either eliminates these, or, failing in this, deposits them in the lymph glands, liver, or elsewhere, where they may be deposited with the least injury to the body.

If a poison is introduced into the circulation an immediate attempt is made to neutralize it. If it is an acid, alkaline substances are developed and utilized for this purpose. Poisons from bites and stings or absorbed from suppurating regions, are held up in the lymph nodes, nodules and tonsils and destroyed. Vomiting and diarrhea are employed to reject poisons from the digestive tubes.

The liver destroys organic toxins—alcohol, nicotine, putrefactive poisons from the intestine, tea, coffee, body waste, the poisons of pepper, mustard, etc. Metallic poisons such as lead, mercury, metallic substances found in mineral waters, and others are captured by the liver and stored therein, crippling its function, but protecting the less resistant structures of the body.

The organism always improvises means of meeting any new situation. Through a correlation of the organic fluids and the nervous system each element of the body adjusts itself to the others, and the others to it. If half of the thyroid gland is removed the remaining half grows in size, generally becoming larger than is necessary. If the secretion of a gland is insufficient the other glands augment their activities to supplement its work. When there is impairment of the kidneys, arterial pressure is increased to send a larger volume of blood through the defective filter. The body seems to perceive remote as well as present needs, in fact each part seems to recognize the present and future needs of the whole and acts accordingly. It is not merely that during the entire history of foetal and embryonic existence that the various parts associate for a definite future purpose, but throughout life this same adjustment to future needs is seen.

Biogony is an automatic grouping of physiological activities in such a manner as to preserve the functional and structural integrity of the organism. It is essentially teleological. The organism is a whole; the adaptive functions extend to all organic systems. One system cannot modify its functions without occasioning correlative changes in all other systems. Thus biogony employs multiple processes to attain its end. It never localizes in one region or one organ, but mobilizes the whole organism. An additive resultant emerges out of the new concatenation of forces thus created.

A NEW VOCABULARY NEEDED

A new science requires a new vocabulary and up to now the Hygienic principles have only been able to stutter in the language of old-school medicine. Its conceptions have not yet been naturalized in human language. A new conception of the essential nature, the rationale of "disease" needs a new terminology in which to express itself. If it is expressed in the old terms, it will be understood in these also. The old terms do not correctly express the facts as we now know them. More correct terms are, therefore, desirable.

One of the most essential first steps in the investigation of any subject of enormous complexity and extent, one that is necessary to a complete or satisfactory solution of even the most obvious difficulties presented by what we already know of the subject, is the careful separation of the distinctions that exist, and to cease confounding these distinctions under one word. Confounding distinctions under one phrase or word is a secret of wide delusions and prevents further unveiling of the complexities of the subject.

Words and phrases may be so vague and abstract as to signify anything or nothing. We must insist on a clear definition of the words and phrases used in our biological data and speculations. There can be no reasoning, no clearing up of truth, unless we keep definite words for definite ideas.

The perception of difference is the necessary foundation of all knowledge. Perhaps the best short definition of that in which essentially all knowledge consists is this: **Knowledge is the perception of relations.** To know a thing and to understand it, is to know it in its relations to other things, but the first step in such knowledge is to know it as distinguished from other things. The perception of mere difference precedes the perception of all higher relations.

Superficial resemblances may easily be mistaken for fundamental identity. We may choose to call two things one because we choose to look at them in one aspect only, and to disregard them in other aspects quite as obvious, and perhaps much more important. And thus we may create a unity which is purely artificial, or which represents nothing but a comparatively insignificant incident in the System of Nature.

Science is the reduction of natural phenomena to an intelligible order. This reduction has not been made in "disease". The one word is made to cover several distinct, though conjoined groups of phenomena. All reasonings on Nature would be hopeless unless we could separate in thought many things which are always conjoined in action. Careless and often studied use of an ambiguous language which confounds the deepest distinctions of Nature makes all but impossible a proper discrimination between two quite separate conceptions. There can be no reasoning, no clearing up, of truth, unless we keep definite words for definite ideas. No

increase of knowledge can be acquired by a willful confounding or careless forgetfulness of distinctions.

The consideration of these and other points, which, as they occur to the writer, and, no doubt, to the reader, also, reveal, in an increasing manner, how very imperfect is our terminology and the need for a recreation of it. We must insist upon discrimination between very different things jumbled together and concealed under loose popular terms and phrases. I have attempted to create new terms to express the new conceptions and will try to define and explain them so that they may be understood by all.

To the defensive operations, both passive and active, of the body in throwing off the cause of its unhealth, I have applied the term **biogony**. It is from the Greek roots: **bios**, life; and **agon**, struggle, contest. Thus, it means the struggle of life. We could even define it as the "struggle to live".

To the damaged, deteriorated or degenerated condition of the body's tissues and fluids I have applied the old term, **pathology**. I use it, however, in the restricted sense here indicated and not as a word covering the whole range of phenomena commonly understood by "disease".

To the cause of the pathology, I have applied the term, **pathogen**, coined by Dr. Thomas Powel, but I use it in a broader sense than he did. It is used to mean any and all things that produce pathology.

NO DANGER IN BIOGONY

Past and present systems have regarded physiological action as evil, merely because unusual. Trall said: "The extra expenditure of power is the very essence of disease. *** Disease is the 'extraordinary expenditure of vital power'. *** It is extraordinary because it is out of the 'normal play of all the functions, ' ". Other schools have regarded irritation, fever, inflammation, vomiting, diarrhea, and other vital or physiological actions as sources of danger. **The Hygienic System** regards the vital or dynamic manifestations as efforts of the body to remove pathogen.

As Jennings has it: "There is no danger in the symptoms, singly or collectively. The danger lies back of the symptoms; it existed in all its extent before the process which is now going on in the system commenced. This is a recuperative or restorative operation. It was called for by the state of the system. It is, therefore, a gross libel upon the economy of life to call it a wrong condition—or wrong action!"—**Medical Reform**, p. 145.

The danger that existed before the beginning of the biogony grows less as this process continues and grows less in proportion to the intensity of the symptoms. This is to say: the more acute the "disease," **the more rapidly will recovery be accomplished**. As Trall has it, "force is exerted in proportion to the necessity for it", the more violent the exertion, the more acute the biogony. Biogony is the sum of all the body's defensive processes. It represents, as Trall has it, "a purposive redirection of vital activity," it is "directed remedial force". When the sum of the vital actions is fully able to overcome pathogen and repair the damaged tissues, the case terminates in health. If the biogony fails, "chronic disease", or death follows.

FAILURE DOES NOT ALTER NATURE

Failure of the effort to eliminate pathogen and restore structural integrity does not alter the essential nature or the healthward tendency of the vital struggle. Trall said "if the process of inflammation fails in its object, it is none the less a remedial effort".

As the body quite frequently breaks down and dies during a continuance of those functional modifications commonly called "disease", it is thought the road to health lies through suppressing or subduing these functional modifications. From what has gone before it logically follows that no indication of "disease" (biogony), no symptoms, should be removed through forcible means, but should be permitted to continue unabated until it has accomplished its work. To suppress these curative efforts builds complications, sequele, chronic "disease" and results in death.

Although orthopathic phenomena always tend towards a definite end, they are not always successful. They have their limitations and are capable of resisting only a given amount of poisoning, or of withstanding and repairing only a given amount of damage. However, the body never entirely surrenders a part until its death and destruction renders restoration impossible. Hence, we see that the vital, conservative, healing process, designed to mend and protect the part, which we call inflammation, is always faithfully endeavoring to accomplish its purpose, and continues in and about a lesion until healing is accomplished, or the destruction of the part is completed.

It makes no difference whether the end for which these changes are made, is attainable or not. If the heart, for instance, is injured, beyond the possibility of recovery, unless the injury proves immediately fatal, so as to preclude all attempts at repair, a reparative process will be immediately begun and prosecuted in the same manner and with the same vigor as if the case were a curable one.

Suppose a man is wounded in some vital spot, is pierced by a bayonet or gun shot, or is poisoned by arsenic or other deadly agent, not immediately fatal, but of such a nature and extent that recovery is not possible. In spite of this, nature will put forth every possible effort to repair the damage and restore soundness to the injured organ or organs. And she will pursue precisely the same course in such a case as she would have pursued had the injury done been reparable and recoverable from.

The sick body musters all its forces and expends them with a most rigid economy in an effort to repair damages and perpetuate its existence, and even when the saving work is beyond their power of achievement, or the interference interposed by treatment renders it impossible for them to accomplish their work, and they must fail, they continue, to the last to attempt to repair damages and eke out their existence.

Death is not due to the "disease", more properly, to the biogony—fever, pain, inflammation, emesis, diarrhea, etc.—but to the pathogenic forces and obstructing treatment. When these are sufficient to overwhelm the forces of life, death results in spite of and not because of the defensive and conservative physiological adjustments and modifications.

Densmore rightly defined "disease" (biogony) in these words: "disease always ensues upon the disturbance of the condition of life natural to the animal, and is an unfailing and friendly expression on the part of the system of an effort to rid itself of conditions inimical to health." Dr. B. S. Claunch, declares that it would break a law of nature if acute disease were to kill one man or woman. It is just as reasonable for us to

expect a curative process to kill as for us to expect a killing process to cure. When the patient dies, not the biogony (the "disease"), but the pathogenic causes and the suppressive treatment, kill him. Tilden says: "It is said that fever kills; it is the cause of the fever that kills."

A recent remark made by Dr. Hutchinson, consulting physician to the London Hospital, in a lecture at Aberdeen University, on "The Progress and Present Aspect of Medical Science," and published in the British Medical Journal, confirms this view. He said: "So few, are the diseases we can really cure, that one is tempted to believe that if all the doctors went on strike for a year the effect on the death rate would be inappreciable. In most cases of illness the doctor is really a mental poultice; he is a source of comfort, confidence and consolation to the patient and his friends; but if he is honest with himself he will admit that the number of patients who would have died but for his attendance is lamentably small."

The Rationale of "Fever"

Chapter III

Fever (pyrexia), from **fevero** to heat, is an elevation of body temperature, accompanied by a quickened pulse, preceded and accompanied by varying degrees of failing nutrition and organic waste. A standard encyclopedia tells us that "the term 'fever' is applied to certain diseases in which high temperature is a prominent symptom; as typhus fever, scarlet fever, and yellow fever." This was and is yet, the medical idea of fever. The whole symptom-complex presented by the sick person is labeled "a fever," or a "febrile disease."

There was a time not so many years ago, when medical men divided "diseases" into two chief classes—namely, **Fevers and Inflammations**. John Thompson, M. D., an Allopathic authority of the last century, wrote: "It has long been acknowledged in the schools of medicine, that the formation of a rational education in physic must be laid in. **a minute and accurate** acquaintance with the appearance and treatment of the **different kinds** of fever, but, that the knowledge of the phenomena of inflammation is not less extensive in its applications to practice, nor less necessary to the acquirement of proper education in the art or science of surgery, seems to be only beginning to be perceived by medical men."

Prof. Gregory, M. D., declared, "The doctrines of fever are of paramount importance, and therefore constitute, with great propriety, the foundation of all pathological reasoning. In the preface to his **Work on Fever**, Prof. Clutterbuck says: "Fever is a disease of almost daily and universal occurrence." Dr. Southwood Smith, physician to the London Fever Hospital, referred to fever as "this fatal disease." Prof. Eberle declared: "The history of practical medicine consists of little else than a review of the doctrines which have risen and sunk again concerning the nature and treatment of fever."

Prof. Gregory declared: "Fever is the most important, because the most universal and the most fatal of all the morbid affections of which the human body is susceptible."**** "The physician must always be prepared to expect its occurrence. It is that by the presence or absence of which all his views of treatment are to be regulated: whose rise, progress and termination, he always watches with the closest attention. Some idea may be formed of the great mortality of fevers from the statement of Sydenham, who calculated that two-thirds of mankind die of acute disease, properly so-called; and two-thirds of the remainder of that lingering febrile disease—consumption."

Fever was **the disease**, "this **fatal disease**" and the cause of two-thirds of the deaths of mankind. It was the chief concern of the physician and the chief object of attack by his "remedies." It was the guide in treatment and "the most fatal of all morbid affections" Their doctrine of fever was one of the foundation stones, or fundamental principles of Allopathic medicine. Fever was an object of study for ages—its nature, its "seat," its origin, and the "proximate cause of its symptoms," were subjects about which many fantastic hypotheses were constructed.

In the following discussion of fever, we shall consider the increased temperature itself as fever and not the entire symptom complex; neither shall we give any attention to whether or not the fever is spotted, scarlet, yellow, Malta, ship, jail, spring, autumnal, lung or brain. These unfounded

nosological distinctions shall not be permitted to confuse the reader who is trying to understand the rationale of fever.

Before coming to an explanation of fever, I desire to give some "unorthodox" views of fever that were contemporaneous with the above quoted "orthodox" views.

Samuel Thomson, the New England farmer, who founded physio-medicalism, declared, in his "**Guides to Health:**" "I found by experience that the learned doctors were wrong in considering fever a disease, or an enemy. The fever is a friend and cold the enemy."

Dr. Trall defined fever as a "general effort of all the vital energies to relieve the system from the influence of some offending cause." He added that "this effort is made periodically, the system requiring intervals of rest, until victory or death results." It will be observed that the "fever" he here defines is the entire symptom-complex present in the patient, and not merely the rise in temperature. The same is true of the following statements which he made in his famous lecture on **The True Healing Art**, delivered in the Smithsonian Institute in 1862. He said: "Fever has no seat; fever is an action. Do not forget the primary question, what is disease? Fever is one form of disease; and as disease is a process of purification, fever must be one of the methods in which the system relieves itself of morbid matter.

"How much longer will medical men expend brain and labor, and waste, pen, ink, and paper, in looking for **a thing which is no thing** at all, and in trying to find a seat for a disease which has no localized existence."

J. S. Thomas, M. D., wrote, **Physio-medicalism**, p. 145: "We contend now from what we have said that disease is a condition that **diminishes the energy of that power which sustains and preserves** life, and that **irritation, inflammation and fever** are simply manifestations of the vital power to restore lost action." Again: "These vital actions (the actions of disease) are all friends to the patient, and should be aided, not subdued. **The lost function of the surface before an ague (chill)** cannot be **restored without fever**, and no laceration of the flesh can be healed without the aid of that physiological operation termed inflammation, which together with fever, they (the Allopaths and Homeopaths) treat as disease."

While the true function of fever was not understood by the physio-medicalists, they had some conception of its orthopathic character. As will be seen later a chill does not represent lost function of the surface, but suspended function and fever is not the means of restoring that function. On the contrary, suspended cutaneous function is an essential part of the production of the fever.

All living protoplasm manifests increased activity when its temperature is raised. Perhaps we can obtain a better picture of the action of protoplasm under varying degrees of temperature by observing the movements of an amoeba. Autonomous as this single celled creature may seem, it is unable, without outside influence, to raise its functions above the physiological standard, or, on the other hand, to check or suppress them.

If the liquid in which the amoeba exists, is gradually cooled the cell gradually ceases its movements and activities and becomes, finally, a mere inert globule which is capable of resuming its former activities only after its temperature is raised. **Reduction of temperature reduces cellular activity.**

An increase in temperature has the opposite effect. If the temperature, in which it exists, is raised a few degrees its movements, previously

perhaps slow and languid, immediately become more lively—the vital activity of the cell is increased. **An increase in temperature is necessary to an increase of vital activity.**

If the temperature is raised too high the movements gradually cease. At a certain degree of warmth the cell becomes still and stiff and can resume its actions only after its temperature has been allowed to fall.

Excess warmth stops cell activity.

We can raise the temperature of the amoeba as high as we like for we supply the heat from the outside. It is not a product of the cell's own activity. In the body, in fever, this is not so. The heat is the result of the body's own activity and if it goes beyond a certain point, cell activity is automatically lowered and heat production lessened. **There is, then, an automatic check to the height fever may rise.**

The normal activity of the cells of the human body requires a temperature of about 99 degrees Fahrenheit. If the temperature of the body is lowered below this point cellular activities are decreased proportionately. If temperature is lowered too far, the processes of life cease and death ensues.

When the temperature of the human body is raised beyond the normal standard, cellular activities are increased proportionately with the rise in temperature, until the point of maximum activity is reached. When the point of maximum activity is reached any tendency to push the increase in temperature higher would be checked by a reduction of heat production consequent upon decreasing cellular activities. **This action is automatic and requires no outside regulation.**

Animal heat is a vital phenomenon, though its exact method of production is not sufficiently clear. The theory generally accepted at present is that it is the result of the oxidation going on in the body. Eminent authorities once held to the theory that bodily heat results from the conversion of non-living matter—of nutritive processes or of anabolism. Others have thought it is the result of friction in the body. A few have advanced the notion that none of these processes have anything to do with the production of heat, but that it is created by the vital force itself—from what or by what process, is not explained.

Now it is possible that anabolism, oxidation and friction each contribute to heat production under the control of vitality. It is certain that the nerve centers and peripheries exert an influence over both the production of heat and its dissipation and conservation. Self-regulation of its temperature is absolutely essential to the integrity of every warm-blooded organism, and the body does not lose its power to regulate its temperature in "disease".

Heat is distributed by the blood and radiated through the skin and lungs. The amount of heat radiated depends on the amount produced, but is always, except in fever, sufficient to keep the temperature of the body down to the normal standard. Both heat production and heat radiation are greatly influenced by the surrounding temperature. If atmospheric temperature rises, heat production is reduced and heat radiation increased. It is not always possible to reduce heat production immediately but heat radiation may always be immediately increased. If external temperature decreases, heat production will be increased and heat radiation decreased.

One of the chief functions of the skin is to regulate body temperature. Heat is radiated through the skin, chiefly through sweating. The body is cooled by evaporation of perspiration. Any fluid, in evaporating, takes up heat. The sweat, in evaporating extracts heat from the body.

By regulating the amount of blood that reaches the skin the escape of heat from the body is controlled. The more blood there is in the skin, the more heat there is radiated from the body. If the body is chilled the blood vessels in the skin contract. This forces the blood away from the surface into the interior of the body and conserves its heat. When the body is hot, its surface vessels dilate. This allows larger quantities of blood to reach the skin and dissipates more of its heat.

Two sets of nerves are concerned in the regulation of heat conservation and heat radiation. The vasomotor nerves which control the size of the blood vessels, and thus control the blood supply, and the secretor nerves, which stimulate the activities of the gland cells. Generally an increased blood flow and accelerated glandular action exist together. It sometimes happens in cases of shock or in nervous individuals that a profuse clammy perspiration occurs with a decrease in the blood supply. The excretion of sweat is regulated by the nervous system. The sweat centers, located in the medulla and spinal cord, are aroused into action by exercise, changes in external temperature, emotions, many drugs, and often by an increase in the temperature of the blood circulating in the medulla and cord.

The body not only regulates the radiation of heat but also regulates the production and distribution of heat. It often happens in people of low vitality, or in shock, that the body's ability to produce or conserve its heat is reduced so that its temperature is below normal. In most stages of acute disease the temperature is above normal and the patient is said to have fever. **Fever is simply a few degrees more of the ordinary temperature of the body.**

In fever there is usually a greater production of heat than under the usual conditions of life, but heat production is not nearly so great as in violent exercise. The reason for fever is not so much an increased production of heat, but a lessened radiation of heat. Skin radiation is suspended. Fever is not always accompanied with increased heat production.

The cells in all the tissues and fluids affected in fever and inflammation are enlarged. There is always an increased exudation of fluid from the blood into the affected parts resulting in increased nutrition and more rapid growth. This elevation in body heat in inflammation and fever is constant and it is impossible for these to occur without a temporary increase in the amount of living matter in the affected areas. The cells always experience increased nutrition.

Slight fever and inflammation do not necessarily result in permanent tissue changes. Many leave no traces behind them. There may be no degeneration of any tissue in the body, no structural change, no evidence left of the struggle. After a fever or inflammation, the organism may be left precisely as it was before the struggle occurred, or, as is the case where suppression is not resorted to, the organism is renovated, cleansed, and renewed.

Fever is often blamed for the very evils it is intended to prevent, as well as for the evils that flow naturally from the means employed to suppress it. The destruction of tissues seen in "fevers" is no more due to the increased temperature than it is due to the rapid heart beat, increased respiration, or dry skin. It is due to toxins and to suppressive treatment.

Where damage to the body or parts of it follow fever it is the cause of, or, more properly, the occasion for the fever, or the suppressive measures employed, not the fever itself, which works harm to the body, so that no good whatsoever is accomplished by suppressing the fever, as is

the usual practice among all schools of "healing." The fever itself is an essential part of the acute process, is salutary and constructive in its office, and, itself, is never fatal or injurious. The presence of fever is both a sign of returning health and an evidence that the body still possesses sufficient vital vigor to put up a stiff fight against the foes of life.

The prevailing theory is that the waste of tissue, even of bone, and the changes in the blood, including the diminution of the red cells, is due to the fever; that the fever burns up the tissues and the blood cells. On the basis of this absurdity, even those who accept the fact that fever is a curative process declare that fever must be controlled; that it must not be permitted to rise above the "danger point," usually set at 103 degrees.

The body is an automatic, compensating machine, all parts and functions of which bear symbiotic relationships to each other. If we keep this in mind we will have no difficulty in understanding that increased cellular activity calls for an increased quantity of blood and increased heat, demanding many alterations in functional activity. The increased need for oxygen can be supplied only by the blood bringing the oxygen to the cells. This is partly accomplished by dilation of the blood vessels, but this reduces blood pressure, as the constriction of the vessels of the skin afford insufficient compensation and this would cause the blood to flow more slowly unless the heart beats more rapidly, which it does. The blood flows through the lungs as rapidly as it does through the rest of the body, compelling a commensurate increase in the respiratory movements. The increased breathing supplies the needed extra oxygen. Respiration, circulation and temperature are all increased proportionately in acute disease.

Increased circulation, increased oxidation, increased cellular activity, all mean increased heat production. Heat production is necessarily excessive in acute disease in order to keep up the greater activity of the cells. Heat dissipation is also reduced to make possible the higher temperature; for, without fever there would be no acute "disease."

Fever we may define as a necessary rise of body temperature above the normal standard in response to the organism's own need for an increase of vital activity. Vital or physiological actions are never haphazard nor purposeless. The rise and fall of temperature is governed by physiological laws which nicely and minutely adjust the means to the end.

In order to have fever, which is necessary to the acute process, two things are essential—namely:

1. Increased production of heat in the body; and
2. Suspension of heat radiation through the skin.

Of these two, the suspension of heat radiation is most essential to the rise in temperature. Fever often synchronizes with impaired respiratory functions, as in pneumonia, and the introduction into the blood of far less oxygen than when normal and the subsequent formation and removal of less than the normal proportion of carbonic acid. Inflammation and fever do not necessarily depend on increased oxidation. Fever is not a process of "burning". It neither burns up the body nor the causes of disease. Heat production is not as great during fever as while running or during other vigorous physical activities; but heat radiation is suspended so that the heat is retained in the body. Breathing and heart action are not as rapid during fever as when running. When engaged in vigorous effort sweating carries away heat from the body and thus prevents the temperature from running up. Suspension of skin radiation is, therefore, more essential to the production of fever than is increased heat production.

Fever results primarily from heat conservation and is controlled by the heat regulating mechanism of the body. The expression, "burning fever" can be used, hereafter, only as a mere figure of speech; it cannot accurately represent the vital phenomena of fever.

It is quite true that in fever there is usually an increased oxygen intake, but as pointed out above, this is never as great as during violent physical effort. In some conditions, such as pneumonia, there is fever concomitantly with decreased oxygenation.

Fever, being a result of vital activities, often existing concomitantly with diminished exhalation and secretion, must be regarded as a part of the reaction of the body against the causes of impairment. Hence the higher the temperature, other things being equal, the greater the reactive power possessed by the body. Whatever may be the occasioning factors in fever, it is an essential development in all acute "disease" and represents the power of the organism to increase cellular activity—the height of the temperature indicates the vital capacity of the body to throw off the causes of impaired health and restore its normal equilibrium.

Fever is produced as a response to organic toxins, never in response to metallic poisons. Metallic poisons are more likely to result in a lowering of body temperature. A certain amount of fever is essential to the completion of the chemical process by which oxidation of poisonous products is accomplished. In fever there is increased circulation, usually increased oxygenation, and a great increase of "anti-bodies" and other protective agencies within the body.

When there is infection in the intestine, for instance, as in "typhoid fever", requiring large quantities of blood to be sent to the intestine, the blood is drawn away from the surface of the body, resulting in a chill. The "onset" of "fevers" is preceded by a chill. The chill serves the definite end of suspending surface radiation. During the chill, although the surface temperature of the body may be normal, the temperature of the interior of the body is above normal.

The concentration of blood in the intestine is an automatic response to the irritation at that point. Its concentration there, with the consequent withdrawal of blood from the skin, unbalances the circulation and lowers blood pressure, calling as previously explained, for increased heart action and this in turn resulting in increased respiration.

The **crisis** or turn of "a fever" is characterized by a resumption of sweating, which had previously been suspended (in fever the skin is dry), and a consequent reduction of body temperature through the increased skin radiation.

We say fever is a remedy, not a "disease" ; its nature is restorative, not destructive. It is not merely a friend—it is always a friend and a unit. There are not many "fevers", as the text-books list, but one fever.

The development and persistence of fever do not offer conclusive evidence that the organism will be able to preserve its integrity, but they do reveal that strong efforts to this end are being made. Whether successful or not, the wholesome intention of the effort is the same. Fever and the increased circulatory activity associated therewith are vital phenomena, which develop, progress and terminate in strictest accord with the laws of life, wherever and whenever they may be needed and are health-preservative actions.

Fever, in the final analysis, is not a mere rise in temperature. It is the end-result of a complicated series of antecedent phenomena, all of which work automatically towards the end in view—increased temperature. The fever then results, automatically, in other actions equally as complicated.

The entire series of phenomena represent an "organic" unit. Fever **per se** is a necessary increase in body temperature designed to enable the body or some part or parts of it to effectively destroy some foe of life that is threatening vital integrity, and to repair damages. It is but a part of the general process of purification and reconstruction that is "disease". It is salubrious and beneficial, as Hygienists, Hydropaths, Naturopaths and Physio-medicalists have declared for more than a hundred years. Hippocrates is reported to have said: "give me fever and I can cure any disease."

According to their severity, temperatures (in fever) are classed as:

Subfebriles—99.5° to 100.5° F.
Slight Fever—100.5° to 101.5° F.
Moderate Fever—Morning 101.5° ; evening 103.5° F.
High Fever—Morning 103.5° ; evening 105° F.
Hyperpyrexia, above 106° F.

The height of fever is determined by:

1. The reactive power of the sick person; and
2. The amount and virulence of the toxin against which the forces of life are pitted.

Of these two factors, the reactive power of the sick person is the really essential factor in raising the temperature, for the rise in temperature is a vital reaction. Young and vigorous individuals easily develop high fever in response to minor causes; whereas, the old or feeble are often unable to develop fever in defense against the most virulent toxins. Wm. F. Harvard, N. D., says: "The greater the reactive power of the body, the higher the temperature of the body is likely to rise during a crisis of this nature. Children, in whom the natural vitality has not been worn down by abuse, are prone to manifest a higher temperature in reactions than adults. This would tend to prove that the fever is an index to the reactive power of the body. It is almost impossible for a person of very low vitality to have an acute disease."

Dr. Felix Oswald says in **Physical Education**, "A man may be too tired to sleep and too weak to be sick. Bleeding, for the time being, may 'break up' an inflammatory disease, the system must regain some little strength before it can resume the work of reconstruction."

So-called medical science has named for us many different kinds of fevers such as, lung fever (pneumonia), brain fever, typhus fever, spotted fever, yellow fever, bilious fever, eruptive fever, septic fever, jail fever, ship fever, Malta fever, ardent fever (heat stroke), autumnal fever (typhoid), spring fever, etc. They tell us: "The name of some fevers is derived from some real or supposed cause or predominating symptom."

The time of year, the patient's environment (jail or ship), the organ chiefly involved in the affection, some prominent symptom present, the color of the patient's body—these help to determine the kinds of fever. When viewed in its right light, this childish effort to have many kinds of fever is amusing; when viewed from the standpoint of its results, it is tragic.

There is but one fever. The temperature may be high, it may be but slightly above normal, it may be continuous, intermittent, remittent, slow, or what not; it is all the same temperature. The practice of naming various groups of symptoms as a "fever", though still indulged, was born out of the ignorance of the past. The term fever should not apply to the whole

symptom-complex (the so-called "entity") present, but to the increased temperature only.

Medical definitions of fever show the confusion that exists in their minds concerning its true nature, cause and purpose. It is defined as "a disease characterized by marked increase of heat of the skin;" as "a disorder marked by high temperature, quickened pulse, thirst, loss of appetite, etc." Another definition of fever is "a systemic disease whose distinctive characteristic is elevation of temperature, accompanied also by quickened circulation, increased katabolism or tissue-waste and disordered secretions."

From these definitions it readily will be seen that the term fever may mean to the medical man the whole symptom-complex, the so-called disease, present in the sick person (it is a definite entity to these men) ; at other times it may mean simply a rise in temperature. Two standard medical authors say in discussing fever: "The different fevers will be discussed under their separate headings—scarlet fever, typhoid fever, yellow fever, etc."

Medical authorities also tell us that the term fever is limited to measurable and continuous elevation of temperature accompanying and dependent upon a disorder of some part of the body, it is a concomitant of **disease**—Short accessions of heat, due to "accidental" and ephemeral" causes are not included under the term fever. Febricula and Ephemeral Fever are the terms applied to "short feverish attacks" lasting from one day to a week. Furred tongue, rapid pulse and headache accompany these "attacks". Persons so suffering are said to be "threatened with a fever."

A fever is a "disorder"—the very term signifies the absence of order in the body. Such terms belong to confused minds who do not know that order reigns in the body in all states of health or impaired health. Physiological laws are never suspended, nor do they ever become confused.

"Fever" are also called "febrile processes." "We are told that the febrile process does not run its course with an even tenor, but shows exacerbation and remission. The exacerbation usually sets in in the evening and advances until about midnight, when the remission commences, reaching its lowest point in the morning. This simply means that the temperature rises and falls as the organism rests or returns to vigorous work, in a more or less rhythmic manner.

If the temperature never falls to the normal point, the "fever" is called a **continued** or **continuous** one. If at some point it falls nearly to the normal point, the fever is called **remittant**. If the febrile symptoms disappear altogether, to return on another day, the "fever" is called **intermittent**. If the fever lasts several days, then disappears and returns after a few days, it is called relapsing fever.

Contrary to popular and erstwhile "scientific" opinion, there is no danger in fever. When Schiller declared that "a fever which does not kill, invigorates" he used the word fever to designate the whole complex of symptoms present in a so-called febrile malady, but he thought such fever is capable of killing. It was only confusion that permitted him to think that if this killing process fails to kill, it will invigorate.

Medical men and most drugless practitioners do resort to means to reduce temperature. "While most of them theoretically recognize the beneficent character of fever, in practice, they believe it may rise too high and cause a destruction of the red-blood cells, cartilages, glands and other parts of the body. They, therefore, believe in controlling fever and keeping it down to the point of safety. This is contrary to Orthopathic principles

and to Hygienic practices. Every Hygienist knows that the temperature cannot rise high enough to do real damage and that it will fall spontaneously, automatically, as soon as its purpose has been served. Indeed he has learned to regard a high temperature as a hopeful sign. The higher the temperature the more efficient is the curative work and the quicker will recovery occur.

Dr. Wm. F. Havard says: "No one ever died of fever. Some observers record temperatures in acute diseases of well over 108 degrees Fahrenheit, with complete recovery of the patient."

Dr. Shew says, **Hydropathic Family Physician**, p. 51. "The danger in fevers is not in proportion to the heat and excitement present, as many suppose, but to the debility. The evidences of debility, are great rapidity and weakness of the pulse, as well as weakness of the body generally. If the pulse remains long as frequent as 140 or 150, there cannot be much ground for recovery. Recovery has been known to take place when the pulse has been as high as 160, although it must be admitted that such occurrences with adults are rare. Dr. Heberden knew a case of recovery from fever even after the pulse had been up at 180. Facts of this kind should be known both for the encouragement of the patient and the physician."

Evidences of weakness, or of a declining reactive power, and not the height of the temperature, are the true signs of danger. When these signs appear temperature is more likely to fall than to remain high.

Emerson declares: **Essentials of Medicine**: "it may be said, in general, that the height of temperature is really no index to the severity of the case. The highest temperatures occur in the least serious fevers, such as relapsing fever and malaria, while in the severest fevers, the rapidly fatal infections, there may be no rise of temperature at all. In the latter case it seems as if the body were unable to make a febrile defense against the infection."

From our viewpoint the height of the temperature is an index to the reactive powers of the body. It is an index of its fighting powers. The intensity of the fever is, in a great measure, a reliable index to the vital capacity of the body to restore its normal equilibrium. "Rapidly fatal infections" are such because there is no fighting power, and this is also the reason the powers of life are so depressed by the infection that little or no fever develops.

In a condition such as pneumonia, those of feeble constitution run a low temperature and are less likely to recover; whereas, those of vigorous constitution may run a temperature as high as 105 degrees Fahrenheit and make a rapid recovery, an improved health standard following.

Since the World War the ranks of materia medica have partially recognized, theoretically at least, the beneficial function of fever. A little "orthodox" testimony may be in order.

F. A. Rizquez, of Europe, says, **General Pathology**: "Fever is a reaction of organic defense, and as such, it should be protected, rather than opposed. Generalized febrile infections are more dangerous when they develop themselves apyretically (without fever), as, for instance, pneumonia in old people, cholera, diphtheria, etc."

Parker's **Materia Medica and Therapeutics** (for nurses) says (p. 214) : "Fever is now recognized as a symptom and in infectious disease as a protective condition in which antibodies are formed to counteract toxins. Unless, therefore, the temperature is very high no attempts are made to lower it except for the purpose of making the patient more comfortable."

Emerson, a standard medical author, says **Essentials of Medicine** (1922) : "While these toxins or germs may be called the cause of the elevation of temperature, yet the word 'reason' is better. Fever seems to be one of the protective measures of the body, a means to an end, and that end is a fight against the germ. The body seems to fight the germ better at a higher than at normal temperature, and so the fever is really rather a part of the defense than a direct result of the toxin in the sense in which the headache is such a result. We emphasize this point because so many people think the fever is an evil and try to lower it by drugs. They can do this easily, but with no benefit—perhaps always with injury—to the patient. We like to see the temperature fall as after a cold bath, but only when we are sure the reason for the fall is victory over the toxin, or that the total result of the bath is beneficial."

The **Literary Digest**, June 14, 1924, quotes Dr. Oliver Heath as saying in the **Lancet**, a leading British medical journal: "For many years a heightened temperature was regarded as evil in itself—very much as a heightened blood pressure quite usually is now—and in the treatment of febrile conditions the main line of attack was directed toward its reduction.

"Experience of anti-pyretic drugs led to some doubts as to the actual benefit to be expected from a mere lowering of temperature, and experimental work showed that in infectious conditions some degree was certainly beneficial; animals kept at fever heat were able to withstand infections fatal to normal control."

The absurdities of the "quacks" and "fanatics" have again triumphed. Fever, that every "scientific" physician knew to be an evil that must be suppressed, turned out, after all was said and done, to be the benefit the "lunatic fringe" declared it to be, and its suppression proved to be a veritable slaughter, as we have declared for over a hundred years. Orthopathy will yet find its way into the very citadel of Heteropathy and wreck its elaborate structures and prove its bombast and pretended science to be east wind. Human progress has never come from entrenched institutions nor from the forces of exploitation. The "lunatic fringe" is the source of progress—always.

Despite the theoretical recognition of the beneficial character of fever, suppression of fever is yet the popular practice. Antipyretics are still in common use among all the "schools of healing." It should be obvious that any method of forcibly reducing temperature deprives the sick body of the benefits of the increased temperature, while most of them add their own direct damages to the body.

Dr. Joel Shew in **The Hydropathic Family Physician**, (1854) declares: (pp. 43-46) : "Whatever may be true in regard to the nature and general tendency of fever, it is to be remarked that patients, when properly treated, and not injured by harsh and injudicious measures, are often found better after an attack. This happens even after certain fevers which have had their origin in malaria or some-other poisons." The benefits following "fevers" are less in evidence where the patient has been through the usual suppressive treatment than where he has been cared for hygienically.

In a previous quotation from Parker, it was stated that unless "the temperature is very high no attempts are made to lower it except for the purpose of making the patient more comfortable." It should be known that it makes no difference in the results, whether the temperature is reduced to "cure" the "disease" or merely to make the patient more "comfortable". Temperature cannot forcibly be reduced, by any method for any purpose, without greatly interfering with the vital curative activities. Part of Nature's defense is broken and all of her curative operations are reduced.

The foundation is laid for much worse trouble. Complications develop; sequalea follow; perhaps the patient is killed.

In a general sense there are two methods of reducing fever; namely: (1) By depressing vital activity, thus reducing heat production; and (2) By forcing the resumption of skin radiation. These two plans will be briefly discussed in the order given.

With reference to the first, Parker says: "The drugs which have some use as antipyretics are the coal-tar analgesics, quinine, and aconite. The coal-tar analgesics act by depressing the heat-center. The heat center is now considered rather a coordinated mechanism and the exact method by which this mechanism controls body temperature is not known, but it is probable that when it is depressed **heat production** is decreased. The difficulty, however, in using drugs to depress this mechanism is that they also affect the vital centers and cause a general depression. Phenacetine, antipyrine, and acetanilid are especially depressing to the heart if given continuously in long fevers, but they are used to some extent. They relieve the nervousness (by depressing the nerve centers. Author) which accompanies a high fever and are resorted to in cases in which baths cannot be given. Quinine is commonly employed as an antipyretic in the early stages of coryza. From two to four grains *** every four hours will break up a cold. Aconite is safe only in short acute fevers and is being used less and less even in such cases, because of its toxic action on the heart."

Quinine depresses all of the functions of the body and is a frequent cause of serious nervous and mental troubles, blindness and death. It is employed to reduce temperature because it depresses vital activity throughout the system and thus reduces heat production. It reduces heart action, lowers blood pressure, reduces oxidation, interferes with the oxygen carrying power of the red cells, and thus reduces temperature. Quinine may even completely arrest heart action, resulting in death. Sweet spirit of nitre is also used as a febrifuge.

If one goes out for a brisk walk on a cold day the activity increases heart action, accelerates circulation, and increases respiration and oxidation. This enables him to keep warm. Returning, someone picks him up and he rides back. Sitting still, heart action is slowed down, circulation is less rapid, breathing is lessened and oxidation decreased. Drugs that reduce temperature by depressing vital activities slow down the heart. All of them have a "toxic action on the heart."

Such methods of lowering body temperature are, in reality, methods of crippling the organism and handicap it in its battle against the toxins that are damaging its structures and threatening its existence. They hinder and often prevent recovery. They produce serious damages themselves.

The second plan of forcibly lowering body temperature consists of methods which force the blood into the skin and thus result in increased radiation through this structure. The salicylates occasion a mark dilatation of the cutaneous blood vessels, resulting in greater circulation to the skin, with a consequent loss of heat. The salicylates are especially prone to damage the heart. Dover's powders (an opium derivative), ammonium acetate and spirit of nitrous ether, cause the blood to be sent to the surface, away from where it is most needed, and occasion a waste of the body's heat.

Fan baths, baths in tepid water, cold baths, alcohol with much friction, hot drinks, etc., are also employed to bring the blood to the surface and restore sweating. They thus increase the dissipation of heat through the skin and lower temperature. Though lacking most of the

directly injurious effects of antipyretic drugs, these methods are equally suppressive and succeed also in depriving the sick body of the needed aid of fever.

Any mode of treatment which reduces body heat without removing the necessity for the increased temperature, lessens the chances of recovery. Fever is only one of a whole group of "abnormal" processes that exist concomitantly and co-etaneously in acute "disease" and fever cannot be lowered without interfering with the whole series of defensive and curative operations. Depressing the nervous centers, lessening heart action, slowing down circulation, inhibiting respiration, checking elimination, and commensurately reducing other functions, in lowering temperature, are all equally as undesirable and injurious as the lowering of the fever itself.

Rationale of Inflammation

Chapter IV

If the doctrine of Fever formed one of the fundamental principles of Allopathic medicine, the doctrine of Inflammation formed the other. Prof. Paine declared (**Institutes of Medicine**, P. 464), "The most important principles in medicine are those which especially relate to inflammation and fever."

Prof. Watson said: "Inflammation must needs occupy a large share of the attention, both of the surgeon and of the physician. In nine cases out of ten, the first question which either of them asks himself upon being summoned to a patient is—Have I to deal with inflammation here? It is continually the object of his treatment and watchful care." He also says (**Practice**, p. 94) inflammation is "a special form of disease to which all parts of the body are liable—a disease that meets us at every turn."

Dr. James Thatcher (**Practice**, Vol. 1, P. 3) called inflammation "the disease." Dr. John Thompson, who says the same of fever and inflammation, tells us "That this view, however, of the subject of inflammation is just, must appear obvious, when we reflect that, **of all the morbid afflictions** to which the human body is liable, inflammation is not only one of **the most distinct in its forms**, and important in its consequences, but it is also by far the most frequent in its occurrence. Indeed there are no external injuries of which inflammation is not almost the immediate **effect**, and but few, if any, local diseases of which it is not, in some degree or other to be regarded as concomitant, cause, symptom, or consequence."

Prof. Thompson praises Sir John Hunter for his years of painstaking study of inflammation and adds, "In most points relative to inflammation, I shall endeavor to follow that distinguished pathologist as my best and most accurate guide."

Prof. Marshall Hall, (P. 98, No. 362) says, "The doctrine of inflammation is the most important in the theory of medicine and surgery." This work of Hall's was endorsed by Profs. Bigelow and Holmes, of Harvard University, both outstanding medical men of their time.

Prof. Paine declared (**Institutes**, p. 464) ; "Inflammation and fever are two orders of disease which make up the great amount of human maladies, and form the grand outlets of life." "Idiopathic fever is a universal disease, inflammation always local."

Prof. Watson says: (**Practice**, p. 94.) "It affects all parts, that are furnished with blood vessels, and it affects different parts very variously. It is more easily excited by many external causes, and therefore it is more common than any other special disease. A great majority of all disorders to which the human frame is liable, begin with inflammation, or end in inflammation, or are accompanied by inflammation in their symptoms. Most of the organic changes of different parts of the body recognize inflammation as their cause, or lead it to as their effect. In short, a very large share of the premature extinction of human life in general is more or less attributable to inflammation."

I need not multiply testimony to show that the Allopaths regarded inflammation as disease. Inflammation to them was a protean monster which might be "concomitant, cause, symptom, or consequence," the beginning or the ending of disease, the cause or the effect of organic

change, one of the most common of human maladies and the cause of a large share of the premature deaths in man. Medical authors all referred to Thompson and Hunter for their doctrines of fever and inflammation. Indeed Profs. Holmes and Bigelow, in their edition of Marshall Hall, say: "Whoever would be intimately acquainted with inflammation and fever must give his days and nights to the study of Hunter and John Thompson."

It matters not that Hunter, Watson, Thompson, and Paine, sometimes caught a glimpse of the true nature of fever and inflammation, and gave utterances to statements the very opposite of what I have here quoted from them, the doctrines of fever and inflammation herein given were accepted by the whole medical world, including these four men, and universally acted upon in practice.

Until a little over thirty years ago the medical profession continued to regard inflammation as an evil and spent much time endeavoring to determine whether it was due to excess action or deficient action in the inflamed parts. Regardless of which theory they held, they all agreed that it should be suppressed and employed the same means with which to suppress it. In 1897 Prof. G. Bier presented his paper on inflammation as a constructive process, after which the fact began slowly to be accepted, theoretically, although it continues to be dismissed and ignored in practice, and every effort is still made to suppress it. But the beneficent office of inflammation has been proclaimed outside the field of medicine for over a hundred years.

Samuel Thompson, founder of the Physio-Medical School, who lived in the closing years of the Eighteenth Century, apparently taught this fact. Certain it is that his followers of seventy-five years ago proclaimed it. Prof. Curtis, for instance, in his **Medical Criticisms**, (p. 176) says: "Before the present century (the 19th), Samuel Thompson, of Alstead, New Hampshire, discovered that law, the primitive fact, and expressed it in the language that 'fever is a friend to the System and not an enemy; and should be aided, not opposed, in its effort to remove disease or its cause.' Such is his doctrine, also, of irritation and inflammation. But learned men do not love to look in the lower walks of society (Thompson was an uneducated farmer) for men who will unfold to them the Mysteries of Nature."

J. S. Thomas, M.D., in his work: "**Physio-Medicalism**," (1870) says: "No laceration of the flesh can be healed without the aid of that physiological operation termed inflammation, which together with fever they (the Allopaths) treat as disease.—p. 162.

In his "**Philosophy of Human Life**," (1852) Dr. Jennings records a case of "Inflammation of the eyes, with general inflammatory affection," in which his partner in practice became alarmed and insisted that medicines be used saying, "You will lose your patient if you do not do something to purpose soon; the eyes are already gone past redemption." Dr. Jennings replied: "This is not a freak of nature*** There was an imperative necessity for just the series of developments in this case that have been and yet are to be made." He explained also that "Inflammatory heat never rises high enough to do positive harm," and used to refer to a man who was laid up with any "disease", but particularly with an inflammatory "disease," as having been "suddenly laid aside for repairing purposes." He regarded inflammation in any part of the body as a process of repair and strengthening. It was particularly, he thought, a means by which the body strengthened, weakened parts and fortified all parts against irritation.

In explaining the "Rationale of inflammation" Dr. Trall said, **Hydropathic Encyclopedia**, (1851,) Vol. 2, p. 108: "Inflammation as well as fever, is the effort of the vital powers to protect the organism from injurious mechanical, chemical, or vital irritants, or to expel morbid materials. This is proved by the phenomena of a multitude of morbid conditions. When a part of the body becomes gangrenous or dead, the living parts, provided there is sufficient vitality remaining in them, immediately form a line of demarcation, and the dead portion is soon separated from the living; this process is called sloughing. "When a chemical or mechanical body is imbedded in the flesh too firmly to be removed by absorption, as a bullet or a splinter, purulent matter is formed around it, and its further action, on the parts is partially or wholly prevented by inclosing it in an abscess. When a grain of calomel gets into the lacteal vessels, the mesentric glands, which may be regarded as organic inspection officers, receive an increased determination of blood, swell up, or inflame, and thus retard the contraband article, until it can be more or less modified or destroyed by the vital powers. When a structure is divided, as by an incised wound, coagulable lymph is poured into the wound, forming, as it were, a bed for newly formed vessels to reunite the part—a process called adhesive inflammation. And when a portion of flesh is torn away by violence, or decomposed by corrosives, or burned out with fire, a covering of purulent matter is thrown over the exposed surface, beneath which granulation—a new growth of substances—gradually fills up the cavity."

Emmett Densmore in "**How Nature Cures**," (1892) p. 5, after describing the processes of healing a cut, a broken bone and of expelling a sliver that has become imbedded in the flesh, says: "These everyday occurrences are as familiar to the layman as to the physician; but the strange part of it is the fact that almost no one—layman or physician—seems to understand that these and like processes of nature are all the healing force there is."

Again, (page 7) : "The feat of engineering performed by the ruling force of the organism in building a bone ring support around adjacent ends of a broken bone may very properly be defined as a curative action on the part of this ruling force. The inflammation and pain consequent upon the presence of a sliver or any foreign body in the flesh, the formation of pus, and the subsequent expulsion from the body of both the pus and the foreign body which caused it, are further expressions of curative action. It is one of the objects of this publication to adduce conclusive proofs that disease and all manifestations of disease are friendly efforts and curative actions made by the organism in its efforts to restore the conditions of health."

In his "**Vital Science**," (1899) pp. 280-281, Dr. Robert Walter says: "The living organism is hourly in process of repair and waste. Waste and repair are facts of Life which are always being carried forward in the animal economy, at least. And this is a fact of physiology—a process of health. But extraordinary processes of repair may also be necessary at times, and these are often painful, laborious, and exhaustive. They cannot be called healthful. They are pathological processes, and therefore diseases. They are abnormal in answer to abnormal conditions but they are curative all the same. In the emergencies of life, if a wound is suffered, Nature at once begins a process of repair. At first it is naturally a process of resistance to further injury. It is called irritation, and soon becomes inflammation, which is the immediate process of healing. Then follows, in many cases, a process of purification. The parts are liquified in order to

expulsion; and this is called suppuration. By and by granulation appears; and this is the ultimate process of healing. The process is a disease process, every step in it having an object in view. The symptoms are the symptoms of disease. The heat is increased because of increased activity in the nutritive processes. There is an abnormal redness for the same reason that there is increase of heat. And there is swelling due to the increase of nutritive material in the parts. Pain also is usually present because of pressure on sensitive nerves or from excessive labor. But the process is a process of healing, which is properly called inflammation, a real disease.

***Suppuration, we have said, is a cleansing process. It seldom occurs except where contact with the external world has introduced foul matters which must be eliminated. A broken bone, for instance, if there is no external wound, seldom suppurates. Never does so unless the blood is very foul and itself introduces impurities into the wound. Nor does fever, any more than inflammation, ever proceed to destructive processes except because of exceeding foulness within."

I have, in the above quotations, only touched the high spots of the past. I need hardly add that all nature cure, or hygienic, as well as all hydropathic and physio-medical practitioners have regarded inflammation as a curative process and many of them have acted upon this. In short, holding that "disease" and every manifestation of "disease" is a beneficent effort to restore health, they have from the start regarded inflammation in the same light.

As before stated, the fact that inflammation is constructive has now found its way into medical theory, although it is ignored in medical practice. For instance, Lipshutz, a standard medical author, says: "Inflammation is a manifestation of the effort made by a given organism to rid itself of, or render inert, certain obnoxious irritants arising from within or introduced from without." This definition does not differ from that given by Dr. Trall seventy-five years ago at which time the medical profession scoffed at the idea and called all who then believed such "nonsense," quacks, charlatans, and other such pleasing terms. Calling one's unnecessary opponents ugly names is not a monopoly of street urchins and theologians. Scientists and pretended scientists also indulge quite freely in this unproductive folly.

In a previous chapter we presented evidence that it is a definite property of all living things that repair takes place following injury and that the process of repair is accomplished almost wholly by an accentuation of the ordinary processes of life—nutrition, drainage, growth, and maintenance. A very remarkable example of this fact is presented to us by the phenomena of inflammation. The following analysis of this manifestation of life, will convince the student of its protective purpose and constructive powers; for inflammation is one of the most remarkable examples of the healing processes of the body.

Many of the changes that occur in a tissue after injury may be watched under the microscope. If the thin membrane between the toes of a living frog be placed under the microscope and then injured by pricking it, or by putting some irritating substance on it, changes begin, quickly, to occur in the circulation.

The arteries and veins dilate and the circulation is quickened. After a brief time the rate of circulation in the dilated vessels slows down until it is slower than normal. The web becomes swollen from the increased amount of fluid and blood corpuscles that are forced out of the blood vessels into the tissues in and around the injured section. The injured point becomes very sensitive, even painful and hot. This gives us the four

cardinal symptoms of inflammation—redness, heat, pain, and swelling; to which a fifth has been added—more or less complete loss of function. All of these symptoms are due to the unusual amount of blood and blood plasma in the tissues. The increased temperature is due to the increased amount of blood in the parts, the redness is due to the same cause, as is the swelling and pain—the pain being due chiefly to the increased pressure upon the sensory nerves.

These "signs of inflammation"—heat, redness, pain, increase of size of the part and modified function—are more or less constant. Organs not supplied with sensory nerves, or but slightly supplied with sensory nerves, as the heart, liver, spleen, kidneys, lungs, stomach, etc., may be inflamed without any pain accompanying the inflammation. There will be swelling, redness, heat, and impaired function, but little or no pain. There is even little redness in inflammation of such tissues as cartilages, ligaments, osseous tissues, muscular fascia, serous membranes, etc.

Briefly defined, inflammation is a local and circumscribed accumulation of blood, with increase of fundamental vital action and decrease of special function in the part.

The increased blood sent to the injured part serves as food to be used in repairing damages and serves also protective purposes in meeting, diluting and decomposing drugs or infectious matters.

The life of cells in a complex body depends upon the circulation of its blood and lymph. There exists a definite relationship between the blood supply of a part and the activity of its cells. The action of muscles calls for a greater supply of blood to these. The digestion of a meal calls for an increased amount of blood to the organs of digestion. Thinking demands more blood to the brain. The ripening of an ovum demands that more blood be sent to the ovaries. The repair of an injury calls for extra blood at the point of injury.

"Ubi irritatio ibi affluxus"—where irritation is, there the blood flows—was long a medical maxim. Since the amount of blood in a part determines its health and action and its ability to meet and overcome injuries, irritants and toxins, etc., nothing could be more natural, or more fully in harmony with the laws of life, than the establishment of inflammation as a means of protection against outside encroachments and to repair damaged structures. By inflammation wounds are closed, broken bones repaired and foreign and injurious bodies and substances are carried out of the body. The increased blood in the part supplies it with a greater amount of nutritive material and thus hastens healing. Microscopic examination of an inflamed section shows all the cells in that area, even those forming the walls of the blood vessels, to be swollen, while their nuclei contain chromatin. There are changes in the nuclei which indicate that the cells are multiplying. There is every indication of a more active life within that section.

So greatly does the increased cellular activity necessary for repair depend upon an increased blood supply that new blood vessels frequently develop. In this way the capacity for nutrition is greatly increased. An excellent example of this is seen in the eye. The cornea of the eye contains no blood vessels. Its cells are nourished from the lymph which comes to it from the tissues at its outside. If the center of the cornea is injured, the cells of the blood vessels surrounding the cornea multiply and form new vessels. These appear as a pink fringe around the corneal periphery. When the process of repair is completed the new blood vessels disappear.

Under abnormal conditions, the usual activities of the injured cells are not sufficient to restore the integrity of the injured tissue. It is essential

that the processes of cell-formation and repair be accelerated and all injurious substances removed, or else such changes must take place in the cells as will adapt them to new conditions of life. The blood vessels dilate and new vessels are formed thus carrying more nutritive material to the part. This excess nutritive material exudes into the tissues surrounding the point of injury as well as into the injured section. This serves several purposes.

It dilutes any injurious substance that may have found its way into the tissue. Drop a crystal of salt into your eye. It is highly irritating. Dilute such a crystal in a small amount of water and the solution produces little or no irritation. Drugs, bacterial excretions, etc., are diluted and carried away from the point of injury; or, the character of such poisons may be so changed as to render them less harmful or not harmful at all.

Inflammation is a great accumulation of blood in an organ or tissue in response to an irritant, or injury, to repair the damages and remove or counteract the irritant. It is not "disease" at all but a simple effort of the organism to remove the cause of "disease" or to repair the damages. It is a remedy and as such is protective and constructive. It has been said that "inflammation is a local fever and that fever is a general inflammation." If this means that they are both parts of the same healing process we do not object, but a general inflammation could not exist because of lack of sufficient blood in the body to produce it.

Inflammation is a vital act and, while it may be obstructed and rendered inefficient and a failure, its character is never changed from physiological to pathological. It is the vital process of healing in every instance of damaged tissue. It is the natural and necessary result of the concentration of the healing forces and materials at any given part to heal or preserve it.

Just as all physiological acts demand and receive an extra supply of blood (an extra supply of blood is demanded by active muscles; by secreting glands; by the stomach that is digesting food; by an active brain), so an increase of blood is demanded by an injured or irritated part to repair the injury and resist and overcome the irritant.

Not only is the nutritive material sent to the part in greater abundance than under normal conditions, but its character differs somewhat. Ordinarily, those substances upon which coagulation of the blood depends pass out through the walls of the blood vessels to a very slight extent. But in cases of injury the coagulable substance may be present in such amounts that the exudate easily clots. Calcification, granulation, fibrin formation, etc., result. These are all defense measures.

The white blood corpuscles are seen in the exudate in greater abundance than under normal circumstances. These cells are credited with wonderful powers of destroying germs, particles of dead matter, etc. Some of these are credited with great germ killing powers and have been named phagocytes. Others that are said to have but little phagocytic powers, and called by Metchnikoff, moerophages, are said to be chiefly responsible for the removal of non-bacterial substances. They are said to often contain dead cells and fragments of cells. Granules of pigment which get into the tissues when a hemorrhage into the tissues occurs, are said to be removed by this class of cells. They are described as often joining together, thus forming connected masses around a hair, or around a thread placed in a wound by a surgeon, in their efforts to remove these. They are also credited with power to destroy living cells when these are too great in number in some part, and thus they tend to restore cell equilibrium.

This view of the nature and function of the white blood corpuscles is rejected by many. The late Dr. Thomas Powell contended that these are not true cells but that they represent decaying particles of protein matter. He claimed that their increase was the cause of "disease" and not a means of overcoming "disease." He gave them the name pathogen—"disease" producer.

This view was accepted by the late Dr. Henry Lindlahr and many others. The future will have to decide which view is correct. The view that their increase is the cause of "disease" is not illogical. The view that their increase is a means of defense is not out of harmony with what we know of the body. It is a definite property of all living organisms that repair occurs following injury and most of the changes that take place in the work of repair are merely modifications and accentuations of the ordinary processes of normal life.

We have our point of injury now to a point of almost feverish activity. There is an excess of fluid pouring into it. The cells are dilated and multiplying. Blood vessels are also dilated and, perhaps, multiplied. The cells in the injured part are actively engaged in repairing damages. This feverish activity continues until the injury is repaired, or so long as the cause producing the injury operates, after which it gradually returns to normal. Then a reverse process begins.

The excess of fluid is removed by increasing the outflow until this exceeds the inflow. The excess of cells is removed. Part of them are removed with the fluid. Others undergo solution while others are claimed to be devoured by the other cells, particularly, by the white corpuscles. The blood vessels return to their normal size, the newly formed vessels atrophy and disappear in the same manner as the excess cells. The exudate is absorbed, the swelling goes down, pain ceases, the color becomes normal and function returns to its normal standard.

When the changes which an injured part undergoes are closely analyzed they are seen to be purposeful. They all serve definite ends and these are all beneficent. They are each and every one, without exception, designed to restore the integrity of the living organism and protect it from further injury. What has happened? A broken bone has been repaired; or a cut has been healed; or a foreign body has been removed from the flesh; or toxins have been diluted, altered and cast out; the threatened danger to the life of the organism or its part has been overcome. This is the work of inflammation. Truly, as Jennings said, there is "order in disorder" in the workings of nature even in the most violent stages of "disease." He remarked of a case of inflammation: "This is not a freak of nature. She does not wantonly turn aside from the natural and habitual course of action, and throw her complex machinery into disorder, and give it suicidal motion and tendency. There was an imperative necessity for just the series of developments in this case that have been and yet are to be made."—**Philosophy of Human Life**, pp. 162-163.

Tissues which have been killed by mechanical, thermal or electrical injury or by toxins, etc., are no longer parts of the body. They are foreign substances and act as such. They act like foreign bodies thrust into the tissues from without. They occasion inflammation in their neighborhood. The fact that they once belonged to the body makes no difference to the tissues they affect. In such cases there is, in addition to the ordinary phenomena of a simple inflammation, processes the object of which is the removal of the foreign substance.

If a foreign substance is soluble or destructible these are attacked and dissolved and carried out of the system. If the substance is not soluble as,

for instance, necrosed bone, compact hemorrhagic patches, infarcts, coagulated or condensed exudations, necrotic cheesy masses, leaden bullets, ivory pegs, ligatures, drainage tubes, etc., the process is a bit different. Inflammation and infiltration are followed by the formation of granulation tissue and later fibrous tissue around the foreign body. If it cannot be absorbed or sent out by suppuration, it becomes encapsulated.

Pieces of dead flesh and bone are sure, sooner or later, to be dissolved and carried away. In every case the process of absorption and encapsulation is carried out with the purpose of either ridding the body of a substance that is foreign and useless to it and, perhaps, also harmful; or of encasing it and rendering it harmless. Every movement of the body in the highest stages of health and in the lowest depths of "disease" is intended to preserve the vital integrity.

In simple cases of inflammation, where there is no breaking down of tissue, the exudate is absorbed and the tissue is left apparently as it was, with, perhaps, a deposit of pigment or a slight growth of new connective tissue or a thickening of the skin. Where there has been tissue destruction and its removal, as in an abscess, the gap is filled with granulation tissue. The surplus exudate in such cases is discharged as pus. A little more detail about suppurative and septic inflammatory processes is desirable.

Dr. Walter brought to our attention, in a former quotation, that inflammation does not proceed to a destructive stage unless foul matter has obtained entrance into the inflamed section either from without or from the blood. Dr. Tilden explained that in cases of foulness of the system nature utilizes the wound or suppurating process as a "portal of exit" or, to use the words of Dr. Lindlahr, "discharges and ulcers act as fontanels to the system." That this is so is unintentionally corroborated by orthodox testimony. (See chapter on "Crises")

The repair of injury requires extra nutrition. Nature sends great quantities of this to the injured section. In a wound, the exposed surface is sealed up by the coagulation of the exudate and healing proceeds. But where the waste is retained, that is where drainage is not perfect, microbial fermentation, as distinguished from enzymic fermentation, occurs. This changes the chemistry of the exudate and decomposition or pus formation supplants healing.

Germs must be pent up in the wound or abscess before they can set up a morbid process. Nature is not afraid of dust or germs or air. Dr. Tilden rightly says: "The whole question of wound infection hinges on drainage. Any wound that drains well may be smeared with the most virulent septic poison without infection. The infecting agent must be rubbed into the wound so that it will be pushed into, or below, the granular surface. The infecting material must find a lodgement so secure that the flushing—enzymic—serums cannot dissolve and wash away.

"Injuries in canals, tubes, ducts and air-passages will heal normally if drainage is not obstructed; but when obstructed, the usual conservative measures of nature may further obstruct, and death may result from a rational therapeutic measure mechanically obstructed in its execution."

Again: "The cell-building elements cover the cut or mutilated surface, and crowd the border so much that there is a heavy discharge through the drain, if the wound has been properly dressed or has been left open. Where drainage is unobstructed, the healing behind the barrage of nutritive material thrown out moves along without a halt. The proportion of enzymes and nutritive material furnished by a healthy, not overfed, wounded individual insures rapid renewal of tissue. If obstruction takes place, microbial fermentation is set up in the pent-up surplus. This is a

conservative process; for it thins the discharge, irritates the wound, and causes an extra amount of serum to be exuded. The purpose is to melt down any incrustations and new-made tissue that is obstructing drainage."

Serious trouble may occur if this fails. Microbic fermentation gains the mastery over enzymic fermentation, sepsis is evolved and, unless walled off, may cause death.

If inflammation is due to a virulent irritant which is incompatible with the life and integrity of the tissues, these undergo retrograde changes, cloudy swelling, fatty degeneration, and complete necrosis, finally forming, in union with the decomposed serum, blood cells, etc., pus which breaks through on a nearby surface and runs out, or is walled off as in an abscess.

The irritation of an open wound caused by the air acts to accelerate the flow of nutritive material to the wound. The air dries up and coagulates the discharge of serum and thus it is sealed up so that healing can go on behind the protection. The dry covering "acts as a stay or fixation expediency, to secure the necessary quiet, for healing." If the wound is too closely sealed in and danger of infection threatens, itching sets in causing rubbing and scratching thus breaking enough of the covering to permit the washing out or escape of the pent-up pus and waste matter.

A wound that is not thoroughly cleansed and that is bandaged up so that drainage is imperfect, suppurates. Decomposition and infection end repair and cause sloughing. Sloughing re-establishes drainage and the work of healing is resumed. If sloughing does not occur so that drainage is not established and the normal reciprocal balance between the organized ferments (germs) and unorganized ferments (enzymes) is not established, sepsis is generated and this may end in death. One of the greatest modern surgeons, Sir Wm. Arnuthnot Lane, of London, declared, that where drainage is perfect there is no death. As Dr. Tilden remarks:—

"Every conservative provision of nature can be, and sometimes is, overcome; but this does not alter the fact that nature places a special guard over each one of the body's vital functions, the normal action of each being necessary to total health of the body, and that each guard must be vanquished before the function over which it presides can be deranged or checked."

If the surfaces of a wound are brought together and held there healing must be completed sooner than if nature must build up a bridge of tissue to span the gap. But bringing these edges together interferes more or less with drainage and, if means for drainage is not supplied, may result seriously. Again, healing is interfered with by the causes that lead to the inflammation. Inflammation is slight when the wound is in a state of health. Dr. Tilden says of the exudate in inflammation:—

"There can be no rest or standing still; the exudates must be excreted, thrown out, or re-absorbed. To fit these exudates for absorption, they must be treated with enzymes, in order to fit them to re-enter the circulation. If there is enervation and lack of enzymes, then it will be 'up to' bacterial fermentation to prepare the exudate for expulsion from the body. If there is no break in continuity—if there is no open wound—then the bacterially treated exudate must be absorbed into the general circulation, causing infection; or the infection will be corralled by walling in the devitalized territory and lining the enclosure with an impervious pyrogenic membrane. The pus that forms is retained—not allowed to escape into the general circulation ; for, if it should, it would cause pyemia. If the body's natural resistance is too low to fortify it in this

way—if it cannot localize and immunize the infecting material—then general infection takes place and the victim dies of septicemia."

It is not correct to limit the disposal of pus in a closed inflammation to absorption or abscess formation. The process of inflammation and supuration more often extends along lines of least resistance, through neighboring healthy tissue, until the abscess points at some surface. The pointing thins and liquifies by enzymic action the overlying tissue which finally ruptures allowing a spontaneous evacuation of the abscess to occur. Every one has seen this in boils or furuncles. However, in these liquification is only partial. The dead tissue sloughs en masse, as the "core" of the boil. Of internal exudates Dr. Tilden explains:—

"If the point of irritation is the pleura, the exudate may accumulate, and, from lack of bacterial influence, the fluid is neither digested and absorbed, nor decomposed and converted into an abscess of the pleura, nor absorbed, creating septic fever and death; but remains a bland, innoxious fluid in the pleura."

A mere brief notice of a few examples of the work accomplished by inflammation must suffice at this place as other chapters of this work are replete with such examples. A sliver becomes imbedded in the flesh and is not removed. Inflammation sets up at this point. The tissues around it are liquified and formed into pus. The fester thus formed bursts and the pus runs out carrying the sliver along with it. The place is then healed and forgotten. By inflammation a bruise, as from a blow, a cut, a burn, etc., is repaired and healed. Any irritating substance, as mustard, Spanish fly (Cantharis), and other drugs, when applied to the surface of the body, or when taken internally are met and overcome by inflammation. Bites, bee stings, the bite of insects, snakes, and other poisonous animals, and the poisons of plants are all met and overcome by inflammation.

Cyanide of potassium, an excellent Allopathic **remedy**, if applied "locally causes inflammation of the skin with an exzematous eruption, and if applied in quantity to an abraded surface will produce fatal effects." The inflammation and eruption, which is also a form of inflammation, are simply means of expelling the poison.

Inflammation follows the forcible infection of a person by what is called vaccine. Vaccine is pus and is septic. Syphilitic infection cakes place in the same manner. Septic matter comes in contact with an abraded surface and infection follows. In both cases, inflammation with ulceration follows, as a means of preventing the entrance of the septic matter into the general circulation and as a means of expelling it from the system. In inflammation, there is a large increase of blood to the affected part. This overcomes osmosis and prevents absorption.

Similar to the exzematous eruption produced by cyanide are the secondary eruptions—vaccinia and secondary syphilis—often following vaccination and so-called syphilitic infection. These eruptions serve the same eliminative and protective purposes.

The primary stage of syphilis, like that of vaccination, consists of an initial ulcer which forms at the point of infection. The ulcer is usually single, as in vaccination, and is hard at its base. It is accompanied by enlargement and enduration (hardening) of the nearby lymph glands. It is simply an enduration following local irritation and infection. The irritation produces inflammation which is the same as any other inflammation and is of a defensive character. It means that more material is carried to the point of inflammation than can be used or carried away by the veins. This prevents absorption and dilutes the infection. The thickening and hardening overcome osmosis. Just as in a pus sac, or abscess, the wall of

which is thick and endurated, the escape of pus into the surrounding tissue is prevented, so, in the so-called syphilitic ulcer, or chancre, the hardening at its base prevents absorption of the septic matter into the system. Upon this point Dr. Tilden has the following to say:—

"Nature is always busy fortifying against invasion, and when a mucous surface can not be healed it is utilized as an **exit for waste products**. In thus utilizing a broken surface two important objects are attained : First, it should be understood that a broken surface is a menace to life so long as the parts are raw, for absorption takes place very readily in a fresh wound, hence, to obviate this danger and furnish healing material, there is set up at once a rushing to the wound of a lot of plastic material, which soon covers and protects the surface. Through this provision of nature's a raw surface is soon fortified against the possibility of a foreign substance coming immediately in contact with it; this coating also protects from the air, and prevents absorption, even if the wound does not heal. The rushing forward of the plastic material for primary protection will end in developing a secondary protection if the part refuses to heal, which is the second object referred to above. It consists of a gradual thickening and hardening of the tissues, because more material is being taken into the tissues of the injured parts than is utilized, and it is not carried back by the return circulation, which means that there is a greater quantity of material taken to such a surface than can be used in healing, and it is either thrown out—exuded—excreted—or retained in the tissues; this causes accumulation—a thickening and hardening of the edges of the wound—the material that is taken there primarily for healing is used secondarily for fortifying and preventing the entrance of unfriendly and detrimental material. Please understand that nature, in this operation, **is destroying the possibility of molecular attraction—overcoming the law of osmosis**.

"Nature is never engaged in a senseless and purposeless work of any kind. I do not infer that there is a ratiocinative guidance; simply the adjusting of needs to ends, the laws for which are resident and imminent in the needs. This no one should know or recognize sooner than the physician; hence, he whose business it is to watch nature in her operations should know that the thickening and hardening at any point of inflammation is for a purpose, and that purpose is to overcome the carrying out of the laws of osmosis and molecular attraction, which, under normal conditions is necessary for the ready exchange of fluids in the body. When a raw surface is made to come in contact with environments containing materials that will be injurious to the body if they gain entrance, nature begins at once to destroy the possibility of exchange, and her plan is to build an indurated wall about the wound. And what does induration mean? It means that more material is taken in than is taken out; it means that the pressure from within is greater than from without; and such a thing as germ absorption can not take place in a fortified surface, the profession's opinion to the contrary notwithstanding. It should not be forgotten that nature is constantly fortifying against invasion. Sometimes she outreaches herself, and fortifies so extensively that her fortifications degenerate, because the induration becomes so solid that the capillary arteries fail to carry enough oxygen to the interior of her breastworks to keep them alive, hence degeneration takes place, and unless drainage is established septic infection will quickly end the life of the victim.

"I have gone into this explanation rather extensively to show that it is contrary to all the laws governing bodily development for germs to enter

our bodies when and where they please. If the profession's belief regarding germs and their absorption were true the world would be depopulated.

"Think for a moment of a pus sac. The walls are thick and indurated. Blood and building material are taken to, in and through this fortification, but nothing is allowed to cross the dead line from the pus sac to the tissues outside or in the body. The only way the pus can get into the body is for the sac to be broken.

"I want to go on record as declaring that germs can not cross any of nature's fortifications unless the hand of man has broken her safeguards. I want to say that it is absurd, unscientific, and positively in opposition to biological as well as pathological science, to say that the 'tonsils and lymphatic tissues act as portals of entry for micro organisms.' "

The enlargement of the lymph glands in all infections—syphilitic, vaccinal, or from a corpse, or beef,—and from insect bites, and in colds, etc., is a means of arresting and destroying toxins of an organic nature that find their way into the lymph. It is a defensive measure.

Inflammation following a septic wound of a finger, though distressing enough, is not of malignant intent. It is well intended, its object being to protect the body from infection and to eliminate the septic matter already introduced. Even the much dreaded peritonitis is the patient's best friend. Without it most, if not all, abdominal operations would result fatally.

In an abscess, in appendicitis, and similar internal conditions, inflammation serves the same defensive and reparative purposes as when it develops in the superficial structures of the body. It is never anything to combat. **It is the combat.**

Nature always localizes inflammation wherever possible and this is usually possible. If resistance is low, if the blood is foul, or if meddlesome methods of treatment are resorted to, the inflammation may spread. It is seldom that the primary occasion for inflammation is sufficient to occasion more than a local inflammation. Even in so-called syphilitic infection, the primary ulcer is usually the end of the trouble.

Before inflammation can arise there must be an occasion or necessity for it, in the form of some agent or influence inimical to health and life, either of the whole body or some part of it. Such occasions may be chemical (poisons), thermic (burns and freezing), mechanical, (cuts, bruises, particles of iron, wood, bone, etc.), electrical, or vital (parasites, etc.), and mental (as in hypnosis.)

Scarcely an injury or impediment, whether mechanical, chemical, thermal, or electrical, can be mentioned but that inflammatory action will be established for its removal.

The essential nature of inflammation is always the same—that is an accumulation of blood in the part. The process of inflammation will differ in degree and character depending on the nature of the injurious agent, the intensity of its action, the character of the tissue affected, and the individual affected. Examples of the different reactions of different tissues to the same occasions are common. A blow which would not affect the general surface of the body may easily produce serious results if it strikes the eye. Many substances that produce no perceptible irritation when applied to the skin produce intense irritation if dropped into the eye or taken into the mouth. Traumatic injuries produce less serious results in healthy, robust individuals than in the weak and ailing. A cut that at one time heals rapidly without suppuration, may under different conditions of the system, heal slowly and form pus. Cuts and bruises heal more readily in the young than in the aged.

Inflammation is roughly divided into acute and chronic. If the changes take place rapidly the inflammation is said to be acute. Its intensity will depend on the amount and character of the injury or the concentration and virulence of the irritant or poison, the length of time through which it acts and the condition or susceptibility of the individual. The stronger the irritant and the greater the reactive powers of the individual the more apparent will be the reaction. The healthier the individual, however, the less will be the time required to overcome the irritation or repair the injury.

Chronic inflammation is met with more often in old age rather than in the young; and is seen more often in the weak than in the strong. It is more complex than acute inflammation and presents more variations in single conditions. Its chronicity may be due to a number of conditions, such as the persistence of cause, (chronic "disease" is due to chronic provocation), imperfect healing, due to a depraved condition of the system, etc.

An example given by Dr. Tilden makes clear the relation of the systemic condition to healing:—

"Mothers of such children (sickly children) have no resistance, or very little, and their systems are kept at the saturation point—full of by-products seeking every opportunity for vicarious excretion. The following facts are worthy of the reader's most careful attention : If these mothers suffer laceration at childbirth, an accident they can't well avoid, because the children are overweight, and their systemic perversion renders their tissues unyielding, the tear will not heal. Instead of closing up or healing over, the raw surface drops down into a low grade granular inflammation, which is called catarrh, or catarrhal inflammation.

"When a physician examines a case of this kind a few months after childbirth he will find a tear, not necessarily large; the edges will be thick and granular, and for some distance back, in what was once normal tissue, there is infiltration, causing thickening and induration; the parts are several times larger than normal, and the catarrhal inflammation extends through the neck into the womb. This disease is what is called endocervicitis (inflammation of the lining membrane of the neck and body of the womb). Why did the tear in the neck and the bruise in the uterus not heal? This is exactly what should and would have taken place if the woman had been normal, but she was not normal; her body was charged with waste products, so that the plastic material thrown out for healing these wounds was of such low grade, and the tissues were so devitalized, that healing could not take place. When such a state of the fluids and solids as this obtains healing is very slow, if it takes place at all, and when it does not all such raw, denuded surfaces are utilized as **portals of exit**, rather than portals of entry. This is contrary to current and general professional opinion."

A chronic inflammation may be nothing more than an almost continuous series of acute inflammations. Repair in such cases, is continuously less perfect.

Where the irritant is mild, or if it is powerful but introduced in minute quantities over a long period of time, much connective tissue is formed at the site of irritation. This is seen in cirrhosis of the liver, hardening (sclerosis) of the arteries and in the so-called "replacement" fibrosis of nerve degeneration. In such cases, it appears that the poison is incompatible with the life of the higher cells so that these are destroyed and their places filled by tissue of lower grade but more resistant qualities.

No alarm is commonly felt when inflammation is placid and effective; but when it rises to a fierceness equal to the extent of the

mischief it is intended to overcome, it is both feared and fought against as the enemy of life, while the real mischief maker is too often ignored.

Jennings remarked that: "Inflammatory heat never rises high enough to do positive harm. (He is here combatting the suggestion that cold water be applied to the inflamed area.—Author.) It is not the **cause** of the distress or any other accompanying symptom, but a concomitant effect (and an actual necessity to the rapid work of repair that is going on—author) with them of a common occasion, which will remove when the occasion removes."—**Philosophy of Human Life**, p. 167.

The violence of the inflammation depends on the extent and nature of the injury or poison, the purity or foulness of the blood and lymph and the reactive powers of the individual. It is well known that wounds heal more quickly and with less inflammation in those of pure blood than in those of foul blood. There is also far less likelihood of suppuration in the individual of pure blood. Healing, ultimately, is more perfect and satisfactory. Broken bones, too, heal more quickly in those of pure blood. It has long been known to surgeons that vegetarians recover from wounds and operations much more quickly and satisfactorily than meat eaters. Indians, living outdoors, their nude bodies exposed to the direct rays of the sun, recover from wounds with remarkable rapidity.

Dr. Jennings observed: "It is common for physicians to estimate the danger in inflammatory affections, by the degree of violence or force of inflammatory action, and hence they are solicitous to keep down the action to obviate the danger. Now admitting, for argument's sake, that the danger in these affections lies somewhere in the **symptoms**, it is still far from being true that the danger is to be measured by the degree of violence or strength of inflammatory action; for it is not uncommon to see pure inflammation of any and every part of the system, susceptible of such action, run very high, and yet terminate kindly by what physicians term resolution; while other cases, with little pure inflammatory action, often end in effusion of water, producing dropsies; in exudation of lymph, causing adhesions of contiguous surfaces; thickening of the lens, or other opacity of the eye, occasioning partial or complete blindness; in schirrus, or induration, of gland; or in mortification. From these facts it is obvious that if deranged action in general produces the evils that follow such action, the evils that follow inflammatory action are not attributable to that action according to the amount of pure inflammation, or excessive action, but considerably, if not principally, to some other circumstances connected with it.

"These remarks are made in reference to spontaneous inflammation, or such as arise from remote causes, where an interval of time has intervened, sufficient to allow the animal economy an opportunity to accommodate parts that have been injured, to the unavoidable changes through which they must pass immediately by surgical operations, blows, and other injuries."—**Philosophy of Human Life**, p. 72. Evils that follow inflammation are not to be attributed to the inflammation, but to the thing that occasioned the inflammation. The impairment in a lung that has been wounded is not to be attributed to the inflammation that healed it, but to the thing that caused the wound. The evils that follow vaccination are not to be attributed to the inflammatory process by which the body resists and casts off the septic matter, but to the pus with which the physician infects his victim.

The terminations of inflammation are (1) regeneration or resolution, (2) repair by scar tissue, and (3) suppuration followed by granulation.

Granulation, the formation of granules, is a process of healing (tissue repair), by which broken tissue is re-united.

Resolution is the subsidence of inflammation after repairs have been made and offenses removed. Pneumonia, pleurisy and arthritis each offer excellent examples of this. In each of these there are exudation products to be removed and disposed of. In the former the exudate is in the lungs and pleural cavity. In the latter, in the joint cavity. The exudate or serum is rapidly absorbed and removed. In the so-called second or Hepatization stage of pneumonia, the exudate in the lungs becomes more or less solidified, forming a liver-like consistency. In the so-called third stage, or that of Resolution, the exudate normally undergoes liquification and absorption. This is the return to health. If the body is unable, due to weakness or suppression, to liquify and absorb the exudate this undergoes destructive changes, producing chronic pneumonia, gangrene, abscess or death.

Repair by Scar Tissue is healing by second intention or union by granulation and occurs when there is an abscess or wound, the edges of which are far apart and there is a large amount of exudate present.

Suppuration, which is the process of casting away toxins, foreign bodies and broken down flesh and blood, occurs when there are poisons, as in vaccination, or an inert body or sliver, to be removed, or when drainage is blocked so that the exudate becomes foul, or, when the blood is foul as when gastro-intestinal putrefaction and fermentation fill the blood with putrescence. Ulceration is simply a chronic suppurating process upon a free surface. Suppuration is followed by granulation which is healing.

An abscess occurs when the inflammatory area is walled off. It is a circumscribed cavity containing pus. Suppuration begins at the center of irritant action and extends to the surrounding uninvolved tissues. The extension follows the line of least resistance, until the abscess points ("comes to a head") at some surface. The overlying tissue is thinned and liquified and spontaneous evacuation of the abscess occurs. The fibro-elastic layer forming its walls are now supplied with blood vessels, the walls are converted into granulation tissue and, beginning at the bottom, this granulation tissue fills up the cavity. This is healing.

Medical pathologists tell us that inflammation may also end in gangrene or necrosis. We have previously distinguished between these destructive results of poisoning and mechanical obstruction and the constructive and protective work of inflammation. We do not consider gangrene and necrosis as endings of inflammation, nor as forming any part of inflammation.

Gangrene is the death of a tissue followed by its putrefaction while it is yet in the body. **Necrosis** is the same process confined to the bones—is the death of bone tissues.

The condition is considered to be due to (1) such great devitalization of the cells that they are unable to assimilate nutriment; and (2) circulatory impairment or blockage so that the tissues do not receive sufficient nutriment. One or both of these conditions may result in gangrene or necrosis. Various kinds of gangrene are named, depending on the conditions causing it. These distinctions are unimportant. Dry gangrene occurs where the arteries become blocked but the veins remain open so that the tissues are drained. Moist gangrene occurs where arteries and veins are blocked. In the first the tissues become dry, hard and shriveled. Sepsis is absent. A line of demarcation or ulceration forms at the expense of the dead tissue. It does not spread. In the second the parts are purple, or greenish and become covered with blisters. The adjacent tissues undergo

an inflammatory reaction. Symptoms of toxemia with fever are present. A line of demarcation or ulceration forms at the expense of the living tissue.

The really vital or physical acts associated with gangrene or necrosis, which are the results of inflammation, are the formation of the line of demarcation between the dead and the living tissue, sealing of the blood vessels, building up a defense against absorption, the sloughing off of the gangrenous section or the encasing and final elimination of the necrosed bone, and ultimate granulation or cicatrization, which is healing. The ultimate end of all true inflammation is healing. Any other supposed ending is due to other factors and not to inflammation.

All schools of "healing," past and present, have agreed to call inflammation **disease**. They have divided it into classes, orders, genera and species. Thus we have, apparently, many inflammatory "diseases." All of this confusion grew out of ignorance of the true nature and character of inflammation and the failure to recognize its essential unity.

Medical pathologists have summed up the characteristics and concomitants of inflammation; all of the consequences to the system from chemical and mechanical agents, when the inflammation fails or only partially succeeds of its object, and given the mass a single name.

The term inflammation is forced to cover too wide a range of factors. The constructive work of inflammation and the destructive work of toxins and germs are all falsely included under the term inflammation. The process of healing of a wound and the suppuration of the wound that is not healing are both considered parts of inflammation. The gradual inflammatory enlargement of a part and its destruction and discharge are both charged to inflammation. The death of a piece of bone and the formation of its substitute, the successful reunion of a broken bone and the suppurative arrest and undoing of the callous, all are declared to be the results of inflammation.

The confounding of inflammation and gangrene or the proposition that one is a part of the other long stood in the way of a proper recognition of the true office of inflammation.

Medical pathologists, failing to perceive that one series of phenomena—inflammation, suppuration, granulation and resolution—is the work of the vital force, and the other series of phenomena—tissue destruction and gangrene—are the results of poisons and trauma, link all of these together and call them all different results of inflammation.

It is wrong to attribute the repair and destruction both to inflammation. The building of new tissue is one kind of process—a vital act—the destruction of tissue is another kind of process—an anti-vital act. Whatever destroys tissue is opposed to whatever builds tissue. As inflammation consists in a local increase of blood, it is a vital act and, as such, is distinct from and opposed to those agents that produce pus, tissue destruction, etc. The notion that "high grades of inflammation" cause suppuration, ulceration, gangrene, etc., is erroneous. The contrary is the truth; these things are occasioned by powerful influences that the fierce inflammatory processes are intended to meet.

Suppuration is the formation and the casting off of pus, together with foreign bodies and toxins. It is no part of inflammation. The pus results from the destruction of tissue which, in turn, is caused by the presence of toxins. The pus formation, in the operation of removing toxins or foreign bodies from the flesh, is a defensive measure. It is super-added to but is no essential part of inflammation. All that is connected with destruction of tissue in inflammation must be attributed to poisons and mechanical obstruction of circulation.

There are changes in the character or composition of the blood and lymph in inflammation. Those vital changes such as the formation of coagulable lymph, increase in white cells, etc., are important parts of inflammation. Death and degeneration of the blood are due to toxins or injury and are not parts of inflammation.

We read of simple inflammation and other types of inflammation. There is no other inflammation than simple inflammation. Sometimes inflammation is referred to as healthy and at other times as unhealthy or destructive. There is no other kind of inflammation except the healthy kind. There is only one kind of inflammation. Inflammation is a process that arises out of purely physiological responses to needs and progresses and declines under the natural (or physiological) laws of the constitution. All that is sometimes associated with inflammation, as destruction of tissues and gangrene, are no true parts of inflammation, but are due to the toxins, irritants, etc., against which the inflammation is directed. As well blame inflammation for the tissue destruction caused by a bullet as to hold it responsible for the tissue destruction caused by toxins. To blame inflammation for the evils it is intended to prevent and for the results of suppressive treatment is to forever deceive.

Among medical pathologists different types of inflammation are described by their most prominent features, as follows:—

Catarrhal or Mucous Inflammation or catarrh occurs on mucous surfaces in all parts of the body that are lined with this membrane, as in bronchitis, coryza, diarrhea, gastritis, etc. Accompanying inflammation of this type there is increased secretion of mucous of an altered character.

Fibrinous (Croupous) Inflammation develops particularly on the serous surfaces of the body. It is seen in peritonitis and sometimes in severe erysipelas. It sometimes occurs in the larynx and bronchi and in such acute "diseases" as smallpox, typhoid, pyemia, and in the lungs in pneumonia. This form is characterized by a thick deposit of fibrin on the inflamed part.

Diphtheritic Inflammation is a more severe form of the preceding variety. In addition to the fibrinous deposit there is necrosis (death) of the mucous membrane. This is seen in diphtheria, and in typhoid.

Serous Inflammation is inflammation of the serous membranes of the body and is marked by an effusion of serous fluid into the tissues and cavities, as in inflammation of the joints, or of the pleura or peritoneum.

Purulent Inflammation is inflammation accompanied with the formation of pus. It is seen in septic infections, as in vaccination, while in foul conditions of the system, simple inflammations anywhere may become purulent.

The above forms of inflammation may be combined as sero-purulent, mucopurulent, sero-fibrinous inflammations, etc.

Parenchymalous Inflammation is the term applied to inflammation of the functioning cells of an organ as in parenchymatous nephritis. This is accompanied with more or less destruction of the active cells of the organ.

Interstitial Inflammation is the term employed to designate inflammation of the supporting framework of the inflamed organ, as in interstitial nephritis. Repeated "attacks" of this kind result in an overgrowth of connective tissue in an organ resulting in cirrhosis, fibrosis, or induration.

It is well to note that the cardinal symptoms of inflammation and the essential changes and activities which occur in the blood vessels and tissues involved are the same in all these varieties of inflammation. The process and purpose of inflammation is the same in each variety. The

essential nature of inflammation remains unchanged. The distinguishing characteristics of the different varieties are largely those of degree and of the structures involved. Thus, mucous inflammation is inflammation in a mucous membrane while serous inflammation is inflammation of a serous membrane. The structure involved determines the type of exudate.

Likewise the degree of the inflammation and the condition of the system determine the differences in the exudate. Diphtheritic inflammation is simply a greater degree of fibrinous inflammation. The necrosis is due to the severity of the condition—to the virulence of the toxins occasioning it. The character and extent of the occasion also aids in determining the type. Purulent inflammation is a breaking down of tissue for the removal of infectious matter or foreign bodies. **Inflammation in whatever part of the body it is located and whatever its occasion is essentially a unit.**

The inability of pathologists to discover any definite physiological or pathological distinctions between different occasions of inflammation, has caused medical men to name it according to its localities, as ossitis, enteritis, bronchitis, bursitis, duodenitis, ileitis, jejunitis, colitis, proctitis, metritis, cystitis, pharyngitis, laryngitis, trachitis, etc., throughout every tissue and organ of the body.

It should be quite obvious, to all but the most careless thinker, that the character of inflammation is not changed by the mere fact that it is located at different parts of the body. The different symptoms produced in different locations do not arise out of differences in the character of the inflammation, but out of the differences in the tissue or organ involved—all of the differences are explained by reference to the structure and functions of the various tissues.

The suffix "itis," signifying inflammation, is affixed to the name of an organ or tissue and the word thus formed becomes the name of a **disease**. Pleuritis is inflammation of the pleura, peritonitis is inflammation of the peritoneum, synovitis is inflammation of the synovial membrane of a joint, phrenitis is inflammation of the brain, tonsillitis is inflammation of the tonsils, etc., etc. However, since there is no difference in inflammation, whatever its location, and, since these names only denote location, it is absurd to consider each location of inflammation as a **disease**.

Not content with naming inflammation of each organ, or of each general tissue—nervous, muscular osseous, glandular, serous, mucous, etc.,—a different and distinct, or specific "disease," they divide these into small localities and name inflammation in each as a special disease. Lining the entire respiratory and digestive tracts is one continuous mucous membrane, but inflammation at any given locality in this membrane is a separate "disease." It is even worse than this—inflammation of different tissues in the same organ receives different names and become different "diseases." Sciatica and neuritis and neuralgia, are familiar examples of this. The eye alone may have several different inflammatory "diseases." This produces too many "diseases"—they do not have enough germs to go around and are forced to create whole catalogues of ultra-microscopic germs to help them out.

While most medical men of the present recognize, theoretically, the constructive character of inflammation, they still work diligently to discover or devise some artificial means or process by which they may "control" or suppress it. Antiphlogistics are still in use. For, in their ignorance, they still insist that inflammation is "disease."

When the true nature and purpose of inflammation is understood it is easily seen that it should not be treated or suppressed. If ever there is a time when partial suppression is justifiable, it is only when it is located in

a hollow organ when it threatens to obstruct the organ and result in worse damage than will result from its partial suppression.

Cold applications (cold packs, ice bags) are usually preferred as agents with which to reduce inflammation. These "act" by occasioning a contraction of the blood vessels and forcing blood out of the inflamed area. The ice bag greatly devitalizes the tissues and reduces their resistance to infection.

Hot applications are frequently employed if the inflammation is internal. These reduce inflammation by producing a change in the blood supply to the organ over which they are placed, through the reflex nerve relation existing between the skin and the organ under it.

So-called counter-irritants, rubefacients, epispastics (blisters), and caustics, are used to produce the same internal reactions that hot applications produce. Friction and cupping are employed for this same purpose. Ammonia, chloroform, turpentine, camphor, menthol, capsicum, mustard, silver nitrate, chromium trioxide, pyrogallol copper sulphate, oil of peppermint, thymol and "the official clay poultice" **antiphlogistine**, are among the drugs employed to suppress inflammation. All of them have their local destructive action as well as their suppressive effects.

We get sick and we either live or die. The doctors of all schools can help us die. But the doctors of no school can help us live. The sick man, woman or child fights a lone battle in "disease" and succeeds or fails without aid, but usually with much interference.

The most trying ordeal through which the author ever passed was that of standing by the bedside of a dying baby while listening to the distracted mother implore him to save her child. No doctor can save a patient. The patient is able to save himself or he is not. If he is not, he dies. Only in rare cases, where surgery may remove a deadly secondary cause, is outside effort of aid. There may even be doubts about this kind of aid.

Every "disease" is a curative process, but not all "diseases" are devoid of danger. One of the things inflammation does is to cripple or suspend the special functions' of the inflamed parts. The process is protective, curative, first, last and all the time, but its location is often an element of grave danger. Inflammation of the brain or spinal cord may involve certain vital centers to such an extent that some vital function is suspended. The respiratory center may be involved and respiration suspended. Death follows. The cardiac center may be involved and heart action suspended. Death results. A bee sting on the eye lid closes the eye but is of no serious consequence. In a day or two the inflammation is gone and the eye opens. A bee sting on the glottis would quickly close the air passage, with no more inflammation than that which the sting causes on the eye lid, and the victim would die of suffocation. Not the nature and extent of the inflammation, but its location is the measure of its gravity. Bees do not sting the glottis but worse things than a bee sting may happen to it.

Inflammation of the heart may become so great that heart action ceases. Inflammation of the lungs may become so great that respiration ceases, or, the lungs may fill up with exudate. In diphtheria or membranous croup, the false membrane may extend down into the bronchial tube and cut off breathing. Inflammation of the kidneys may become so great as to suspend the function of these and death from uremic poisoning result. In all this the inflammation is a curative process but accidentally located in a place that makes it a potential danger to life.

There is always danger in inflammation of the lungs of aged persons whose lungs are perhaps greatly weakened, or are very faulty in spots.

This is the reason absolute rest and quiet are so essential in pneumonia. Getting out of bed too soon may result in death. There is also danger to these people when inflammation develops in any of the vital organs that may be structurally unsound. Even in young people there may be unsound organs that may break under the strain.

Inflammation must develop where it is needed—whether in the hand or eyes, the lungs or brain, the heart or kidneys. It must become as great as the necessities of the case demand. Nature always tries to localize inflammation. She usually succeeds. Failure is due to feeding and drugging usually. All feeding should be stopped at the outset of any trouble. A few days of feeding when the trouble is only mild may be enough to cause death. Life is too precious to throw away for a few unwanted, unneeded and unenjoyable meals.

The Rationale Of Crises

Chapter V

A crisis may be defined as a vigorous effort of the body to free itself of toxins, either through some of the normal outlets of the body—bowels, kidneys,—; or through some compensatory channel. Crises are temporary acute biogonies lasting usually only a few hours to two or three days. The doctrine of crisis is as old as Hippocrates. Crises frequently occur in acute "diseases" and are recognized as such by the regular school.

Of boils in acute "diseases," Dr. Shew said, **Hydropathic Family Physician**, p. 49:—"A crop of boils is not unfrequently one of the consequences of fever*** These are, doubtless, beneficial in their effects, although they have been looked upon in a different light. Patients generally who get boils in abundance do well in the end." Again, on pages 50 and 51 he says: "We sometimes see fever end in what is called a critical way. The ancients were much in the habit of looking for critical symptoms, as they were called. Such do certainly take place in some eases. There may be a discharge of blood either from the nostrils or bowels; or there may be purging or sweating just as the disease is about to break up and leave the system. Dr. Gregory knew a case of fever to terminate by a great discharge of healthy urine. Andral knew a fever to end in a profuse expectoration, and another case with an alternation of sweating and expectoration. The formation of boils has in some cases appeared to be connected with a favorable issue of the disease."

It should not be lost sight of that the toxins eliminated through boils are in addition to those that go out through the regular channels. We should keep in mind also that the amount of toxins necessary to cause trouble is not great. Only a drop of some toxins is enough to kill. The amount of opium, for example, that is daily eliminated by the habitual user is enough if taken by the non-user, to kill him quickly.

Dr. Jennings records a case of pneumonia that at the end of two weeks appeared nearing recovery when a diarrhea developed. This was followed by more improvement when night-sweats developed. To the father's anxious inquiry about what he was going to do with the night sweats, he replied: "I am going to let him sweat it out." This he did and the patient went steadily forward to health. Under hygienic care aggressive biogonies are usually terminated by mild, yet effectual functional efforts of all the excretory organs, unattended by any great commotion in the organism, or any strong determination to any one emunctory.

With passive biogonies the case is different. When these are left to nature they are frequently resolved by some external abscess. Many cases do end without any development which may be properly termed a crisis, while others recover only after the repeated development of active biogonies which are more or less severe and which are properly called crises. Dr. Trall says of crises: "The most common forms in which crises, or critical efforts, present themselves are diarrhea, boils, and general feverishness. Boils present all manner of appearances from the hard diffuse, inflammatory swelling, with scarcely any supporting point, to the deep, fully-matured, sub-cutaneous abscess; there may be one or several at the same time, or they may succeed each other for weeks or months, and be very painful, or scarcely troublesome. Those of full habit, sanguine

temperament, and active external circulation, are most subject to boils and eruptions."

"Diarrheas, when critical, come on without any accidental or unusual exposure or dietetic error, and continue with greater or less severity from three days to two weeks. There is not usually much pain, gripping, or distress of any kind in the bowels, but the evacuations are thin, watery, and frequent; generally there are from three to six or eight motions in twenty-four hours. In persons who have been most subject to piles the motions will be most frequent, and attended with considerable bearing down or dragging sensation about the lower bowel, and the discharge will exhibit a great amount of mucous or slimy matter, often intermixed with blood. A critical looseness of the bowels is not attended with debility like ordinary diarrhea; if long continued, there is of course some degree of languor. Those who have long labored under derangements of the digestive organs, and particularly those with torpid livers and constipated bowels more especially, if these conditions are complicated with pale, yellow, bloodless skin, and shrivelled, superficial capillary vessels, are most liable to critical evacuations by the bowels; and, as far as my observation extends, they are invariably beneficial, always being succeeded by a decided sense of improvement in the patient's entire physiological condition.

"The term 'feverishness', does not very well express the other common form of critical action, but I know of no better one to employ. It is characterized by more or less of the symptoms which attend an attack of simple fever, but they appear in a more disguised and irregular form. There is chilliness and heat, languor, depression, backache, headache, general restlessness, great sensitiveness to cold, etc., etc., but unlike the same symptoms in a paroxysm of simple fever, they do not follow each other in the order of the cold, hot and sweating stages. This febrile disturbance continues from one day to a week, when, unless aggravated by improper treatment, the body recovers its balance of action and feeling, and the patient feels himself advanced at least one step on the road to health. Other manifestations of critical disturbances, as eruptions, rashes, free evacuation of bile. etc., stiffness of muscles, joints, fetid perspirations, do occur, but require no special management."

Boils and skin eruptions are especially likely to occur in those who change from the conventional death dealing diet to a sensible mode of eating. Boils often come out in crops and may last for weeks. However, their appearance is always beneficial to the health of the individual. The case of a former patient of the author's will serve to illustrate this nicely. Mrs. H of New York City was paralyzed from her waist to her knees. There was no power of motion in any part of the paralyzed regions. Medical physicians had told her that she would always be paralyzed. In addition to the paralysis there were severe pains in the back.

Abandoning medical treatment after her physicians had pronounced her case hopeless she resorted to natural methods. Her condition forced her to rest. A change of diet was all that was done. After a few weeks a large boil developed on her back. This was followed by others until there were thirteen in all, one appearing as the other was "cured." With the appearance of each boil there was an immediate and marked improvement in her condition. With the appearance of the first boil she became able to move her thighs. Three boils enabled her to walk. By the time the thirteenth appeared she was walking as well as ever and has not had a return of her trouble. At this writing she has been well for nearly fourteen years.

In this connection a statement made by Dr. Trall is of interest. He says: "Critical efforts attempt to perform a threefold duty: Eliminate morbid matters, balance the circulation of the blood, and equalize the distribution of nervous energy. This latter duty is too generally overlooked. Some authors write as though all the good effect by a crisis, a boil, for example, was the riddance of a specific quantity of morbid material; but this is a very narrow view of the subject: that is indeed one, but the least of the remedial effects accomplished. The amount of morbid matter deterged from an extraordinary boil in a week would not; equal the ordinary daily elimination of morbid matter from the skin and kidneys. The greatest effect, therefore is the restoration of some efficient vital action, the better radiation of vital power from the presiding center of organic life."

There is probably much truth in this theory of his for improved circulation and freer distribution of nervous energy do follow crises.

Indeed some crises are attended with nervous symptoms that indicate changes going on in the nervous system. The above case is to the point. The following case points to the same thing. A patient of the author's, a woman aged 56, had a place at the base of her spine about the size of a man's hand in which there was no sensation (anesthesia). She described it as being "dead." Pins could be stuck into it or it could be cut or bruised, but there was no pain or feeling. This condition had persisted for ten years. After two weeks under my directions she called me on the phone and excitedly explained that she was suffering with pains in the "dead spot." I said "good." "Doctor," she replied, "I am serious, I am not joking." "Neither am I joking," I replied, "I too, am serious. When the pain ceases, sensation will again be normal in that area." She desired to know what she could do to relieve the pain. I instructed her not to relieve it but to let it alone. Two days later when she called at my office she joyfully described how the pain did not last long and that the "dead spot" was now normal again. Sensation was normal. Here was evidently a change in the nerves and in nervous distribution.

Crises are mild biogonies; that is they represent acute reactions against morbid influences, and are commonly named as "diseases." They differ in no essential from the more vigorous and protracted aggressive biogonies.

For convenience, crises may be divided into two classes—namely (1) aggressive crises, and (2) defensive crises. The use of these terms is somewhat arbitrary, as they are both aggressive reactions against toxins, are essential ones. The aggressive crises occur when the vital powers are strong and voluntarily start a housecleaning when there may be no immediate danger to life. Such crises are likely to develop during the process of recovery from chronic biogonies while under hygienic care. The defensive crises develop under conditions in which the toxic saturation and pathogenic influences are great enough to constitute an immediate danger to life. The organism is compelled to fight back. The tendency in both instances is towards recovery.

There are no acute reactions against tolerated toxins whether decomposition products, metabolites, tobacco, alcohol, opium, epsom salts, or other poisons. Biogonies occur only when the toxin saturation rises above the toleration point. These last until the toxins have been reduced to the toleration point, then subside spontaneously. The toleration point varies with the individual and with the varying conditions of the individual.

In every passive biogony the periodic return of crises is very common. These may take the form of boils, eruptions, diarrhea, sweatings, mucous and bloody discharges, discharge of highly colored urine, feverishness, etc. Under natural living conditions, where enervating influences are removed and the organism is gradually strengthened, the body, not infrequently, arouses itself to acute eliminating efforts or crises. This reaction point varies with the individual and with the varying conditions of the individual. The greater the amount of vitality one possesses, the less morbid matter will his system tolerate, and as the vitality of one with passive biogony is gradually raised, his toleration point also rises so that crises occur.

Crises may come on without any accidental or unusual exposure or gross dietetic error, etc., or they may be incited by such external factors. If the former, the living power, arouses itself against the pathogenic influence for the same reason and in the same way it arouses itself following the exposure to external factors. In the latter case the external factors are to be regarded as the straw that breaks the camel's back and forces a reaction against the pathogenic influence, while the crisis of "disease," which occur without the influence of the final straw, has been made necessary by conditions in the organism that have reached the breaking point.

Crises develop in keeping with the diathetic tendencies of the individual. This is the explanation of the fact that aggressive biogonies, or "healing crises," as some prefer to term them, often develop in the same form and at the same location of some previously suppressed acute biogony. This phenomenon was called "retracing" by Dr. Reinhold, using the figure of a well that had been filled up with debris, over a period of years and was being cleaned out. In cleaning the well out the various layers of debris are removed in inverse order to their deposition. There may be some truth in the theory of retracing.

Dr. Jennings' explanation of the matter is a little different. He used to refer to those with "acute disease" as having been "suddenly laid aside for repairing purposes" and connected with this both in acute and chronic "disease" what he called a "rotary renovating operation," and which he declared is "constantly going forward among the numerous organs of the body while in an imperfect state." The idea back of this was that in an enervated body all parts could not be maintained in perfect repair at all times so nature repaired the organs one or two at a time, always concentrating her energies upon those organs that were most in need of repairs. He said:—

"The rotary tendency or alternating law of the animal economy, for the government of pathological movements, under a complication of ills, may readily be observed and learned by anyone who is subject to a variety of complaints of any kind. At one time he may have a headache, toothache, or nose bleed; or another, 'crick of the back,' or lameness of a shoulder, hip or some other joint or joints, or in some muscle or muscles; or a cold, asthma, eruption or some pathological embarrassment to which he is liable and which will be passed through a cancelling process in regular order, if not injudiciously interfered with. Heavy general fits of sickness are sometimes immediately preceded or ushered in by other affections; and sometimes, too, closed by them. Physicians speak of diseases coming in under the mask of other diseases. The Orthopathic philosophy of this is easy. In some cases where the system is laboring under a serious complication of injuries, before an essential tissue or group of organs that have been badly damaged, can be safely and conveniently

put under a renovating operation, some other part must be improved in its condition. Smallpox and other heavy exanthematous diseases, are sometimes apt to be preceded by fits, particularly in children. Physicians also speak of critical termination of disease, and some practitioners try to bring on the condition that they have known or heard of being the closing part of a disease, as if this would be a cure for the whole malady. The affections that mark the winding up of general curative efforts are numerous, such as eruptions, diarrhea, small spontaneous bleedings, as a few drops of blood from the nose, sweating, gaping, etc. Yawning, or gaping, is a common token of amendment. No one that is hard sick ever gapes until there is a change for the better in the specific disease through which he is then passing."—**Philosophy of Human Life**, pp. 147-8.

In his idea of the "rotary tendency or alternating law of the animal economy" may be found the germ of the idea that crises develop periodically according to the septeminal law or law of sevens. Dr. Henry Lindlahr, who did so much to popularize this thought, explains it as follows: "When a chronic patient, whose chances of cure are good, is placed under proper (natural) conditions of living and of treatment he will, as a rule, experience five weeks of marked improvement.

"The sixth week, if conditions are favorable, usually marks the beginning of acute reactions or healing crises."

The seventh period is then a period of adjustment, reconstruction, recuperation and rest, and the beginning of a new cycle of sevens. This is a highly fanciful theory with much plausibility but is not borne out in my experience.

There is a rhythmic ebb, and flow of the forces of life. This can be seen in the acutely ill, the chronically sick and in the conventionally healthy. But we cannot prove that this ebb and flow follows any septeminal law, or law of sevens.

There is much difference of opinion about the necessity of crises in the recovery from chronic "disease." Some authorities maintain that complete recovery from chronic conditions can be accomplished only through crises. Dr. Trall wrote in his **Hydropathic Encyclopedia**, Vol. 2, p. 62:—"It is perfectly certain that many bad cases of chronic diseases are cured without any appearance of crises whatever; it is equally certain, in my judgement, that some few cases are utterly incurable without the production of a decided crisis—and I am fully convinced that in many cases crises are rendered unnecessarily and even dangerously severe by excessive or injudicious treatment."

At a much later date he wrote: "Some practitioners seem to regard that violent disturbance, which they call a 'powerful crisis,' as indispensable to a radical cure. It is a most mischievous doctrine. Crises may occur under a most judicious treatment and are then always beneficial; but when provoked or aggravated by too cold bathing, or by excessive water-drinking, or by exhausting exercise, they are pernicious."—**Nervous Debility**.

Dr. Tilden says that while crises are very common during the process of recovery from chronic conditions, these are not absolutely essential to recovery in every case. Even Dr. Lindlahr finally admitted that many do recover without marked crises.

It is the author's opinion that crises are often forced by harsh treatment. In those institutions where the idea seems to prevail that the more the body is tortured the quicker it will recover, it is no uncommon thing for a patient of low resistance to be kept in a cold bath for long periods, or to be given such baths too frequently. Or, patients are forced to

stay in the scorching sun until their bodies are blistered from head to foot. There is as much reason why an enervating plan of treatment will force a defensive crisis as there is that any other pathogenic influence will do so. Such treatments may easily force a reaction or crisis. Again, I am convinced that in many cases, a prolonged fast can be made to accomplish the work of crises, although I am aware that crises often develop during a fast.

Medical men have objected that by the use of drugs they produce crises—such for instance, as vomiting, diarrhea, etc. They ask, then, why we do not accept the drug induced crises. There are several good reasons why we do not accept such crises. The critical action, in such cases, is directed against the drug, not against the cause of the original cause of pathology. The critical action represents only the primary and not the secondary effect of the drug. The secondary and lasting effect, of the drug is worse trouble. Lastly, the drug induced action does not secure the desired elimination of toxins. Dr. Lindlahr has well expressed this fact as follows: "Such enforced artificial purging may flush the drains and sewers but does not cleanse the inner chambers of the house. The cells in the interior tissues remain encumbered with morbid matter. A genuine and truly effective house-cleaning must start in the cells and must be brought about through the initiative of the vital energies in the organism, through healing crises and not through stimulation by poisonous irritants.

"When, under a natural regimen of living and of treatment, the system has been sufficiently purified, adjusted and vivified the cells themselves begin the work of elimination."

What Dr. Lindlahr and most so-called natural therapists, or naturopaths, do not understand, is that crises forced by hot and cold baths, packs, water drinking, enemas, manipulations, electricity, and other methods and modalities of mis-called natural treatment, are no more desirable or beneficial than drug induced ones. They represent reactions against toxin saturation brought on by the enervating effects of such treatments. There are no natural therapeutics in the sense in which these men employ the term, while drugs, vaccines and serums are as natural as electricity, heat and cold, etc.

Self - Limited Diseases

Chapter VI

Medical men say that most if not all acute "diseases" are self-limited. They explain this term to mean that the "disease" persists until the body cures itself by forming a sufficiency of immune substances. Man gets well when his body has manufactured enough antitoxin to counteract the bacterial toxins that are held to be responsible for the "disease". It is generally admitted by medical men that they have no treatment that will cure pneumonia, or which will shorten its course by one day. But they say it is self-limited. Typhoid fever is said to be a self-limited "disease" but "there is scarcely an acute disease in which relapses are so common." (Emerson). Four or five relapses may occur and prolong the "disease" for six months. Diphtheria is a self-limited "disease". The person sick with this "disease" is said to get well as soon as "enough antitoxin has been manufactured."

If this theory is a correct one, the question remains to be answered: Why do relapses occur? If enough "immune substances" have been produced to cure the "disease", and the patient is convalescing, how does he relapse? Does he suddenly lose his "immune substances"? Is he suddenly invaded by an army of germ recruits that call for more antitoxin than he possesses? If either of these latter are correct answers, how may man be assured immunity to disease by manufacturing antitoxins or by being inoculated with animal "antitoxins"—serum and pus? If the man who has had a "disease" is unable to manufacture or retain enough "immune substances" to protect him, how is the well man to be protected?

But it is in only a few "diseases" that these "immune substances" are held to establish immunity. Even in these, two or more "attacks" are more frequent than is commonly supposed. Cases of men having had smallpox five different times are on record. One may have typhoid more than once. Pneumonia may be had many times. Colds are frequent. Tonsillitis is equally so. Influenza may also be had many times. So with acute rheumatism and this may even become chronic. This list might easily be greatly enlarged and extended to include all acute "diseases."

Colds and tonsillitis, both of them self-limited, may follow one "attack" after another for a whole year or more. Then, should they cease, from whatever cause, it is assumed that immunity has been established.

This theory, it is not proven and is, therefore, only a theory, does not satisfy a reasoning mind. We are willing to recognize the so-called self-limiting nature of acute "diseases," but must reject the medical explanation. So far as I am aware, none of the drugless schools attempt to explain the fact.

This theory assumes at the outset that acute "disease" is caused by germs. It assumes that it is not caused by anything else. It ignores the detoxifying work of the liver, lymph glands, tonsils, etc., and the eliminating work of the kidneys, skin, bowels, lungs, etc., and assumes that cure can only result through the process of antitoxin manufacture. It is unable to build immunity upon a basis of health, but must secure it at the cost of "disease." In this it reverses the the whole order of nature and secures health and immunity to "disease" by employing the causes of "disease."

One other objection, and a powerful one, may be yet offered to this theory: it assumes that an acute "disease" say typhoid, runs a more or less definite length of time and that recovery is not possible before this time has expired. It attempts to "support" the body with stimulants, suppress the symptoms in various ways, and increase the body's "resistance" by heavy feeding. Now, as a matter of fact, no disease ever lasts nearly so long as it is supposed to, when cared for hygienically. Measles, lasts four to five days, scarlet fever three to four days, typhoid fever seven to eight, rarely fifteen days. Pneumonia quickly ends—often as early as the fifth day. And all this on a diametrically opposite plan of care.

No food is given to "increase resistance". No stimulants are administered to "sustain" the heart. No efforts are made to suppress or combat the symptoms. Under such a plan recoveries are more frequent, more rapid and uniform and more complete. Relapses are exceedingly rare, complications and sequelae seldom met with and the patient is better after than before he had the "disease".

Formerly medical men held that self-limited "diseases" have certain laws, rules, tendencies, or dispositions, in and of themselves, which dispose or impel them to "run a certain course", and then terminate spontaneously: that is, of their own accord.

In discussing the absurd notions entertained by Dr. Jacob Bigelow, of Boston, and others regarding what they termed self-limited disease, Trall declared: (**The Hygienic System**) "The theory of disease, which I advocate, and which, so far as I know, I was the first to entertain and advocate, disposes of self-limited diseases, and a hundred other vexed questions relating to the nature, forms, phenomena, and tendencies, of particular diseases, in a few words. Disease being itself remedial effort, all diseases are limited, in degree or severity, to the ability of the living system to make the remedial effort more or less vigorously; and in duration, to the time required, under the circumstances, for the system to rid itself of the impurities (the causes of disease), and to repair, as well as may be, the damages which have been occasioned by the presence of the impurities and the vital struggle to expel them."

A disease is "self-limited", said Jennings, "not by anything peculiar to the morbid condition of the part or parts affected, but by the extent of the lesion in the injured parts, and the amount of recuperative energy; just as the jobs of the mechanic are 'self-limited' by the quantity of work that is to be done in each job and the amount of force that can be appropriated for its accomplishment."—**Tree of Life**, p. 184.

Dr. Tilden declares: "That diseases are self-limited—that every definite or specific cause must have a definite or specific effect—there can be no question, and that there must be a limit to an effect is another fact. It is self-evident that every cause and every effect must be self-limited; it is really a platitude to make such a statement about anything pertaining to disease. If there is ever an excuse for a doubt to arise regarding the eternal fixity of this law of limitation, it must be in those diseases where there is a multiplicity of causes and some or all of them obscure, for it must not be forgotten that there is no such thing as a mono—or unitary—cause to be found in the whole field of medical nomenclature or nosology."—

Criticisms of the Practice of Medicine, Vol. 2, p. 243.

These three quotations all agree in one thing—namely, that "diseases" are limited because their causes are limited. There are no limitless causes—there can be no limitless effects. Jennings and Trall both agree that another factor enters to determine the limits of a disease—namely, that of the power of the body to throw off the cause and repair

damages. Not only are the causes of "disease" limited but the powers of the body are also limited. The more power there is in reserve the more intense or vigorous will be the symptoms of reaction and the sooner will the curative work be accomplished.

It is necessary, however, for us to fully understand what it is that is "self-limited." The axiom "all diseases tend to recovery" is badly over-worked, and by no school more than the so-called "regulars." The "diseases" which they so flippantly declare to be self-limited are simply crises of toxemic saturation. They do not know the cause of pathology; hence, they do not realize that in all this "self-recovery," in spite of cures, palliation and the "chief function of the physician is to guard against complications," there is really no recovery at all. The crisis acts merely like a safety-valve of an engine; it lowers the "pressure" for the time being; but unless the causes of the toxic super-saturation are removed there will be repeated crises, and the curing will have to be done over and over again.

The "diseases" that are said to be self-limited are crises of toxemia. When eliminative process reduces the toxemia to the toleration point, the disease is said to be cured. This is a false and superficial view of the matter. The causes of toxemia still remain, and crises will return and return until organic change takes place. The "organic disease" that results is not claimed to be self-limited.

The temporary duration of all acute "disease" actions may be said to be a rule of pathology. Coexisting with this is the fact that the intensity and degree of this action is, while it lasts, always within the limits of safety or, within the body's powers of endurance—for the reason that the power of the "disease" is also the power of life. The assertion made by medical men that the majority of "diseases" tend to get well is a very awkward and inaccurate statement which takes from vital activities the credit for recovery and attributes recovery to the cause of the "disease".

Acute "disease" is a temporary, an evanescent, state. It arises under those conditions as before explained, when unusual defensive action is required if life is to be preserved. The occasion or cause of "disease" removed or corrected, so that it is no longer operative, the organism quickly subsides into its usual tranquil state. This is to say, as soon as the body, by means of the "disease", has succeeded in freeing itself of danger, it returns to its normal state of ease and equilibrium.

In certain "diseases" there occur changes which, if permitted to remain, would endanger life. The organism possesses power to effect the removal and correction of these, and bring about a more or less completely natural condition in the parts. As an example, notice the retrograde changes that occur in the absorption of the exuded serum in the lungs, in pneumonia, and the restoration of normal circulation through the lungs. The limit of this condition is determined by the power of the body to remove it. The exudate is not self-limited.

If there is no necessity for a protracted "disease"—a prolonged renovating process—the vital forces can be driven into one only by care and treatment that produce such a necessity. If a cold is all that is required to cleanse the organism, a pneumonia, pleurisy, smallpox, or measles, etc., will not be developed. Only such "disease" manifestations are developed as are needed. What is more, once these operations have thoroughly completed their work, the body cannot be driven again through the same train of symptoms until the foundation is again laid for them. Relapses can come only when there has been suppression.

Where the powers of life are inadequate to the work of cure, or where the body's curative efforts are suppressed by treatment, death or chronic disease results. The acute process cannot be continued indefinitely. Accommodation and a subdued struggle against cause must occur, if death does not result before this can take place. Chronic "disease" is continuous because its cause is continuous—it is a protest against chronic provocation.

Biogony Not A Radical Cure

Chapter VII

The fact that so-called acute "disease" is a curative process is so revolutionary in its nature that its acceptance by the various schools of Heteropathic medicine would mean the complete destruction of all their laboriously constructed therapeutic systems. For this reason there has been much theoretical acceptance and practical dismissal of this great truth, such as has been accorded many other important principles which have been discovered and given to the world after much effort, cost and suffering by a few earnest workers.

Great as is this truth and revolutionary as is its nature, it is not the whole truth. When the whole truth is accepted] it will work an even greater revolution in practice than any save the purest Hygienists have ever visualized. Probably Dr. Jennings, himself, had the clearest vision of what this revolution would mean in practice.

The whole truth is that, while biogony is a curative process; it is not a radical or complete cure. It does not apply the axe to the root of the trouble, and it stops far short of complete elimination of the immediate occasion for the curative reaction.

The true nature and purpose of biogony has been made clear in a previous chapter. The nature and sources of the poisons against which biogony is directed will be made clear in a subsequent chapter. At this point it is desirable to understand why the curative process is not complete.

The whole process of the development, of biogony (acute "disease") and pathology (organic "disease") is similar to the results following the use of tobacco and a comparison of the two will help to make the whole matter clear.

Tobacco is one of the most poisonous plants in the whole vegetable kingdom. When taken into the undepraved organism, its presence is met with vital resistance for the purpose of expelling it. There follows in rapid succession a distressing dizziness, muscular relaxation, tremor, weakness, perhaps fever, nausea, vomiting, diarrhea and convulsions. The whole system appears to be thrown into disorder, yet through it all, law and order reign supreme, while every evidence of apparent disorder and chaos serves a definite purposive end. This aggregate of symptoms constitutes a biogony and is designed to free the organism of the tobacco poison.

Such a reaction always follows the introduction of tobacco into the undepraved organism; and the more vigorous and undepraved that organism, 'the more prompt an powerful will this reaction be.

By commencing a career of depravity, with cautiously measured steps, we may easily break down the body's resistance to the poison, and ultimately bring about a condition in which the body actually appears to call for and embrace its arch foe. The body may become so accustomed to <the deadliest poisons that these may be habitually taken, in considerable quantities, and only bring about an immediate feeling of apparent well-being.

The opium addict can take at one dose, enough opium to kill several non-users outright, but it produces no apparent immediate harm in him. Indeed, it appears to act beneficially, for when his damaged nerves come out from under the narcotizing influence of opium, their true condition is

revealed and the victim suffers great agony. He resorts to another dose of his arch enemy to re-narcotize his nerves and silence their outcries. His suffering makes him a slave to the very thing that causes it.

The coffee and tea addict can take enough of these poisonous decoctions at one time to make real sick the non-user; yet it only quiets his nerves and relieves his headache.

In like manner, the tobacco user, deprived of his tobacco, finds his nerves unsteady and his disposition unbearable. A dose of his favorite weed and his unsteadiness is gone and his irritableness gives way to cheerfulness and a feeling of well-being.

The process of adaptation to poisons is a depraving process. The greater the physiological depravity—the greater the enervation and organic damage—the greater the amount of the accustomed poison will be demanded, and the more can be used without arousing vital resistance. In other words, in precisely the proportion to which one becomes accustomed, by habitual use, to any poisonous substance—the greater the degree of physiological depravity—the less defensive or reactive power he possesses, not alone against the particular poison, but against all poisons.

There is not a poison in the animal kingdom which the human body cannot, by carefully graded steps, become accustomed to, so, that it no longer offers any resistance to its ingestion. Arsenic may be taken as freely as table salt with little immediate evidence of its poisonous character. Even prussic acid, which kills instantly, like lightning, where the body is wholly unaccustomed to its use, may be used with considerable freedom as a means of exhilaration and intoxication, after one has carefully accustomed his body to its use. But the whole organism pays for the apparent impunity by general enervation and lowered resistance to every other influence.

There is evidence to show that the adaptive process by which the body adapts itself to poisons is accomplished by changes in the cells and tissues that are away from the ideal. This change in structure cripples the physiological efficiency of the organs and lowers the body's resistance to every influence. The pneumonia death rate is much higher in alcoholics and morphine addicts. Thus it will be seen that, when toleration for a poison is established and the body ceases to react violently against it, the destructive work of the poison does not end. On the contrary it slowly, insidiously, surely, undermines the whole constitution and produces organic damage, such as is seen in smoker's cancer, tobacco heart, alcoholic liver, delirium tremens, etc.

Returning, now to nicotine poisoning, once toleration is established, acute nicotine poisoning may be produced only by taking an unaccustomed amount of tobacco. If sufficient excess above the accustomed amount is used, all the symptoms of the first chew, dip, snuff or smoke, may be occasioned. The biogony thus produced will last until it reduces the nicotine to the toleration point and then subside.

The subject is not, thereby, cured of nicotine poisoning—chronic nicotinism. He is still chronically poisoned. He still has the tobacco habit. The chronic poisoning is still at work slowly undermining his body. The crisis only eliminated the intolerable over-load of nicotine.

A radical cure, in such a case, can come only by ceasing to use tobacco. Cease the poisoning and go through the period of reaction—depression and irritableness—that follows. The body will then eliminate all nicotine, restore dissipated nerve energy, repair structural damages and then, and only then, can cure be said to be complete.

So-called acute "diseases" (biogonies) represent processes of compensatory elimination by which the body eliminates what Jennings called "arrears of expurgation," and infection (putrescence) absorbed from the digestive tract. The symptoms are identical with and similar to those developed in reaction against nicotine poisoning.

The body learns to tolerate metabolic toxins, food poisoning, toxins resulting from pathological processes, etc., in the same manner that it learns to tolerate nicotine, caffeine, alcohol, opium, arsenic, etc. Once toleration for these toxins is established it can be aroused to reaction against them only when they accumulate above the toleration point.

Reaction in such a case takes the form of a cold, gastritis, diarrhea, skin eruption, pneumonia, or other so-called acute "disease." But, as in the case of nicotine poisoning, the biogony lasts only until it has reduced the toxins to the toleration point, or slightly below. There is some evidence that in some instances these "healing crises" do reduce the toxins much below the toleration point, before they subside, but they never last until the system is wholly free of its accumulated toxins.

A dynamic biogony leaves the body in a state of chronic toxin poisoning. The body is still enervated. There is still impairment of function. The enervating habits of living that are responsible for the enervation, functional impairment, and toxemia, are still uncorrected. For this reason, after the crisis has passed, more toxins accumulate. The biogonies come and go—the toxemia remains. Health does not return when the symptoms subside, but a state of near-health returns. Although this state is called recovery and the patient is said to be cured, the patient is still toxemic.

The evil effects of a poison do not cease merely because the body has learned to tolerate it. The habitual use of a thing which is injurious in itself, does not alter its nature and render its use salutary. In the same way,, toxins do not cease to produce evil effects merely because the body has learned to tolerate them. They continue to damage the tissues and organs of the body and slowly, insidiously undermine the constitution. Tolerated toxins are the only cause of death not due to violence.

A radical cure in this case, can be accomplished only by complete eradication of toxemia, restoration of full nerve energy, and by a correction of all the habits and influences that are responsible for enervation and toxemia. This necessitates a complete revolution in the mode of living and a prolonged period of mental, physical, physiological and sensory rest. Life must be ordered in conformity with physiological law and an opportunity afforded for recuperation of dissipated energies.

The practice here indicated is not the usual or popular one. Physicians generally, of all schools of so-called healing, make little or no effort to correct the patient's mode of life, but usually goad the organs on in their work with irritants—stimulants—and prescribe "plenty of good nourishing food," meaning, of course, plenty of the conventional diet of meat, eggs, white bread, denatured cereals, coffee, etc.

All efforts to eliminate pathology and restore the primitive health standard which do not recognize the enervating factors of the mode of life as the remote and actual producing causes of impaired health, and which do not seek, first of all, to correct these, are doomed to failure and disappointment. At its best, such a mode of practice is but a system of doubtful palliation; at its worst, a destructive suppression, like so-called Modern Medical Science.

The Course Of Biogony

Chapter VIII

The succession of symptoms occurring in a case of biogony constitutes its course. Instead of the wild disorder and confusion one would expect under the "attack" theory of "disease," these developments are regular, orderly and follow a more or less definite plan.

Symptoms are classed as follows:

Clinical symptoms are those seen by the doctor at the sick bed or clinic. **Pre-clinical symptoms** are those that occur from time to time before the doctor is called or visited. **Pre-conscious symptoms** are those functional and structural impairments which precede and lead up to the pre-clinical symptoms, and of which the individual is not conscious. (The impairments, at their beginning, are not discoverable by any known means of examination, or by any present-day test). **Terminal symptoms** are those gross structural changes and functional failures which represent the endings or final developments in the degenerative process. Some of these are seen during the life of the patient, but they have been most carefully and minutely studied in the necropsy room. A **prodrome** is a forerunner or sign of "disease," while the period of the prodromes is called the **prodromus**.

Each of these "stages" in the evolution of "disease" is marked by its own characteristic developments, the sequences of events following in orderly fashion throughout. In other words the phenomena of biogony are as lawful and orderly in their progress, development and decline as any other series of phenomena in nature.

The course of biogony may be short and severe—**acute**; or long and mild—**chronic**. Acute and chronic are relative terms, no positive line of demarkation dividing the two classes of biogonies. Some biogonies present a rapid succession of symptoms at first, and after a few days become less active and, finally, are slow and much protracted. The three stages of this course are denominated acute, subacute and chronic.

Acute biogonies are subject to rhythmic rises, (exacerbations) and falls (declines) of symptoms. All movements in nature are intermittent and not continuous. The tide not only rises; it also falls. All advance is an advance and a recession and another advance and another recession, the advances preponderating over the recessions. A period of activity is followed by a period of repose. Physiological actions are rhythmic—there is periodicity or regularity in physiological rhythm.

In biogonies, the interruption of the periodic rhythm ingrained in the constitution of the creature is not so great but that intermittency in action is apparent. There is a rise and fall of the tide of defensive action as the body rests or renews its intensity of curative effort. The various organs struggle to improve their condition, partially succeed, and then demand a period of comparative rest. The natural activities of the body allow periods of repose or of comparative repose—the alternate periods of action and repose differ in frequency in the several organs, providing the longest and most general quietude at night, gradually exalting and then gradually abating the general intensities of the functions with the advance and decline of the day.

The periodic rise and fall in activity in biogony follows the regular physiologic rhythm of health. The general efforts of the organism tend to

be greater in the middle and later portions of the day, while a measure of quietude is secured through the middle and later portions of the night. The duration of the exacerbation and remission varies—the former sometimes occupying nearly the whole twenty-four hours; but the period of intense effort growing shorter as the organism approaches the healthy condition, the remission growing more distinct and prolonged at the same time. When there is feebleness of the vital powers these ebbs and flows of action will be less marked; while, they are also very indistinct in most chronic affections.

The period of intense effort is called exacerbation, or the paroxysm, while the period of abatement is a remission or an intermission. Exacerbations represent dynamic actions of the body against pathogen and are periodic because they are of vital origin and the living organs must have rest, which they get during the period of remission.

As pointed out above, in most cases the exacerbations begin towards noon, gradually increase in severity till early evening, and distinctly decline about midnight—the remission occurring in the later hours of the night and early morning. In a few cases the symptoms manifest no tendency to abate, from the beginning of the trouble till a decided change toward recovery or death occurs. These are the so-called continued types. Exacerbations and remissions are seen in all chronic conditions, but are commonly less distinct and the exacerbations are farther apart.

Most acute "diseases," such as smallpox, measles, diphtheria, etc., present certain conditions and symptoms succeeding each other with such marked regularity and in quite uniform periods of time, these developments being modified to some extent by the care the patient receives (these maladies terminating in health, unless treatment or other factors have resulted in death, after a certain number of days), that these maladies are said to be self-limited. Other acute "diseases," yellow fever, for instance, pass through a regular series of changes, but are not so definite in time.

The clinical history of most acute "diseases" presents a succession of changing conditions marked by changes in symptoms. Three periods have been defined.

1. **Incubation** absurdly called invasion, embraces the period when the causes of pathology are accumulating in the body. During this stage the exacerbations and remissions occur. Eruptions, exudations, effusions, etc., also occur during this stage.

Acute "disease" commonly succeeds a series of prodromal symptoms—a sense of weariness or lassitude, with yawning and stretching; aching, or even a feeling of bruised soreness in the muscles; pains in the limbs and back, mingled perhaps with a sense of chilliness; probably headache, dizziness, loss of appetite quite constantly, and sometimes nausea. Coetaneous with these, there is a vague sense of uneasiness or discomfort; mental powers are depressed and sleep is disturbed or unrefreshing. There is neither fever nor increased circulation during this developing or premonitory stage.

This stage may be quite trifling and last but a few hours, or strongly pronounced and last for two or three days, or less distinct yet distinct and continue for many days with a gradual increase in intensity. The loss of strength and mental depression are greater than can be accounted for by the slightly diminished function present.

2. **Reaction** is that period during which the vital powers exert intense resistive efforts to overcome the causes of pathology. This is the fever stage, when the lungs, heart and general circulation, the nerves and other

organs have entered vigorously into the work of resisting pathogen and are trying to preserve the vital domain.

Fever and the other symptoms accompanying it appear to result from a shock to the nervous system from which the organism reacts with increased action. A healthy nervous system will not so quickly fall victim to pathogenic causes and will throw these off more quickly than the enfeebled and languid nervous system. In the first condition the period of incubation will be brief, and circulatory reaction prompt and vigorous; in the second condition the incubation period will be prolonged, reaction slow, vacillating and feeble. A vigorous system will present more violent symptoms and recover quickly; a depressed system will present less violent symptoms, the "disease" will be much prolonged, and there is more likely to be a profound exhaustion.

Termination is the end of the intense vital struggle. The process may terminate in recovery, in a dynamic biogony, or in death. In most cases the organism is able to throw off the impairing causes and restore health. In quite a few cases the body is forced to delay the action of these causes, as in passive biogony, and perhaps finally overcome them altogether. When the sum of the vital actions in biogony is fully able to overcome pathogen and repair damages, the case terminates in health. Termination in death may be gradual, the vital powers failing by slow gradations till their activities cease; or it may be sudden, occurring in a few hours, or almost momentarily. Death represents a complete failure of biogony and a triumph of pathogen. Chronic "disease" is a partial success of biogony and the persistence of pathogen.

These periods are of uncertain duration except the reactive stage of the self-limited "diseases." Maladies such as rheumatism, neuralgia, neuritis, appendicitis, etc., present a wide range of difference.

The periods of reaction and termination often present more or less distinct changes or stages during their continuance. Thus in smallpox there are the stages of eruption, lasting from the appearance of the papillae to the distension of the vesicles: of suppuration, when the fluid in the vesicles is becoming purulent; and desiccation, when the pustules are drying into scabs. In pneumonia there are the stages of engorgement, when biogony is advancing; red hepatization when the cells are occluded with stagnant or exuded blood; and of gray hepatization, when the softening of the exudation advances.

Fever is almost if not always preceded by a chill in the cold stage—in which there is increased sensitiveness with chilliness when a current of air passes over the surface or perhaps the chilliness persists despite several blankets. In a short time this reaches a distinct sense of shivering, beginning usually in the back and extending over the limbs and body. This stage may be light and transient, but is usually strong enough to be marked to the feelings of the patient and is sometimes sufficiently violent to produce decided and visible rigors.

This chilliness may develop abruptly, without the patient noticing any premonitory symptoms, but the usual course is for the lassitude of the developing stage to slowly merge into the cold stage. The cold stage may last but a few minutes, or recur at intervals through several hours, or even over a space of several days.

During this stage aches and pains are present in the back, limbs, loins and perhaps in the head. Pains are most likely to be sharp or even violent in the back and groins, causing suffering and "nervousness."

The circulation, previously languid, now becomes depressed, the pulse is weak and "small," often irregular, and with varying frequency.

Peripheral circulation is feeble, perhaps lending a dusky-red or even purplish hue to the nails, and mottled appearance to the hands and feet. Paleness and perhaps contraction of the features, increased respiration, drowsiness and mental dullness accompany this stage. The temperature of the surface is lowered, although not always to a degree corresponding to the feelings. Internal temperature is commonly increased, though rarely reduced. The chilliness, which may exist despite summer temperature, is obviously a nervous sensation, as are many of the other symptoms of this stage.

This stage suspends skin radiation, suppresses sweating and withdraws the blood from the surface, to the point of injury. The chill has the effect of stimulating the thermogenic center and thus results in increased heat production.

The hot stage is the stage of fever (pyrexia) proper. Body temperature rises, due to suspended skin radiation, and the pulse rate is accelerated as is also respiration. This represents a vital reaction and may appear suddenly and be of short duration; but commonly develops gradually and continues many days; or even weeks, before subsiding.

External temperature is increased, the skin is dry, general secretions are diminished, heart action increases, sometimes ranging from 90 to 100, or even from 120 to 140 or more pulsations a minute, and internal temperature rises to 102, 103, 104, or even to 108 degrees.

As a general rule the frequency of heart action at this time is inversely proportioned to the energy of the organism; so that it is most frequent in fevers in feeble cases and less frequent when the person is strong and vigorous. In the first case the pulse will be rapid and weak, in the second case, it will be slower, and firm and strong.

Respiration is more or less hurried, corresponding in general with the rate of the circulation, the face is flushed, the head painful, sleep disturbed, the tongue coated, the breath fetid, the mouth and tongue dry, the secretions are altered and the body rapidly wastes due to the preponderance of katabolism over anabolism. The patient is weak, even prostrated and forced to rest.

So great are the nervous changes in fever, that Virchow declared that the essential phenomena of fever must have their immediate cause in this system. Let us glance at a few of these phenomena. The mental and bodily languor, the apathy and chilliness at the beginning of aggressive biogony belong to the nervous system. To this system also belongs the fact that the patient is sometimes so depressed during the cold stage as never to react from it, but dies in a few hours with profound prostration, a very rapid, feeble and failing pulse, and almost panting respiration.

When the temperature rises the restlessness, wakefulness, sensitiveness and tendency to slight nocturnal delirium seen in one class of biogonies are nervous manifestations, as are low delirium, somnolence, stupor, tremor, subsultus tendinum, and convulsions seen in another class of biogonies.

Defervescence is the term applied to the decline of the febrile process. The change is marked by increased activity of one or several of the excretory functions, a free perspiration being most common, accompanied with or soon followed by copious discharges from the kidneys and bowels. The resumption of sweating marks the resumption of skin radiation and this lowers temperature. Saliva and mucous are more abundant, moistening the mouth and tongue, the pulse rate decreases, and the head and general nervous system are relieved. The transition is sometimes quite sudden, there being no period of gradual recovery, or

convalescence. This is more frequently seen in nervous affections. More commonly, however, there is a period of convalescence, in which the patient feels much exhausted after the unusual effort and losses incident to biogony, and regains strength by degrees.

When defervescence begins suddenly with discharges and a rapid lowering of temperature, it is said to end by crisis. If the temperature subsides slowly and regularly for some days and the secretions return gradually, without the development of critical discharges the "disease" is said to end by lysis. In some cases there is a combination of crisis and lysis—a crisis being followed by a gradual completion of the return to healthy action.

How is a crisis brought about at one time in one case and at another time in another case? How account for the retention of so much water during fever? I do not pretend to be able to explain these things. But we know that the more vigorous are the vital activities in biogony the greater is their likelihood of success and the less the danger of a fatal ending. I believe that the suspension or diminution of any function, particularly the excreting functions, is purposive and not a mere mechanical necessity. We know that these functions may be increased by a number of means so that we may be sure that their reduction serves some urgent need.

Occasionally defervescence is very irregular in its progress. It may advance and recede with strange uncertainty. In a few cases the temperature falls below the normal standard and the vital functions are markedly lowered, or seem to cease, so great is the need for rest.

I am aware that this presentation of the progress of fever is somewhat antiquated and is not strictly in harmony with the prevailing fashions. In our opinion) too much attention is given to themometric observations; for, however much thermometry may be able to disclose, it cannot picture the whole of the fever to us.

On the other hand, I do not like the method of describing certain forms or types of biogony as fevers. For, after all, increased temperature is but one incident in the symptom-complex presented by the patient. It would be just as logical to name these conditions after the vascular acceleration or the respiratory increase, etc., as after the increase in temperature.

Analysis of Fever History. The history of biogony should include the period of incubation, the cold stage, the hot stage and defervescence.

One of the most prominent phenomena of biogony is the retention of water in the body. The patient with fever has more than usual thirst, in some instances demanding enormous quantities of water. Accompanying this increased consumption of water is the characteristic fact that much less water is excreted from the body than in a state of health. The skin is dry due to the suspension of sweating. There is less moisture in the breath, saliva is diminished in quantity, the bucal mucous membrane becomes dry early in the biogony. The gastric and intestinal secretions are reduced, the feces, except in rare cases, are dry, while the quantity of urine passed is greatly reduced, actually becoming scantiest when the skin is driest. So uniform is the reduction of the urine that its concentration is almost as good an index to the amount of fever as is the thermometer.

Another marked clinical phenomena is the reduction of the amount of excreta. Despite the great and rapid wasting of the body the excretions are diminished. There may be an increase in one or the other processes of elimination, the urine, for instance, may contain increased amounts of urea, uric acid, phosphoric acid, sulphuric acid, etc., there may be diarrhea, even great diarrhea; or in exceptional instances there may be

sweating; but these occurrences do not militate against the general fact that excretion is diminished during "fevers." The diminution of excretion begins before the fever sets in and continues till defervescence.

Although there is a diminished output from the body, the tissues themselves often seem to literally melt away. The fat disappears, the muscles are reduced and the bones may even become lighter. In the blood there may be a decrease of the red cells, an increase in white cells, a diminution of serum albumen, an increase in water, a reduction of alkalinity and a decrease of the alkaline salts. Products of tissue decomposition—uric or lactic acid, etc.—also find their way into the blood.

When finally the work of biogony is accomplished, and the patient makes a decided change healthward, excretions and secretions are resumed—there is free perspiration, increased urination, free bowel movements, a return of salivary and gastric secretions, and of suppressed menstruation, the temperature falls, pulse frequency becomes less and the pulse is stronger and the nervous system gives evidence of relief in great quietude or actual sleep. Appetite and the power to digest food slowly returns, nutrition improves, the wasted tissues are soon repaired, the body is renewed and should have better health than before the biogony.

A **relapse** is a resumption of the biogony after the patient is apparently convalescing. In relapses, the vital energies are prostrated from the original efforts; hence the system is not so active but the danger is much greater.

Convalescence is the period of recuperation following a successful biogony. It may proceed uninterruptedly, strength gradually recovering, the secretions becoming normal, the circulation steadily regaining its regular force, the nervous system recovering its accustomed equilibrium, feebleness and emaciation steadily disappearing.

This happy progress is subject to numerous interruptions, consequent upon extrinsic conditions unfavorable to health—such slight causes as too much food, undue excitement, over-exertion, exposure, etc., may sufficiently weaken the organism to result in a relapse.

Internal weakness—feeble digestion, nervousness, impaired kidneys, damaged lungs, etc.—may delay recovery for a time. But in due time these are likely to disappear and the rebound may even carry the body beyond the previous healthy standard—increased vigor, improved digestion, increased weight resulting.

Sometimes convalescence is somewhat protracted, lasting months and even years. An acute affection may subside into a chronic malady, as when acute bronchitis becomes chronic bronchitis; parts once affected are often subject to the same affection upon the slightest provocation for a long time thereafter; one form of "disease" often follows another, almost as if engrafted upon it, as when tuberculosis of the lungs follows pneumonia or an exanthem; or anemia or dropsy, follow an acute "disease," may still further impede recovery.

Prognosis

Chapter IX

Prognosis is the art of forming an estimate of the probable future of a case, an attempt to tell whether the patient is progressing towards recovery or death.

General prognosis refers to "disease" in the abstract, as that the common history of a cold or of quinsy makes it wholly probable that the patient so suffering will recover, whereas the general history of advancing tuberculosis warrants an extremely unfavorable view of the outcome.

Special prognosis is the estimate formed of the probable outcome in any particular case, as when the judgement in one patient with pneumonia is "favorable," while in another case it is "unfavorable."

All prognostic decisions must be based upon a knowledge of the conditions present, and the amount of reactive power possessed by the sick organism. As these cannot be fully known in any given case, there is always an element of uncertainty in any prognosis, no matter by what methods the patient is cared for. Medical prognoses are often misleading for they are based upon medical experience, while cases cared for without poisonous and suppressive methods frequently mock at medical prognosis. Their estimates) are of no value except where their methods are employed. Even then they are largely guesses; for, as Dr. Tilden expresses it, "Not one of the best practitioners can tell from one day to another how his patients will be. Not one can truthfully say that there is not an element of doubt in every case that is not known to him. Not one can tell, after the first twenty-four hours of medication, whether the symptoms presenting themselves are those of disease proper, or are due to drugs. Not one can tell, if his patient is suffering from disease free from drug action, food-poisoning, deranged emotions, or mental depression, after the disease has been under treatment for a day or two."

He adds that during the twenty five years he practiced, "the chaotic nonsense misnamed the science of medicine," that he did not know why people were sick, nor why they got well, nor why they died. He says: "When visiting the sick and treating them in the regular medical way, I had no idea how I should find them at the next call. I did not know if the disease would end soon or late. I did not know if the disease would take on a severe form, or quickly run its course. I did not know if there would be complications or not. In fact, I did not know anything that would make me comfortable regarding the outcome of the disease, and, of course, I could not say anything of a real comforting nature to the patients or their friends. I had the usual stock-in-trade subterfuges and little nothings that are worked off on a confiding public everywhere. Here is one for example: "If no complications arise, the patient will get well."

There may always be hidden conditions or circumstances which operate to the disadvantage of the patient. A hidden weakness, a prior cachexia, drug damages, or organic weakness may result in a fatal termination when least expected. One is most likely to meet with such results in adults, in middle life, and beyond, who have suffered for years with chronic "disease." While in such cases a favorable opinion may be fully justified, and therefore should be given, it should be offered in moderate language rather than with too great assurance.

Whether in general or in special prognosing, it is necessary always to keep in mind the vital fact that the processes of life are ceaselessly striving to maintain the living state and restore health. This natural curative power is not one that operates merely occasionally or feebly, but one that is ever present, ceaselessly active, and sufficient to restore health in the great majority of cases. The tendency of living matter to return from a biogenic state to its regular or healthful state is our reliance for recovery when sick, for, by no artificial means,—by no "art of medicine"—can the injured tissues and organs be converted into their healthy state. The body is dowered with an intense vigor of renewal and we may always look forward hopefully, even where the prospects are not so promising.

A frequent, full, and firm pulse and vigorous heart indicates a capacity for a higher grade of vital action and should favor the restoration of health.

A frequent pulse coetaneous with smallness of size, indistinctness of the pulse-wave, and feebleness of heart, indicates the retrogression of vital capacity and is of decidedly unfavorable significance.

Disturbances of function are evidences of pathology; but when the disturbances are full and strong, they exhibit a vigor of vital resistance to the encroachments of pathogen that is altogether in favor of the patient. It is only when these become feeble from any cause, that they supply prognostic evidence of an unfavorable character.

On the one side, the vital activities failing—the body approaching the state of death—the measure of their failure serving as an index of how near they are approaching to complete cessation, the prognosis is unfavorable.

On the other hand, the vital activities are returning toward their natural degree of vigor, and the measure of their approach to the healthful standard is an index to the diminution of danger.

A gradual clearing and moistening of the tongue, gentle yet free restoration of diminished or suppressed secretions, a returning normality and evenness of temperature, a steady approach of the pulse to normal, general relief of the nervous system, sleep, and returning rationality, are favorable signs in acute affections. It will be observed that these signs all proceed directly from the vital functions and indicate an approach to the normal standard which constitutes health. Dr. Jennings says: "No one who is hard sick ever gapes until there is a change for the better in the specific disease through which he is then passing."

Involuntary evacuation of the bowels or kidneys, drenching perspiration, subsultus tendinum (convulsive twitching), the hippocratic countenance (a cadaverous appearance of the face), sudden accessions of yellowness, hiccough, receding or absent pulse, great trembling of the tongue when protruded, difficulty or impossibility of protruding the tongue, difficulty of swallowing, or of speech, prolonged restlessness, black vomit, great coldness of the extremities, drawing up and rigidity of the extremities, walking delirium, or delirium that asks to be taken home when not away from home, a failing heart, or failing respiration, are the most prominent danger signs in acute "disease." All of these are never found in one case and the presence of only one of them in one case need not call for a fatal prognosis. The concomitant existence of two or several of these should cause apprehension. It will be noticed that these signs also proceed directly from the vital functions, but that they are derived from failing functions and represent a course away from the normal standard which constitutes health.

One must, of course, try to estimate the amount of pathogen and of structural damages that the vital activities must overcome and repair and every consideration must be given to the fact that when the vital efforts must be long-continued, they **lessen in vigor from weariness due to an excess of waste over nutrition.**

A correct estimate of the vital recuperative ability possessed by a patient is the basis of a good prognosis. Numerous factors must be considered in estimating the vital recuperative power possessed by a patient. Advanced age lessens the prospects of recovery. Children under three years appear to be able to resist the prevailing forms of treatment less well than older children. Patients who have suffered with larval deficiency "diseases" are less viable than the well nourished. Previous debilitating influence, such as alcoholism, excessive venery, drug habits, long continued over-work, grief, mental or emotional strain, lend an unfavorable aspect to any "disease." The constitutionally debilitated easily die. The constitutionally robust recover from conditions and complications where recovery seems impossible.

Cause is first, last and all the time, more important than prognosis. If the doctor understands cause, he can frequently turn an unfavorable prognosis into a favorable one. If he does not understand cause, he may kill his patient by suppressive measures, even though the patient might otherwise recover.

There is no inevitable "course of disease"—any "disease." The course of biogony is determined by the correlations of certain necessary antecedents and where any one of these is lacking or withdrawn, the "inevitable course" ceases to be "inevitable." One of the necessary antecedents to the "course of disease," as described in medical text-books, is medical care, and where this is lacking the so-called "disease" (the biogony), whether acute or chronic, does not run true to form. Almost every one knows of cases that have been pronounced hopelessly incurable by medical men, who have subsequently recovered health under Christian Science, Chiropractic, or other forms of jollyng the patient, or who have abandoned all practitioners and have recovered. A prognosis ceases to have validity when the mode of care under which it is given is abandoned and other care accepted.

The prevailing medical thought is that in so-called self-limited "diseases," the chief function of the physician is to guard against complications. How are they to guard against complications when they do not know their cause? How are they to guard against complications when they are, unwittingly, the cause of the complications.? The first dose of drug given often starts a complication. Fear that the doctor often inspires and his insistence upon "good nourishing food to keep up strength," are common causes of complications. The doctor masks symptoms and suppresses curative operations with his drugs, and poisons his patient with fear and food, so that his prognoses are always extremely uncertain.

The Unity Of Diseases and Symptoms

Chapter X

Ours is a world of amazing multiplicity. It is a world of endless changes, increasing divergences and ever widening differentiations. So broad and boundless is the multiplicity around us and in us that it has been aptly described as a "perpetually multiplying multiplicity." Back of all of this boundless multiplicity is an ultimate **unity**. The **unity** and **continuity** of phenomena have become the corner stones of science. The various sciences approach perfection as they approach the unity of first principles. No system of thought or practice which fails to recognize these principles can ever become a science. The order and continuity exhibited throughout nature's processes demonstrate her underlying unity and lawfulness.

To the ignorant and superstitious Nature exhibits a mighty chaos of events and a dread display of power. Nature is never contemplated with a clear conception of its adaptation to the purposes or ends of Cosmic Order. To the scientist and philosopher the more we learn of creation the more conspicuously does uniformity of design appear to pervade its every department. The essential unity of phenomena is a cornerstone of modern science. Biological phenomena is no less a unit. Newer conceptions in biology emphasize the oneness of the body; the close interlacement and interdependence of structure and function in an integrated organism; rather than, as formerly, the structure and function of its theoretical parts.

An organism is a functional unit. Organs may be local and circumscribed, functions reach throughout the whole body. If we define an organ by the distance its products reach, rather than by its surface, an organism ceases to be heterogenous. Organs are made up of their inner media as much as of their histological elements and the inner medium of an organ reaches far beyond its anatomical border. Physiologically an organ is much greater than it is anatomically. By means of its secretion, each gland extends over the whole body. So do the lungs and the digestive system. The structural and functional integrity of every part of the body is essential to the functional and structural integrity of the whole body.

In illness the body preserves the same unity as in health. Not only is it true that no disturbance remains strictly confined to a single organ, that the body is a sick whole, but, it is also true that the whole body contributes to healing and recovery. The old anatomical conception of organism which looked upon the body as an assemblage of more or less independent parts, led physicians to consider "each disease" as a specialty.

The schools of physic have invented and classified numerous diseases; over twenty thousand. In 1930, a National Conference on Nomenclature of Disease, met in Manhattan to consider a numerical system of designating the many diseases, for doctors find it difficult to remember and keep straight, so many names, and the different names for the same diseases, as for instance, Pott's disease, vertebral caries, and tuberculosis of the spine—three names for the same condition.

The various drugless schools have accepted the nosological classifications of the schools of physic and are, today, in common with the drug and knife schools of medicine, treating and curing diseases. The Hygienic System, on the other hand early decided as Trall expresses it (**Hydropathic Encyclopedia**, Vol. 1, p. 33; Vol. 2, p, 72), that "nosologies are all unphilosophical and absurd."

Others also have regarded disease as a unit. Samuel Thompson, founder of Physio-Medicalism, and his followers thought, in the words of Prof. Curtis, of that school, that "Disease is one, . . . The symptoms are one, . . . and the treatment must be one . . ." Physio-Medicalists defined disease as "the inability of an organ to perform its proper functions, and in this sense it is a unit." Dr. Samuel Henry Dickson, of Britain, developed a system which he called the **Chrono-Thermal-System** based on the principles of (1) "the periodicity of movement of every organ and atom of all living tissues," (2) "the intermittency and unity of all diseases, however named and however produced," and (3) "the unity of action of cause and cure; both of which involve change of temperature." Priessnitz and his followers disregarded, to a great extent, all systems of nosological arrangement. Dr. J. H. Rausse, of the Water Cure School says: "Before I attempt to define the terms health and disease, I must point out that there are really no species and varieties differently marked off one from another; that the individuals of every species and variety have dissimilarities among themselves; that the transitions from one species to the other are so imperceptible, that with certain individuals and concrete cases it cannot be determined with certainty to which species they belong. This is particularly the case with the different diseases, and even the line of demarcation between health and disease is in cases of reality very wavering, in a word, the denominations of species, etc., are not borrowed from reality, and from here delivered over to human ingenuity, but vice versa, have originated in the human mind, and from there have been transferred to reality, because the former cannot operate without them." (**The Water Cure**, 1845, p. 18). In 1890 Louis Kuhne, of Germany, published his **The New Science of Healing**, in which he developed the principle that "there is only one cause of disease and there is only one disease, which shows itself under different forms."

Florence Nightingale, who taught the English physicians and surgeons the value of cleanliness, declares in her **Notes on Nursing** (1860), pp. 32-3: "Is it not living in a continual mistake to look upon disease, as we do now, as separate entities, which must exist, like cats and dogs? Instead of looking upon them as conditions, like a dirty and a clean condition, and just as much, under our own control; or rather as the reactions of kindly nature, against the conditions in which we have placed ourselves.

"I was brought up, both by scientific men and ignorant women, distinctly to believe that small-pox, for instance, was a thing of which there was once a first specimen in the world, which went on propagating itself, in a perpetual chain of descent, just as much as that there was a first dog, (or a first pair of dogs) and that small-pox would not begin itself any more than a new dog would begin without there having been a parent dog.

"Since then I have seen with my eyes and smelt with my nose small-pox growing up in first specimens, either in close rooms, or in overcrowded wards, where it could not by any possibility have been 'caught' but must have begun.

"Nay, more, I have seen diseases begin, grow up and pass into one another. Now, dogs do not pass into cats.

"I have seen, for instance, with ■ a little overcrowding, continued fever grow up; and with a little more, typhoid fever; and with a little more, typhus, and all in the same ward or hut.

"Would it not be far better, truer, and more practical, if we looked upon disease in this light?

"For diseases, as all experience shows, are adjectives, not noun substantives."

Casting the confusing nosologies and classifications of the schools to the wind, Dr. Jennings says, "most systems of medicine, in their nosological character, are but attempts to classify the phenomena and symptoms of disease; and from the very nature of the subject, can be but fruitless attempts."—**Philosophy of Human Life**. Again, he says, in the same book, (p. 88), "The external appearances, or tokens of distress, which the vital economy is compelled to develop under the pressure of overpowering causes, and which are called diseases, are as evanescent in their general character as the morning cloud, and the early dew; and as changeable as the 'shifting figures of the magic lantern' and as numerous and multiform, as endless variety of causes and influences acting upon millions of parts, each impressible with varied action, in kind and degree, can produce. And these phenomena will vary in different countries or communities according to the nature and degree of violence done to the vital machinery, by different modes of life. Where departure from correct living is the widest and longest persevered in, the phenomena of impaired healthy action will be the most numerous, complicated and severe or aggravated; and where the laws of life are best observed, and for the longest period, these phenomena will be the fewest, least complicated and mildest."

Dr. Benjamin Rush, who signed the Declaration of Independence, and who also insisted, when the Constitution was being framed, that provisions for medical liberty equal to that of religious and political liberty be made, also accepted the idea of the unity of disease. Dr. Rush was one of the greatest minds of the Revolutionary period, a scientist and painstaking investigator. It cannot be said whether he arrived at his convictions independently or received them from Thompson, with whom he was very friendly and whose views he endorsed to a great extent. He declared:

"Much mischief has been done by the nosological arrangement of diseases Disease is as much a unit as fever Its different seats and degrees should no more be multiplied into different diseases than the numerous and different effects of heat and light upon our globe should be multiplied into a plurality of suns.

"The whole materia medica is infected with the baneful consequences of the nomenclature of disease; for every article in it is pointed only against their names By rejection of the artificial arrangement of diseases, a revolution must follow in medicine The road to knowledge in medicine by this means will likewise be shortened; so that a young man will be able to qualify himself to practice physic at a much less expense of time and labor than formerly, as a child would learn to read and write by the help of the Roman alphabet, instead of Chinese characters.

"Science has much to deplore from the multiplication of disease. It is as repugnant to truth in medicine as polytheism is to truth in religion. The physician who considers every different affection of different parts of the same system as distinct diseases, when they arise from one cause, resembles the Indian or African savage who considers water, dew, ice, frost, and snow as distinct essences; while the physician who considers the morbid affections of every part of the body, however diversified they may be in their form or degree, as derived from one cause, resembles the philosopher who considers dew, ice, frost, and snow as different modifications of water, and as derived simply from the absence of heat."

The physio-medicalists defined disease as "the inability of an organ or part to perform its proper functions." Dr. Dickson said, "The phenomena of perfect health consists in the regular repetition of alternate motions or events; Disease, under all its manifestations, is, in the first place, a simple exaggeration or diminution of the amount of the same motion or events....." Dr. Jennings defined disease as "impaired health", "feeble vitality". Kuhne said "the presence of ... foreign matter in the body is disease." Trall defined disease as a curative process; "vital action in relation to things abnormal." These varying conceptions of the essential nature of disease produced obvious differences in their conceptions of the unity of disease ; but all saw more or less clearly that we must forever discard the superstition that each so-called disease is an isolated entity, risen into existence out of nothing, either to continue until it destroys its victim upon which it feeds parasitically, or else be driven back into nothingness by the conjurations and potencies of the doctor. Trall's conception of disease is in harmony with modern biology.

Disease must be regarded as varying expressions of one thing. Thus, instead of there being many diseases of different orders, classes, species, and genera, the various classifications of disease are merely subjective taxonomic orders and not objective realities of nature, are mere conveniences of thought. The names of the nosologies are merely terms descriptive of varying conditions and not names for entities or things. The wealth of terms of the nosology confuses both the laity and the professions. The whole pre-Pasteurian nosological nomenclature could be wholly discarded by the world and the medical professions, with the greatest benefit to all.

Disease, as commonly understood, is a group of symptoms and their underlying pathology. A few symptoms are grouped together and endowed with individuality and given a specific name and are then regarded as specific entities. The various so-called "diseases" are not actual existences, but are mere verbal designations, which, while they may be made conveniences for study, are apt to confuse and mislead the student in the future as they have the student of the past. They are mere symbols, or descriptive terms, which, like idols, lend to become, for us, the reality, and to obscure the thing for which they stand. Idols, which always begin as images of God, tend to become gods. Names which we use as descriptions of pathological variations tend to become names for entities.

But the fictional entities thus created are not as specific as they may, on first glance, appear. The symptoms of all "diseases" are the same. Fever is the same thing whether it is in "measles", or "scarlet fever", or "typhoid", or "pneumonia", or "other disease". So is pain. So is accelerated heart action, or accelerated respiration. So is decreased function. Destruction of tissue in one organ is the same as destruction of tissue in another organ. No "disease" possesses its own symptoms All "diseases" are merely varying groups of the same symptoms.

There are many different degrees of health and each structure is liable to depart from the ideally healthy standard in various ways; each organ suffering coetaneously and simultaneously with several others. Thus the forms or combinations of biogony, though constituted of a few common and simple elements, are exceedingly numerous. Or, as Dr. Trall expressed it, after describing the internal condition of the sick person, with reference both to general and local enervation and general and local toxemia, " it may present many phases of irregular and disorderly action; sometimes concentrating the whole remedial effort in one direction or to one outlet;

sometimes making it, with more or less force, successively in various directions."—**Hydropathic Encyclopedia**, Vol. 2, p. 66.

The terms measles, typhoid fever, pneumonia, etc., only indicate a more or less distinctive group of symptoms—a symptom-complex. Each "disease" is a group of symptoms that varies greatly with different patients, or under different conditions, or at different periods of life, and under different plans of care. No two cases of any "disease" are exactly alike. There are no typical cases. Text-books of medicine describe typical cases of the various so-called "diseases," but no case the practitioner ever sees ever follows these descriptions, hence, the frequent differences and mistakes in diagnosis. Tilden says: "The wide differences of opinion common to doctors in average cases are based on the unrecognized truth that so-called diseases are the summing-up symptom-complexes which vary, change, transmute, transform, and act so capriciously that even in three hours the same doctor will feel justified in changing his diagnosis and treatment. Drugs, food, the psychological influence of nurse, friend, family, doctor, hope, fear, etc., all play their part in bringing about changes in the symptom-complex, so that half a dozen days may make as many more different diagnoses." In the chapter on inflammation it was learned that inflammation is a unit. Names and forms relate, not to the process we call inflammation, but to the organ affected or to the stage of the process. Dr. Moras, in *Autology*, divided "diseases" into two general classes: Mucopurulent and Seropurulent—depending on whether they had their local seat in a mucous membrane or in serous membrane. "... These two membranes assort and refine the material offered them by the organ-cells proper, and then turn out the various grades of their respective by-products through their meshes and walls and reject the unusable, which they must accumulate in the tissues to be burned up in 'fevers' or disposed of as 'discharges' or 'effusions', or 'exudates' or 'dropsy' or 'catarrh', etc."

Carrying this thought a bit further, he said: "As the lining sac of joints is 'serous' instead of 'mucous' it is natural that the inflammatory or excessive exudate which leaks into the joints, instead of into the bronchial tubes or throat or uterine cavity, should be 'serous' instead of 'mucous' or slimy."

If then there is inflammation in the knee joint the exudate will be serous fluid, but if the inflammation is in the bronchial tube the discharge will be mucous or catarrhal. Serous inflammation is inflammation in a serous membrane and its underlying structures while catarrhal inflammation is inflammation in a mucous membrane and its underlying structures. The inflammation is the same in both cases. The cause may be the same in both cases. The differences in the "two diseases" are in the structures involved. Either of these "forms" of inflammation may become purulent—that is, there may result a breaking down of tissue. These differently located inflammations differ only in location and exciting causes.

Catarrhal inflammation may exist in any mucous surface in the body and may be either acute or chronic. Or inflammation may begin in one mucous surface and, as time passes, extend to other mucous surfaces. Thus a woman who has catarrh of the nose and throat may develop metritis, and the woman who has asthma or hay fever almost always has leucorrhoea and metritis. The same constitutional derangement is at the bottom of each of these "diseases." Hay fever is but an aggravated case of catarrh; bronchial asthma is a bronchial catarrh. The symptoms in these "diseases" are fundamentally the same. The distinguishing symptoms are those of

location or structure. Asthma is a special disease only because it is located in the bronchial tubes and not in the nasal passage or colon. Dr. Tilden sagely observes that if the structural changes occurring in the nasal mucosa during an attack of hay fever or in the bronchial mucosa during an attack of asthma were also to occur in the neck of the womb their presence there would afford a complete and adequate explanation of the phenomena of dysmenorrhea or painful menstruation. "This simile," he adds: "can be carried to every passage and cavity of the human body that is lined with mucous membrane. The fact is, there is no difference between a catarrhal state of one part of the body and that of some other part."

The same blood and flesh condition that causes asthma can and does cause uterine and ovarine diseases to develop and exist at the same time the asthma exists. The asthma is not the cause of the uterine troubles nor vice versa. They both stem from the same fundamental cause. Osier ascribed uterine and ovarine troubles as rare causes of an attack of asthma. Dr. Tilden rightly replied that this statement "is equivalent to saying that the hair on the dog's tail causes hair to grow on his ears."

What then of diseases of serous cavities? Are they not the same whether located in the pleura of the lungs or in the synovial membranes of the knees? The serous effusion that oozes from the pleural cavity, the ovaries and testes, or in the brain and spinal cord, or in the joints, or in the scrotum, or in dropsy, or in edema anywhere in the body is physically and chemically the same and all originate from the same blood and lymph. The same blood and flesh condition that gives rise in inflammation with effusion in one serous-lined or serous-covered organ can and does give rise to inflammation with effusion in another such organ. "Sero-purulent" diseases are a unit differing only in location and extent or degree.

The oneness and sameness of catarrhal conditions and the oneness and sameness of dropsical or edematous or serous conditions are facts which should be patent to all with intelligence enough to read English. But we go a step further. There are no differences in the "mucous-purulent" and "sero-purulent" diseases. The differences are in the organ or organs affected. Inflammation in the pleura does not differ from inflammation in the bronchial tube. In the one we have a serous exudate or effusion; in the other a mucous discharge. The pleura is a serous structure and cannot secrete mucous. The lining of the bronchial tubes is a mucous structure and cannot secrete a serous fluid. Each tissue turns out its own product from the same blood and lymph. Whether catarrhal "diseases" and edematous "diseases" are called acute or chronic, contagious or infectious makes no difference. They are all one and the same thing and all come from the same source and in the same way.

There is no essential difference between pneumonia and typhoid, encephalitis or appendicitis, tonsillitis or nephritis. Whether we have one or the other depends not upon any predilection of the toxins for the sick organ, but upon the weakness of the organ. The weaker organ is the most vulnerable. It offers least resistance to the toxins. This organic weakness that renders one organ more vulnerable to poisons is usually, if not always, a structural or anatomical weakness. Such weakness may be inherited, congenital, or the result of abuse. Chronic disease means chronic provocation.

The established practice of giving different names to similar conditions, simply because they are located in different parts of the body, is very short-sighted and leads to treating the affected organ or tissue as though it is an isolated entity lacking vital or intimate connection with all other parts of the body. The supposition that the organic location of an

affection makes a difference in its essential nature or character is not based on sound science. Disease of the eye, stomach, heart, lung, and bowels are not different diseases, but disease in different places.

The suffix "itis", denotes inflammation. When added to the end of the name of an organ or part this denotes inflammation of an organ or part, as tonsillitis, inflammation of the tonsil; myocarditis, inflammation of the heart; pleuritis, inflammation of the pleura; phrenitis, inflammation of the brain; iritis, inflammation of the eye; metritis, inflammation of the womb; cystitis, inflammation of the bladder; meningitis, inflammation of the meninges of the brain and cord; hepatitis, inflammation of the liver; pancreatitis, inflammation of the pancreas; nephritis, inflammation of the kidney; etc.

Thus many forms of disease, having different names, and, therefore, spoken of as different diseases, are indeed but one disease. Thus pleuritis, enteritis, pericarditis, synovitis, phrenitis, meningitis, etc., while they are said to be so many different diseases, are merely words to designate inflammation of a serous membrane. A different name is imposed on each, in order to indicate which of all the serous membranes of the body is inflamed—the inflammation itself being precisely the same in all and depending upon the same cause.

We see the same thing in inflammation of the mucous membranes. Thus, we have rhinitis, tonsillitis, stomatitis, pharyngitis, laryngitis, bronchitis, oesophagitis, gastritis, duodenitis, colitis, proctitis, endometritis, etc., which are only words to designate which mucous membrane is the seat of inflammation—the inflammation itself being precisely the same in all and depending upon the same cause.

Carrying this still further, great stress is laid on minute points of pathology so that every quarter of an inch of anatomy calls for a different pathological symbol. To designate these differences in the location of points of greatest apparent deviation from the healthy standard, such terms are employed as cellulitis, parametritis, endometritis, endocervicitis, ovaritis, salpingitis, anterior and posterior cervicitis, myocarditis, endocarditis, cystitis, urethritis, etc.

Start with the nose and go down the respiratory tract, or begin with the mouth and descend the digestive tract, touching only the high spots and what do we find? In the first case, rhinitis, sinusitis, pharyngitis, tonsillitis, laryngitis, tracheitis, bronchitis, etc.; in the second case, stomatitis, oesophagitis, gastritis, duodenitis, enteritis, colitis, proctitis, etc. A similar fact is seen in the eyes, ears, genito-urinary tracts, etc. Thus, we have anterior and posterior cervicitis, metritis affecting the fundus and lateral divisions of the uterus, cellulitis, ovaritis, salpingitis, etc.

All of the above named "diseases" are catarrhal conditions—"local catarrh." These names only designate the locale of the catarrh, every quarter of an inch of anatomy receiving special consideration in naming what is obviously the same thing.

Catarrhal inflammation of the bile ducts receives one name, (cholecystitis), while catarrhal inflammation of the gall bladder receives another, (cholangitis). These "two diseases" are obviously only one condition in two locations. Regarding them as different diseases is like regarding dirt on the parlor floor as a different diseases to dirt on the bedroom floor. Catarrh of the gall bladder or bile-ducts follows catarrh of the stomach and intestine and is but an extension of this. It is but a part of gastro-intestinal catarrh, and results from the same causes. The catarrhs are not different diseases, but the same condition manifested in different

locations. When this fact is once fully realized the problems of disease are greatly simplified.

While these unimportant distinctions serve to show the painstaking and searching nature of modern enquiries, they prove damaging in the extreme when they are allowed to narrow the limits of the practitioner's care of his patient.

If inflammation has been greatly divided, fever has been hardly less so. The terms "fever" and "febrile disorders" are "applied to certain diseases in which high temperature is a prominent symptom." By forms of fever are meant the different appearances presented by the "fever patient", as bilious fever, spotted fever, dengue fever, scarlet fever ; or the location in which the patient lives, as Malta fever, Rocky Mountain spotted fever; or the place the patient developed the fever, as ship fever, jail fever; or the cause of the fever as ardent fever (heat stroke) ; or the time of year, as Autumnal fever, (typhoid). We have brain fever, lung fever, gastric fever, etc.

What matters the name, or color, or type of the "disease"—whether it is simple or complicated, bilious, yellow, scarlet, spotted—so long as we know that it is a struggle of the organism to throw off offenses and repair damages, and not an effort to commit suicide!

Fever and inflammation are pathological chameleons, or else they are legion in number. The supposition that the organic locality of an affection makes a difference in its essential nature or character is not tenable in the light of facts, so that we are compelled to recognize the essential unity of these things.

The doctrines of fever and inflammation may never have overlapped in theory, but they overlapped, at least, in the naming of . so-called diseases. Thus, pneumonia and lung fever; meningitis and spotted fever ; enteritis and typhoid fever; acute inflammation of the brain, encephalitis, and brain fever; puerperal peritonitis and puerperal fever, were respectively synonymous, or different names for identical affections.

There is no distinction in nature between "inflammations", and "fevers" and we but deceive ourselves by making two things out of one simple physiological act. Excitement (irritation), inflammation, and fever are not disease at all, but simple efforts of the body to remove offending agents and repair damages.

All attempts to establish dividing lines between the so-called diseases have met with no success. Such is the unity of pathological phenomena ; such is the unity of the body; such, indeed, is the unity of the universe, that such efforts can but fail in the future as in the past.

It is quite true that the whole structure of science follows the principles of division and classification, but these divisions are not so much realities of pathology as devices to overcome the limitations of the human mind.

The multiplication of names is almost limitless. We find malnutritional edema labeled, ship dropsy, prison dropsy, and famine dropsy, depending on the circumstances under which the victim of malnutrition lives. There are several kinds of pneumonia depending on what portions of the lungs are affected, or upon which germ or other agent is regarded as the causative agent. There are at least three kinds of typhoid fever, several kinds of arthritis, many kinds of insanity, two kinds of Blight's disease, etc. The absurdity of nosological distinctions becomes more and more apparent, the more we view the subject.

However much advantage may have come from the more acute and discriminative study of local conditions, such investigations and local

differential diagnoses have not always served the best interests of the patient and the physician. Specialization in diagnosis tends to unequal appreciation of the elements of pathology so that those parts receive chief attention which assume chief importance in the mind of the specialist and therefore have undue weight in the general estimate that is made of the condition.

Viewed superficially, "diseases" do appear to be exceedingly numerous and very diversified. When these are subjected to close analysis, they are found to be made up of a comparatively few constituent states of "derangement," by various combinations and numbers of which, in various locations and in varying degrees of development, the apparently great diversity is produced. The actual factor-elements of "diseases" are few, while a multitude of forms exists as a result of the complexities of the human organism.

Looking at the entire aggregate of "diseases" with which man suffers, we see almost endless variety, no two cases, even, of the same so-called "disease," being identical. But the whole are bound together in one continuous series in such an unbroken continuity that it is impossible to tell where "one disease" ends and "another disease" begins. There does not exist, therefore, a multitude of diseases, as is commonly supposed, but merely many varieties and stages of one systemic degeneration.

The complex structure of organs and the close relations existing between the various tissues and organs, through the media of the nerves, circulatory systems, and the general system, furnish the basis for wide diversity and extensive combinations of symptoms.

As no one organ can be impaired without involving the other organs to some degree, no case ever presents a single symptom, or even a single class of symptoms (as nervous symptoms only) ; but in every case there is a variety of symptoms multiplied according to the number and complexity of organs involved and the extent of their involvement. And, as the condition of the organism does not remain stationary, but varies from hour to hour and from day to day, so the symptoms of disease fluctuate from one day to another, even at different times of the same day.

The reason for calling one form of disease catarrh, another diarrhea, or appendicitis or phrenitis, or tonsillitis, or metritis, or nephritis, or asthma, or headache, etc., is not because of any real essential difference in the "disease", nor even in the cause of the "disease", but rather because of the difference in location. Each organ has its own way of acting and feeling and this gives rise to "different" symptoms. The real difference in one disease and "another" disease is in the structure and function of the organ affected. All disease is essentially one, every form having essentially the same general characteristics and, at basis, due to the same causes.

The conception of "specific disease" is slowly passing from the realm of mental "diseases." Psychologists, psycho-analysts and neurologists have recognized that "sanity" and "insanity" are not antithetical entities—the insane are no longer possessed—they are seen to be varying conditions of the same thing—mind. It is now recognized that "insanities are not really so different from sanities, that they need a new special language to describe them, nor are they so separated from other nervous disorders by lines of demarkation as to render it wise to distinguish every feature of them by a special technical nomenclature." It needs now only to be recognized that so-called mental and nervous "diseases" are one with the so-called physical "diseases." Once the essential unity of all these "diseases" is recognized it will be apparent that these neuropathological

conditions depend upon the same causes for their genesis, development and continuity, as does pathology of the heart, or lungs, or kidneys, or liver.

The apparent differences in "diseases" are given to them by the differences in functions and correlations of the organs most involved and by the degree of their affection. The symptoms of any "disease" are characteristic of the part affected. The brain can't vomit and the stomach can't become insane. The liver can't urinate and the kidneys can't produce bile. The bowels can't cough and the lungs can't give rise to a diarrhea. The heart can't sweat and the skin can't miss pulsations. Each tissue has its own work to perform and when affected or deranged gives rise to its own peculiar symptoms—that is each deranged organ speaks its own language or dialect. Thus, if the meninges of the brain and cord are affected, stupor and delirium will be present; if the lungs are affected, respiratory difficulties are present; if the stomach, intestine or bowels are affected, the symptoms will be characteristic of these organs. Inflammation in the kidneys gives rise to different symptoms to those produced by inflammation of the liver, not because the inflammation is different, but because the liver and the kidneys differ. It is the tissue that is affected and the degree of the affection that lends individuality to disease. All the specific characters of disease are derived from the tissue or organ affected and not from some specific character of the "disease" itself. The apparent individuality belongs to the organ, not to the "disease".

Tilden declares, "It is true that an inflammatory process presents symptoms a little different with each anatomical location. Inflammation of the stomach causes vomiting of mucous, and the symptoms are nausea, pain and vomiting. In duodenitis there is usually jaundice, and not always diarrhea; this inflammation frequently follows burns to the surface of the body, and may be expected in catarrh of the gall bladder and with gall stones.

"When the inflammation is of the small intestine there will be colicky pains about the navel region and large liquid discharges, with mucous well mixed with the movement. In inflammation of the large intestine—colitis—there is much colic and the pain is lower than the navel, and if the inflammation is great there will be long, ropy discharges. Sometimes the mucous has the appearance of sloughed mucous membrane. In acute colitis and sigmoiditis there are large watery discharges at times; then, again small discharges, mixed with blood, after the disease has lasted from three to seven days. This disease is especially marked by backache and distress in the legs reaching down to the feet. A severe attack is exceedingly distressing." **Criticisms of the Practice of Medicine**, Vol. 2 p. 206.

The symptoms of catarrhal inflammation differ somewhat with different locations. If it is located in a narrow passage as in the bile duct, Eustachian tubes, urethra, neck of the womb, or bronchial tubes, obstruction will occur and the "symptoms of obstruction will be urgent and in keeping with the importance of the passage. Inasmuch as the bronchial tubes are necessary for the admission of air into the body, anything that interferes with their lumen causes breathing to become urgent."

It will, of course, be objected that so-called venereal diseases are exceptions; that they fall outside of the pale of the general unity of disease. This is not so, however. Venereal diseases do not differ from other diseases. Why are pain, inflammation, suppuration, discharges, etc., different in the sex organs? They are not. They are the same processes and

serve the same purposes as when they occur in the tonsils or stomach. The sex organs cannot be separated from the rest of the body as independent isonomies. They are not governed by laws different from the laws governing the liver or lungs. They are integral parts of the structural and functional unit we call the body and are subject to the same governing principles as is every other part of the body. The body is not a mere machine without vital connection between all its parts. Rather, it is an organic whole every part of which is dependent upon the whole and the whole upon every part.

There is no such thing existing as a disease standing absolutely alone in pathological character. There are multitudes of forms very highly "specialized", but there is no one which either in respect to symptoms and causes or development, is wholly separate from all others. Each so-called disease is a part of a great interconnected whole. Diseases are one—forms or modes of diseases are many.

A tumor or cancer in the kidneys is the same as a tumor or cancer in the liver or womb. Atrophy and degeneration of the kidneys is the same as atrophy and degeneration of the liver or heart or brain, and is due to the same causes. An abscess in one organ is the same as an abscess in another organ. Diseases are all of a piece.

The difference in Bright's disease and diabetes is not a difference in the tissue destruction that has occurred, but is a difference in the tissue that is destroyed. If the same destruction occurs in the brain insanity or paralysis or both may result; if in the cord, paralysis. If the causes of disease are not corrected, if they are permitted to continue, until organic change takes place, until tissue destruction occurs, the "disease" that results will depend on the organ or organs, that are the subjects of greatest change. Functional disturbances can result in organic disease only if the causes are great enough or of sufficient duration. Atrophy of an organ or parts of an organ is brought about by the same causes and is part of the same process.

It should be observed that the principle of the essential unity of disease does not involve the unity of cause of disease, although there is a broad general sense in which this latter unity is real. It matters not whether inflammation is directed to the repair of a wound, the destruction and removal of infection, as after vaccination, the removal of a splinter or gun shot from the flesh, or a parasite from the skin or liver, it is essentially the same process and serves ultimately the same end and object. Whether it is a bee sting on the eye lid, a burn on the leg, or a caustic substance in the throat that occasions the inflammation, the process is identical, differing only in degree and receiving its specific character from the tissues affected and from the degree of inflammation essential to success of the work in hand.

A patient once handed the writer a long report issued to her by the Life Extension Institute, after she had been examined by their physicians. A detailed report was made out for the patient and another was made out for her to give to her physician. On this latter report were listed twenty-three physical defects in various locations in her body ranging from diseased tonsils and a few bad teeth to worse conditions. The report then said to the physician: "Minor physical impairments are listed on the detailed report but are not considered to be at present affecting the general health."

The implications of this language clearly express the up-side down view of disease that prevails in medical circles. The twenty-three defects that were considered worthy of notice by the physician and the minor ones

that were unworthy of his notice are regarded as independent affections and not as depending on the same primary or basic cause, not as merely local manifestations of a general condition. On the contrary the language implies that the local trouble affects the general health; that is, the local trouble is the primary trouble, while the impairment of the general health results from this. The language also implies that the local impairment is the thing that should receive attention, and that those that "are not considered to be at present affecting the general health," should be ignored until they have developed to sufficient magnitude that they do affect the general health. All of this confusion and uncertainty arises out of a view of life that regards the organs of the body as independent isonomies and its affections as independent entities. When the unity of the body and the unity of its affections are understood and accepted this uncertainty will pass away.

The unity of disease and the unity of cause leads inevitably to the unity of cure. This is to say, the cure of one disease is the cure of all diseases. I do not here employ the word cure in the sense of a something that is given or done to the patient that imparts health to him or her. but rather as the natural processes and conditions that result in the spontaneous restoration of normal health.

The rule of practice that must grow out of the recognition of the unity of disease, is that all "diseases," by whatever names they are called and wherever they are located, are to be regarded and treated alike. There is not one treatment for inflammation of the knee and another for inflammation of the chest or lungs. There is not one treatment for diabetes and another for Bright's disease; not one treatment for tuberculosis and another for cancer.

To quote Moras: "I cannot too strongly impress on your mind this one foundation principle of Autology and Autopathy; namely, that the essential cause or blood and flesh condition which sickens one organ or tissue, in one person, is exactly the same as that which sickens another organ or tissue in another person. The actual or real difference is not in the ailments or sickness, but it is in the difference of the organs or tissues involved or affected and in the environment in which you live and toil and play and think.

"When once you get this 'truth and sense' fixed in your brain, you will quit trying to treat your head or nose or stomach or bowel or liver or kidneys or fever or colds, etc., but will begin to treat the 'sound' or healthy tissues of your body in order to enable your system to throw off the 'objectionables' and to repair the 'damages'; thus re-establishing equilibrium."

Again: "You own some prejudices about yourself and your ailments. They are a menace or a hindrance to your health. Let us get rid of them. All your prejudices amount to one. They arise from the mistaken idea that your ailment calls for a different remedy, or treatment, or diet, than somebody else's ailment calls for; or from the equally mistaken idea that you need a different remedy, or treatment, or diet, for your liver than you do for your kidneys, or for 'catarrh' than you do for 'rheumatism' or for 'constipation' than you do for 'diarrhea'? But you don't.

"Or, that any 'sick' organ or function anywhere in man's or woman's body should be treated differently than any other 'sick' organ or function anywhere else in man's or woman's body. But it shouldn't.

"At first it may seem somewhat difficult to see through this foundation-truth of Autology and Autopathy. Yet—think it over a minute. You—that's every bit of your blood and organs and tissues—were created

with, and you subsist on, the same elements of light, air, water and food that enter into the creation and composition of other people's blood and flesh. And when you were well, nature kept you 'well' with the same blood and flesh remedies that she keeps other people well with. So, likewise, when nature makes or keeps you sick, she does it with the same blood-and-flesh things that she makes or keeps other people sick with."

To quote Arthur Vos, M.D., B.A., a reformed medical man, **The Unity of Diseases:** "It is indeed a strange and inexplicable fact that the regular medical profession, of all the various professions in the world today, should be the last one in point of time to recognize a unity in the phenomena of those things in which it claims to have what would almost amount to a monopoly of knowledge . . . the regular medical profession is alone groping along in its usual experimental and haphazard way of declaring that the thousand and one diseases described in its text books are so many independent entities, having no connection either in cause or in manifestation. That a neuritis of the shoulder, for instance, has been traced to a pyorrhoea alveolaris, to a diseased condition of the tonsil, to a sinus inflammation and even to a diseased ovary and tube is an occurrence frequent enough; but that pyorrhoea, tonsillitis, sinusitis and salpingo-ovaritis are conditions that may have a common, unifying causative element, even though such disease conditions appear remote in place and time has rarely been suspected. It seems rather contradictory and peculiar that the medical mind recognized the possibility of one disease condition arising either simultaneously with or subsequently to some other disease, commonly called complication, and yet be unable to comprehend that all such disease conditions must have a universal substratum, aside from the human body itself, to support them. It is indeed unfortunate that such a view is not generally held by the medical profession for it would add both confidence and certainty and would contribute very largely to the greater success of medical practice.....

"From the very time that I was taught to think in medical terms, in fact from the very day that I entered upon my duties in the Cincinnati General Hospital, the usual nosology and classification of diseases presented to my understanding a rather insuperable difficulty. I could not comprehend why such recurring ailments as sick headaches and many forms of neuralgia were not considered by the profession as standing in some causative relationship with such subsequent conditions as Bright's disease, diabetes or cancer, which invariably terminated the lives of individuals in whom simple ailments so frequently recurred. Presented with a problem of this kind, I could not but conclude that the patient who had been afflicted with recurring colds in the head from time to time and who came to me later with hay fever and subsequently developed bronchial asthma and still later rheumatic arthritis, must have been suffering with a single constitutional condition, the various so-called simple diseases and ailments being merely so many manifestations of one fundamental and constitutional origin. However, having neither time or inclination for formulating a philosophy on these, my observations, and being considerably disturbed because of a lack of clarity in my own ideas and understanding on the subject, I turned to the regular medical literature of the day in the hope of finding some definite and satisfactory answer to my problems. But here I was doomed to disappointment, and, not finding a satisfactory explanation of such disease phenomena that appeared to me to have some common element as their cause, I then turned to the literature of the so-called irregulars, where, much to my delight and benefit I found a theory of the unity of disease that satisfies my inquiries and gave me a

safe and useful working hypothesis in the practice of my profession. The effect of this new theory of the unity of disease was revolutionary for, henceforth, all doubt as to the best method of procedure disappeared and I could ever afterwards approach the sick bed with a confidence and certainty that dispelled every misgiving as to the ultimate recovery of my patient. The singular advantage as I saw it then of a theory of the unity of disease consisted chiefly in the fact that active and successful treatment of disease could be begun in the first visit to my patient, even in those cases and under those circumstances where the diagnosis may, for a time, have been uncertain or in doubt."—**Philosophy of Health**, June, 1920.

What bearing do these facts have on specialism in medicine? Suppose, for instance, that a woman suffers with tonsillitis and metritis or ovaritis, does she need two "specialists", one a "specialist in diseases of the throat" and the other a "specialist in diseases of the genitourinary organs?" And if she also suffers with intestinal catarrh must she call a "specialist in intestinal disease" to care for the third condition? Or will the "cure" of one disease "cure" the other? It should be obvious that if we do not have two diseases, or three diseases, but merely the same condition in two locations or in three locations, neither of them causing the other, but all of them caused by the same primary factors, all "three" diseases would be cured by removing or correcting the primary factors. A specialist would merely treat the diseased organ that is the object of his specialty and ignore the basic cause of the trouble. In its very nature, specialism in medicine is a system of tinkering and patchwork. It is a failure where it is not a disaster. Although each part and its function should be regarded as a function of the whole, every specialist, owing to professional bias, interprets man in terms of the small fragment which is the object of his speciality. Fragmentary aspects are considered as representing the whole. When medical specialization separated the sick human being into a number of small fragments and assigned a specialist to care for each fragment, it created a dangerous ignoramus. Somebody has well defined a specialist as one who knows more and more about less and less until finally he knows every thing about nothing; while the clinician is a man who knows less and less about more and more until finally he comes to know nothing about every thing. A specialist is necessarily a man of limited experience and consequently of limited vision. The specialist's knowledge is detached, fragmentary, and incomplete. It is not necessarily antagonistic to that of another specialist.

It is a commonplace fact that the specialist can find the disease that is the object of his specialism in almost every patient that comes to him. It is no uncommon thing for a patient to visit a dozen or more specialists and return with a dozen or more "diseases" and a dozen or more prescriptions. And all these specialists may be right in their diagnoses insofar as they name the symptoms and pathology they find. They are all wrong, however, insofar as they consider each "disease" to be a separate entity, each independent of the other and insofar as they fail to recognize that these dozen or more "diseases" are merely so many local manifestations of a general or systemic derangement.

Because it lacks unity and coherence, what is called medical science presents a pitiful spectacle of confusion, frenzy and impotency. Dr. Tilden well describes it as follows. "The mind without a fundamental philosophy looks about it and sees nothing but diversity; the philosophical mind sees order and unity in diversity. The doctor without philosophy sees in man a heterogeneous junk-pile of different kinds of organs requiring a specialist for each organ; the philosophical physician sees in a deranged organ a

local expression, of a constitutional perversion, and, instead of 'plucking the eye out because it offends', the cause is removed and the eye stops offending.

"Unfortunately, the professional mind runs routine on custom—professional precedent—which, with no fundamental philosophy, causes it to see in every symptom-complex an individual disease—not a clean cut individuality with a symptomatology so stable that he who runs may read. On the contrary, there is a borderland to every so-called disease, causing it to blend with other complexes or diseases, requiring the intensive farming peculiar to, and belonging to, specialism to designate—diagnose. Hence the field of symptom complexes—diseases—has been divided into four hundred individual diseases, requiring four-hundred specialists, who in turn require clinicians to survey the field and designate what particular specialist or specialists are required. Often a patient is so honeycombed with diseases that he requires several specialists. To meet this requirement of modern medical science, groups of scientific experts form collation for the purpose of special examinations and final group consultations; after which even Gort Almighty stands abashed at the display of erudition, not even dreamed of in His Philosophy."—**Philosophy of Health.**

The Evolution Of Pathology

Chapter XI

The principles of **Continuity** and **Unity**, which underlie all of modern science and which permeate all of its literature, have never found an acceptance in the field of medicine, and particularly in the field of pathology, its causation and development. By this principle of the **Uniformity of Nature** is understood the principle that there are no breaks in the operations of natural laws and processes; that the sequence of events in Nature are stable and regular, one development growing out of the preceding and giving rise to the succeeding one. Hygienists have, from the beginning, recognized the operation of this principle in pathological development—they have perceived more or less clearly the unity and continuity of the pathological process. Dr. Jennings especially emphasized this principle.

Though Graham had some conception of the evolution of pathology, he seems not to have stressed the principle sufficiently nor to have developed his ideas extensively. It is interesting to note that in his work on cholera (1833) he briefly traced the evolution of pathology thus: "reductions of vital power" (enervation), a "general withering" of all the organs, enfeeblement of "each particular function," lowered resistance, and "chronic disease, corresponding in character with the peculiarities of circumstances, of causes, and of individual idiosyncracies, or predispositions, have been, generally by slow, and imperceptible degrees, developed in the human system."

Jennings was the first to lay stress on the principle of evolution in pathology. Following him, Page and Rabagliati each attached considerable importance to this principle. Tilden has emphasized this principle more than any other man and has developed it more extensively than all of the others combined. The present writer has stressed the evolution of pathology for years and feels that he has extended our understanding of it.

Pathology is a department of general biology. It is almost as old as life and it should be recognized that human maladies constitute but a narrow fringe along the borders of the great sea of pathology seen in the plant and animal world. The common man can, if he will try, understand the seamy side of biology as well as any other phase of it; if he can divest himself of his tlieologico-medical coating of fallacies and farces.

Pathology deals with the changes which the organism undergoes as a result of the action of pathogenic influences. It is the regressive metamorphosis of the tissues of the body; the breaking down and deterioration of the living organism. Pathology is the consequence of the combined "action" of all the impairing influences to which the organism is subjected. Cause is multiple, not single.

There are two kinds of processes in the living body which are called disease. First, there is a progressive deterioration or degeneration of the body which begins in early life, sometimes in embryonic life, or even in the germ cell, and which culminates in death, and which every one thinks of as normal and natural. Second, there are the many forms of acute and chronic defensive reactions of the body, which are designed to save life, restore health, and prevent the deterioration and which every one regards as abnormal, evil and destructive. We witness a race between two great

tendencies—■ the one progressive and advancing, the other retrogressive and degenerating.

Healing processes and physiological actions, with which the body resists the causes of the impairment, and the efforts to repair the damages done, are not properly termed pathology. The cause of this is "life"—the causes of pathology are anti-vital, abnormal. Vital or physiological actions are orthopathic, always. There is a fundamental difference between physiology and pathology, between life and death.

By the continuity of pathology I mean that related sequence of progressive effects which binds all the "local" pathological units together, both in time and place, so that the innumerable "diseases" are not single independent "diseases," but integral parts of the whole process. Pathology is of a very complicated nature which grows, in a process of evolution, from the simplest conditions to more and more complicated combinations.

Evolution, like many terms loosely employed by science, has no definite meaning. It is derived from the latin, *evolvo*, meaning to roll out, to unfold, to open. Pathological evolution is the mode of educing the extension and completion of the process of degeneration and may be fairly applied to the aggregate of so-called "diseases," always presupposing that the reverse metamorphosis, which it represents, cannot take place without the continual activity of causation. By the evolution of pathology we mean the continuous series of stages or steps by which the first faint beginnings of "disease" develop, due to the persistence of their causes, into formidable and advanced pathological conditions. It is a slow, gradual, insidious process, which, due to the present manner of regarding "disease," is unrecognized. Its terminal manifestations, it is true, are recognized and are called degenerative diseases of later life; but these are called this only because it usually requires a life time, thanks to the stubborn and never-ceasing resistance of the body, for the degeneration to become great enough to be recognized as such, and because we have not learned to see that the process of degeneration has gone on for years before it finally culminated in these conditions.

At a necropsy, the chest of a young man who had died of tuberculosis of the lungs was opened revealing an ugly abscess of one of the lobes of the lungs. "There," said one of the physicians present, "I don't want to look any further for the cause of death." But he was looking at the end, not at the beginning of the young man's trouble. How come the abscess there? How come the liver diseased? How and why do congestions, inflammations, etc., develop? Such conditions as were revealed in opening this young man's chest do not come into existence full-blown, any more than trees or flowers do.

"Diseases" never come butt-end first and Jennings truly said: "The ground is first broken at the surface, and there is a regular gradation from the summit level of physical soundness to the stagnant fenny regions of disorder. It takes a great while and an amazing amount of opposing, noxious influences to reduce a healthy vigorous system to a diseased state, according to the common acceptation of that term".—**Philosophy of Human Life**, p. 199.

Medical men usually begin at the finish to diagnose a "disease." After the patient is dead, they hold a post-mortem and their findings are handed out as a diagnosis. They find a cancer, a fibroid tumor, an abscess and these are given as the cause of death. But these things are effects. They are the results of causes that are not discoverable at the necropsy, causes that have ceased. They see the finished product, not its initial beginnings and,

hence, are not able to learn anything that is of value in preventing such developments.

It has long been taught that the "seat and nature of disease are in great measure learned by a study of the symptoms," but these "require to be analyzed and classified" and "confirmed by autopsies to reveal the histological changes with which the disorders of function are associated." The fact has been ignored that the histological changes revealed at the necropsy are the end points of the pathological process and not the causes of the disturbed function. The gross and minute morbid changes found in the intestine of one who has died of typhoid, for instance, were not present at the beginning of the "disease."

The failure of the pancreas in diabetes is probably due, in most cases, to chronic pancreatitis. The destructive changes found in the pancreas of the diabetic, after death, represent end-results. They did not exist at the beginning of the diabetes. Even the chronic pancreatitis is preceded by a slow, gradual failing of function, due to enervation and toxemia. There is no organic "disease" without previous functional "disease;" and there can be no functional "disease" except under deficiency of functional power. Post-mortem examinations fail to show functional derangement; while organic change cannot point to its cause. "Dead men tell no tales."

Post-mortem examinations reveal end-points; while even physical and laboratory examinations are capable of revealing only advanced functional and structural changes. They cannot trace the development of pathology from its initial beginnings.

Trall observed, with reference to the various schools of medicine, that "one source of error, however, pervaded all of their observations, as it does post-mortem investigations at this day. It is this: Structural appearances after death denote the effects of disease; and these morbid changes were and are often mistaken for and confounded with the causes of disease."—**Hydropathic Encyclopedia**, Vol, 1, p, 31.

Whether they view the pathology at necropsy or in its advanced stages while the patient is still alive; it is all the same—they view end-points in the progressive deterioration of the body and label this "the disease," all the while ignoring the preceding stages of the pathological process. Every pathological development reaches back to its beginnings and forward to future developments.

After pathology has reached a more or less advanced stage, or after the patient is dead, the condition of the body in such states has been thoroughly studied. Diagnosis is the art of discovering effects, and these cannot be discovered until after they have reached a certain stage—until after they have advanced far enough to produce a physical sign. In the descending pathological transit a certain series of changes must necessarily occur before the damage becomes great enough to manifest as signs and symptoms, and these changes require time. When a pathological condition becomes manifest so that a diagnosis, right or wrong, may be made, this is not its beginning. Indeed, its beginning may be, and often is, years prior to this. Its development is invariably slow, gradual, insidious, causing little or no disturbance to the body and no visible signs of its presence.

What of the initial stages? What of the stages which precede the production of a physical sign? Cause is here at work for weeks, months, years and the pathological condition is gradually developing. Despite their efforts to find such, medical men have not discovered a specific etiology for most so-called "diseases," and there is grave doubt about the few specific causes they claim to have found.

"Disease" no more comes into existence full blown than flowers and trees do. Its beginnings are small, imperceptible, its development slow, gradual, insidious. Clinical symptoms are those the doctor sees when the patient comes to him. Pre-clinical symptoms are those that the patient had before he was sick enough to go to a doctor. But back of these pre-clinical signs are still smaller beginnings when no signs are present of which the patient is aware, and which cannot be detected by the crude methods of examination now in use. The **clinical phenomena** of "disease", the **pre-clinical phenomena** of "disease" and the **unobservable phenomena** of "disease" that preceded the other phenomena, are not separate and distinct stages of "disease;" they are all of a piece and shade off imperceptibly into each other. There is no line of demarcation between them. They are continuous with each other, are mere stages in one progressive evolution out of the same causes.

Food deficiencies are not noticeable at the beginning. They develop slowly at first and then with increasing speed. By the time the physician sees the case, the deficiencies are far advanced. It is now well known that the failure of any element in the diet that can produce a "definite disease" will do much damage to the general health, growth and vitality before the deficiency becomes serious enough to receive a special name. Even the pre-clinical symptoms indicate advanced deficiency.

All pathology proceeds from minute and imperceptible beginnings, by a slow, gradual process of evolution, to its culminating states. It is a natural process and evolves out of adequate producing and sustaining causes, uniform and continuous in its development. Between the minute beginnings of pathology and its fully developed climax there are several gradations or developments of pathology.

Dr. Taylor said: "The study of disease will doubtless be more satisfactory if its beginnings are regarded with more scrutiny, and its initial processes be more thoroughly understood. It is not enough that we become familiar with its culminated effects. We need to watch the point of departure from the full expression of vitality, in order to seize upon its causative influences."

It is a serious fault of medicine that it began by exploring the higher reaches of pathology and neglected the primary elements. It failed to recognize the point of departure from a healthy standard, refused the principle of evolution in pathology, and persists in proclaiming every one of its many so-called diseases to be "special creations" devoid of all connection with preceding and concomitant pathological states. Only their preference for water-tight compartments prevents them from recognizing that there is no real break in pathological unity.

There is a consensus of opinion among medical authorities that the profession is hopelessly at sea concerning those early departures from health, which constitute the beginnings of the more progressed forms of pathology. Nescience of the initial stages of pathology leads inevitably to an ignoring of the evolution of pathology and this accounts for the ignominious impotence inherent in the "Modern Science of Medicine." Without a knowledge of the essence of pathology, its beginnings, its causes, its evolution, how can they hope to develop a rational plan of preventing its development, or of caring for the sick?

The commencing stage is necessary to the very existence of pathology. It is difficult to say at what precise point perfect health begins to pass into "disease." Organs and functions verge from the ideally healthy standard by almost imperceptible degrees—at first too trifling to cause any material inconvenience, but, afterwards, so far as to endanger life.

Pathology does not overtake or attack anybody. It is a development and is always preceded by a more or less lengthy period of preparation, during which hygienic errors are repeated and their effects accumulated, even if slightly counterbalanced by strong resistance.

A physician said to a mother, after examining her child: "Oh, your child is all right. I find no trace of disease. It is true he is a little underweight, pale, stoop-shouldered, listless, has bad teeth and poor eyes, a muddy complexion, and catches cold easily, but I can find no disease in him. His tonsils are a little large. We will cut these out and he will outgrow the other troubles."

But he will not outgrow the other troubles. Unless their causes are removed, they will outgrow him. It is necessary that we duly appreciate the importance of early departures from health and the causes of these departures. For, as Reinheimer remarks, "in these early stages of disease, which are so tangibly due to our indiscretions, lies the quiddity of disease in general. To understand the simple issues here involved is to perceive the secret of health and of natural immunity, regarding which subjects orthodox science is floundering in a bog."

The "common man," if he will but try, can soon understand the logic of the early forms of pathology. We shingle a house and in ten years the roof is rotten. We know that it did not rot all at once and suddenly, but that the shingles rotted day-by-day slowly through the years. Just so it is with the development of pathology; from small beginnings it slowly evolves into formidable states.

The early stage is a period of small warnings. Sir James MacKenzie, British clinician, who attempted to interest his profession in the study of early departures from ideal health, says, "The first appearance of disease in the human body is invariably insidious, with little disturbance of the economy and no visible signs of its presence. By and by the patient becomes conscious that all is not well with him; there is less of that feeling of well-being which accompanies the healthy state. Disagreeable sensations arise, at first vague, but later becoming more definite, and these may become so urgent that he seeks advice. Still no evident sign of disease may be perceived on the most careful examination. By and by, the disease, being situated in some organ or tissue, changes the constitution of that part, so that its presence is now recognized by a physical sign, when the clinical methods usually employed reveal its character."

Long before the physical signs, of which MacKenzie speaks, become recognizable, there is headache, anorexia, nausea, vomiting, dyspepsia, diarrhea, constipation, neuralgia, flabby muscles, colitis, skin eruptions, nose breathing, colds, decay of teeth, spinal curvature, flat feet, visual defects, anemia, asthma, sallow complexion, etc., the real cause and significance of which are not fully appreciated, which herald the gradual deterioration of the body. These "minor ailments" are early evidences of the beginning of pathology.

The individual imagines he is healthy. His physician may examine him and tell him that he is all right, that all of his organs are sound, and yet, the condition that is later to manifest itself by physical signs and symptoms is developing. From this class of "healthy" individuals gradually emerges the many cases of advanced "organic disease." These "pre-clinical" stages are the most important stages in the development of such conditions as cancer, insanity, paralysis, paresis, locomotor ataxia, Bright's disease, diabetes, "diseases" of the heart and arteries, cirrhosis of the liver or kidneys, etc. If these "pre-clinical" stages are prevented the advanced stages will not develop.

There is no possibility of learning causation so long as pathology ignores all origins; so long as we ignore the early forms and manifestations of "disease." "Mighty oaks from little acorns grow" in pathology as in the forest. Every symptom and every local pathology has its pedigree ; every affection has its parentage.

To fully understand the continuity of causation and the orderly succession of forms in pathological evolution, it is essential that we go back to ultimate sources to the absolute and radical causes that cooperate to produce the pathology. The "innumerable mysteries of disease", which we so often hear about from medical sources, are due chiefly to dereliction on the part of medical savants, who are engaged in mystery-mongering instead of truth seeking. They go also to the dead and dying in search of cause. It should be known that no amount of critical studies and examinations of end-results will reveal causes. The firmer our grasp of the principle of continuity the more must we allow to the original causes of the simplest pathology.

We have previously shown that the traditional demarcation between normal and abnormal does not exist and that the physiological behavior stigmatized as abnormal is but the outgrowth and dramatic exaggeration of the physiological behavior conventionally honored as normal, and that the familiar antithesis between health and "disease" loses its *raison de' etre*. If once this fact can be recognized by the reader, the old troglodite conception of "disease" as an entity at war with life will fade into a well-deserved oblivion.

Pathology is due to a loss of normals and these depend upon good behavior in its broadest sense. Pathology has a beginning somewhere and that beginning is in maladaptation; in adaptation that is in opposition to the highest interest of life. In other words, all pathology arises from ascertainable departures from bionomic ideals.

We quail before the idea of a reign of law in pathological evolution, and often style ourselves the "rebels of nature", a mere connivance at indulgence rather than an effort to subordinate wayward instincts to control." But we find, that though her retributive processes may frequently be veiled from our eyes, yet in one way or another transgressions against her laws are always brought to book by nature. We don't like to look the facts of pathological evolution and its causes in the face, but prefer to deceive ourselves and postpone, if we can, the consequences of our misdeeds until they culminate in Bright's disease, or cancer. As Henry Drummond has it, we run an account with retribution and delay the reckoning time with God. But every day is reckoning day and only the foolish will cheat themselves in trying to cheat nature.

Health is wholeness—integrity; pathology is a loss of integrity. It is primarily due to failing cooperation and its consequent failure of support, hence, failure of strength and resistance. What tells most and is almost the essence of pathology is the loss of resisting power. Whether we deal with weather extremes, physical and emotional stresses, toxins, or parasites, the failure of resistance alone allows them to produce more than slight evanescent impairment to the functions and organs of the body.

The contrast between health and impaired health is the difference between a healthy and a morbid circle of affinities, based on a good and a bad metabolism respectively. Pathology is the complex effect of a multitude of correlated antecedents; the simplest of so-called "diseases" is the sum-total of a multitude of elements—of countless antecedents and co-existing factors—the constant and commonly increasing sway of which pervert metabolism and produce a regressive metamorphosis throughout

the body, the regression being greater in some parts than in others, so that there is a constantly increasing complexity of the pathology, both local and general.

If we attempt to trace pathology from its earliest beginnings we must begin with deficiencies that arise out of the slow deterioration of function resulting from the universal deficiencies and excesses of life. This is the commencing stage which is necessary to the very existence of pathology. As function deteriorates and the deficiencies become greater, the tissues begin to change from the ideal state. There is a general lowering of tone, and a consequent lessening of physical efficiency.

As the tissues depart more and more widely from the ideal standard, they will be less able to perform their functions; their functional powers will correspond to the deterioration which they have undergone. The tissues, being unable to perform their functions as efficiently as in health, perform them as well as they can. As the tissues deteriorate, functional powers grow less, and as functional powers grow less, deficiencies increase, so that tissue deterioration is accelerated. A vicious circle is established which, despite strong resistance, slowly, insidiously, but certainly, undermines the organism.

The pathological changes in a structure pass through a more or less regular series; in some cases the changes being very great, in others very slight; sometimes, being produced rapidly, at other times slowly, but rarely remaining static. The slowness or rapidity with which a local structure undergoes morbid changes is determined by the support it receives from the general system.

An indissoluble relationship exists between every single organ in the body and the entire sum total of the forces and functions of life and all other principles of the entire being. The ability of even the strongest organ in the body is inadequate to meet all the requirements of its existence, and for the satisfaction of these it is dependent upon the good offices and services of the other organs of the body. Barring violence, an organ falters in function only when its support fails. Failing support of an organ means a failure of the whole organism.

Thus, while some organs are almost always damaged more than others, the general structural changes more or less common to all tissues represent an unbroken and progressive degeneration, beginning with the simple primitive changes and progressing, by regular gradations, through increasing complexity, to the final decomposition of the organ or of the organism. We are witnessing a slow and not abrupt degenerative process—the degeneration and degradation of an organism. The detailed changes passed through are very varied, but the general change passed through is the same for all organs.

As the structures and functions of the body are complex and mutually related, so the developments of pathology are usually complex, and many phases of pathology are mutually dependent. The labors of the body are continually intermingled with the products and consequences of degeneration—the elements introduced by the degenerative tendencies become variously blended with and superimposed upon the elements of health—and no investigation of pathology can be quite satisfactory, except as it supplies lines of discrimination between these.

By the principle of the unity and continuity of pathology we do not mean anything so absurd as that one "disease" causes another, such as, that, colds cause tuberculosis. A cold does not produce other diseases as is popularly taught and generally believed. The constitutional derangement, enervation, toxemia and intestinal indigestion, which brought on the crisis

(cold), also builds the other "diseases", even the organic "diseases". Not one cold but many colds and other crises develop over the long period of time during which organic disease is developing.

Constipation (intestinal stasis) is accused by many, of being the cause of many so-called diseases, ranging all the way from black-heads to cancer; it is often mentioned as a cause of cancer. Too much stress is placed upon the constipation and little or no emphasis is placed upon its antecedents. Those who are afraid of the stasis take the condition as they find it and attribute to it all the subsequent pathologic developments. The fact that these troubles may be and usually are concomitant and successive developments out of the same causes that produced the constipation is completely overlooked. This leads to treatment of the colon in an effort to cure constipation, rather than to a correction and removal of the causes of the constipation. Some even seek to prevent cancer by **curing** constipation, instead of seeking to prevent it by correcting the common causes of both of these.

The teeth are integral parts of the body and do not stand apart from it as separate entities. They partake of the infirmities of the body as a whole. A carious tooth is not to be regarded as a local disease, unrelated to the general condition of the body. We should rather view it as a local effect of far-reaching general or systemic causes, which causes affect the body as a whole.

Indeed, those processes which can be shown, experimentally, in animals, to destroy and distort the teeth, are known to injure many other parts of the body, perhaps all parts, more or less. Dietary deficiency, for instance, is not confined, in its effects to the teeth. The jaw bone, the skull and other bones may become carious. The gums and other soft tissues of the body are also affected. Decay of the teeth is but part of the universal decay of the body, all of this decay arising out of the same common causes. Not merely the bones, but the soft tissues, as well, partake of the deterioration. The absurdity of the present fad for extracting abscessed or carious teeth to cure various so-called diseases should be apparent to all. The decay of the teeth is not the cause of the deterioration and disease elsewhere, but all local evidences of decay are concomitant and successive effects of a common basic cause.

All chronic, "incurable," so-called diseases, with which people die, are preceded by recurring simple ailments such as colds, gastritis, headaches, neuralgia, periods of not feeling well, constipation, diarrhea, indigestion, etc. So-called rheumatism, arthritis deformans, cancer, Bright's disease, diabetes are end-points in a pathologic process, the early manifestations of which are regarded as simple and insignificant ailments. Asthma and hay fever do not develop without cause, and this cause has been at work for weeks or years, in most cases, and all the while manifested itself in some form. All of these so-called diseases are evolutions out of a common basic cause.

The subject of pathology has been divided into many parts in order to make a complete inventory of changes in each organ and tissue, and in each biogony; but this, it should be clearly understood, is only a methodological expedient, created by ourselves. Pathology remains one and indivisible. Methodological necessity forces us to divide the pathological ensemble into fragments and to describe, on the one side, pneumonia, and on the other, typhoid fever; or, on the one side, Bright's disease, and, on the other diabetes; or on one side, gastric ulcer, and, on the other, uterine sarcoma ; etc., and this tends to obscure the fact that these conditions are merely links in a chain of united and interdependent

sequences. There are hundreds of names which stand for various orders, subordinate classes and species of "disease," which have been worked out in the effort to classify "disease." We have fallen into the bad habit of regarding these subjective taxonomic orders as objective realities of nature, so that these nosological terms, descriptive of varying conditions of the body, are looked upon as names for entities. For each supposed entity we demand a specific germ, and this obscures the fundamental unity of all pathological phenomena. We see the terminal stages as entities only because we are unable to see the woods for the trees.

The present analytical vogue which seems to be gaining momentum, renders the conception of pathological unity more difficult, for it tends to separate or break up the more comprehensible old pictures, and gives us several "diseases" where only one existed before. Instead of attempting to describe for us the many aspects of one general condition, the pathologist attempts to individualize each fragment of the whole which he describes. The fictitious pathological entities thus created by heteropathic medicine become the object of treatment.

As shown in another chapter, Dr. Jennings divided the development of pathology into three more or less well-defined stages. Discussing what Heteropaths called "predisposition to disease," he says; "Orthopathy makes this predisposition of Heteropathy, the first stage of disease, and makes no difference in any of its stages; it is all of a piece from first to last. There are different stages and degrees, and different forms, but the nature and tendency is one throughout."—**Philosophy of Human Life**, p. 111.

This "first stage of disease" he regarded as the "first grade of degeneracy, verging toward the second grade, constantly liable, from a low state of vital powers, to be hurried into it" and said of the second stage:

"In this second stage or grade of degeneracy, we have what is called functional disease—a change from the natural (normal) condition of the functions of the body or parts of it. It may be in the form of what would be called a pleurisy, fever, or other form of derangement to which the body is liable—some external or sensible manifestation of internal difficulty."—**Tree of Life**, pp. 117-118.

The third stage is one of structural impairment or change—organic "disease." But, he says: "There is no propriety in the common mode of computing physical defection—that part of it that obtains the appellation of disease. Whatever name is given to physical degeneracy should be made to include the whole of it, first, second, and third stages. It is all a damaged state, alike needing recruit and replenishment. The gradation in the line of degeneracy, from the elevated point of perfect structural and vital soundness to the commencement of the second stage where functional disturbance begins, must always be a lengthy one; for the distance between the two points is immense, and cannot be traversed by noxious agencies in one or two generations"—**Tree of Life**, p. 117.

In discussing idiopathic and symptomatic "diseases" he declared: "There is however, about as much propriety and utility in these attempts to discriminate between idiopathic and symptomatic diseases, as there would be in making a distinction between old debts and new ones. And when the vital economy is allowed the opportunity and can command the necessary means for liquidating her embarrassments, she will make about as much difference between idiopathic and symptomatic diseases, as an honest man would in the settlement of just claims against him, as he acquired the ability to do so, between old and new debts. When an individual gets

largely in debt, whether from improvident husbandry, or the force of circumstances beyond his control, the extension of his indebtedness is natural and easy, if not unavoidable; and so when man's vital energies are broken down or very much impaired, it is not only natural and easy for one part after another to yield to the influence of disturbing causes, but absolutely impossible for them to do otherwise; not from sympathy, but because the overflowing scourge has at length reached them in its desolating effects, as it reached their neighbors before them; and their diseased condition is as truly idiopathic as that of the others."—

Philosophy of Human Life, p. 134.

While no analogy can go on all-fours, still an analogy often enables us to arrive at a clearer conception and better comprehension of a subject and attain a closer approximation to the truth about things. An analogy between the development of the body and the development of pathology will aid us in better understanding pathological evolution. We should keep clearly in mind, however, that pathology is not an entity or an organism, but merely a widening and increasing deterioration of an organism.

While any whole is evolving, there is always going on subsidiary evolution of the parts into which it divides itself. This is true of the totality of things made up of parts within parts, from the greatest down to the smallest. We see this plainly in every physically cohering aggregate, such as an animal body. While it is growing larger and assuming its general form, each of its organs is doing the same. We recognize these organs as merely necessary groupings and differentiations, to facilitate the adjustments of the organism, and we recognize, also, that these organs are not different existences, but are component parts of one, unified, correlated, and interdependent organism. We know that the evolution of the organism and the evolution of its various organs do not represent several kinds of evolutions, but one evolution going on everywhere after the same manner.

It is wrong to divide pathology into several hundreds of varieties, species, genera, phyla, orders, and classes of "disease," and regard these so-called "diseases" as entities. While the objective reality of these "diseases" and the propriety of so classifying them is not questioned by individuals in the ranks of materia medica, the fact remains that so-called local "diseases" are merely local expressions of general states. Instead of the so-called "diseases" being different and specific "diseases," they are concomitant and successive developments out of common causes. They are parts of the same process; the continuity and unity of the process is nowhere broken. The evolution of the "local" pathology is part of and identical with the evolution of the general pathology. It is a serious blunder to single out each link in a series or chain of successive, concomitant and coetaneous developments and give to each a different name and ascribe to each a different cause.

We watch the decline of symptoms and the "return" of health and the subsequent development of a different group of symptoms and lose the continuity of the etiological thread because the "two-diseases" are so unlike.

It is now fully recognized that insanity introduces no new principle of action in to the processes of mind; that the laws of mind remain always the same. A change of condition produces a change of result so that "theoretically, it would be possible to take a series of men with a most 'normal' man at one end and a most pronouncedly insane one at the other, and to arrange those intervening in such a way as to show, through insensible gradations, the transition from one extreme to the other. To

determine, in a series, the individual in whom abnormality first appears would be impossible.

"Such a gradual transition from normality to extreme insanity may, at times, be roughly traced in a single individual, as in the disease known as 'paralytic dementia.' Here, a man, usually in the prime of life, passes by imperceptible stages into a condition of profound dementia."

The principle of continuity and unity is here fully recognized, as is also the unity of "normal" and the "abnormal," as far as it applies to mental "diseases." ! It now needs only to be recognized that good health and poor health are both health; and that disordered liver function, for instance, introduces no new principles of action into the processes of the liver. Theoretically, it would be possible to take a large series of men, with a most normal man at one end and a pronouncedly diabetic man at the other, "and arrange those intervening in such a way as to show, through insensible gradations, the transition from one extreme to the other. To determine, in such a series, the individual in whom abnormality first appears would be impossible."

The **law of continuity** does not negate the possibility of the sudden appearance of new forms or new conditions. It only negatives the possibility of any such sudden appearances which have been unprepared. Nothing can come into existence without a long, even if it be a secret, history. Every leap, however wide, and every "new disease," however different, and however sudden its appearance, is always preceded by a chain of predetermining causes. When a new stage or step appears, which appears to be a new "disease," it has been gradually prepared below the surface of events. Pathology tends to widen in extent and grow in complexity, as its causes continue to pile up and operate. In each "type of disease," as in the aggregate of "types", the multiplication of effects has continually aided the transition from a more homogeneous to a more heterogeneous state. In a succession of "diseases", from a "lower" (simple) to a "higher" (complex) type, and a consentaneous greater degree of complication, many factors cooperate in effecting the pathological evolution. There are -varieties, but not species in pathology.

The more I study the manner of the evolution of pathology, the more am I impressed with its unity, even in full view of its multiplicity of forms and manifoldness of stages. All the "diseases" of the nosology are but an aggregate of evolutionary results; which, while they appear to the superficial observer as specific and independent entities, are parts of one unified whole. Pathology in many parts of the body does not represent many kinds of pathology, nor many different kinds of evolution, nor yet, many diversified causes, but one evolution going on everywhere after the same manner. "Diseases" do not exist **sui generis**.

There is a fundamental oneness of pathology beneath great diversity of form. Specific forms of "disease" involve the law of diversity and differentiation manifested throughout nature in an infinite variety of transitions. The so-called, specific disease, the symptom-complex, counts for little in pathology. It is only the temporary expression of a "type"; it is a shadow, a reflection, image, but is not the reality back of the symptom. It is a transient, passing shadow, a ripple on the stream of life, which flows on regardless. Nature does not work by producing water-tight compartments, with secret drawers absolutely shut off, isolated and insulated from all the rest. On the contrary, there is invariably a direct, or else subtle, secret and absolute interdependence of one on all and all on one.

There is an equally constant struggle against, with a slow-yielding to, the antecedents of pathology. Back of this degeneration are various causes against which the body puts up a continuous, but losing struggle. At times the forces of life offer a more violent resistance to these causes of decay and this struggle makes itself felt as pain, fever, inflammation, swelling, rapid pulse, rapid respiration, diarrhea, skin eruptions, etc. These and the symptoms which accompany them are vital emergency measures instituted for the purpose of destroying and eliminating the causes of the degeneration and to repair tissue damages as far as this may be possible. As life advances, from infancy to middle-age, as the sphere of life widens and the individual comes in contact with an increasing number and variety of pathogenic influences, one tissue after another and one organ after another breaks down before the onslaught of impairing influences. A Greek label is attached to each break and the individual has a "new disease", or a "complication" of the "old one." Not only are names given to local expressions, but as they undergo developmental changes, new names are attached to them.

Parts not only evolve as the whole evolves, but the whole evolves as the parts evolve. Just as the body, as a whole, grows larger at the same time that the heart or the liver develop, so, the general regressive metamorphosis of the body grows greater as the degenerative changes in any of its organs grow greater.

So with the many so-called pathologies seen in a rapidly deteriorating, or in a dead, organism—these local states are not independent of each other, nor are they unconnected with preceding pathological states. Pathology never comes butt-end first.

The process is continuous and unbroken and all of its various steps or stages constitute a unit. As the cumulative effects of persistent, perhaps increasing, causes manifest themselves, we behold the breakdown of one tissue after another. Each break receives a separate name or number, is endowed with a quasi-individuality and becomes the object of special treatment.

When the organs of the body begin to break down and falter in their function, it is easy and natural for the wreck of one organ to be followed soon by the wreck of another, due to failing support from the faltering organ. All of the organs have been crippled more or less by the common causes of organic impairment, and many of them are already on the verge of a breakdown. Every successive development adds some impetus to the general deterioration of the body. If the pancreas is the first to collapse, the patient is said to have diabetes; then, as one organ after another follows the pancreas to the scrap-heap, the resulting "diseases" are regarded as complications of diabetes. This is just as correct as to look upon "diabetes" as a complication of some one of the many pathological developments that precede or accompany it. Malnutrition resulting from crippled digestive organs: crippled carbohydrate metabolism, in diabetes: impaired kidney excretion, in Bright's disease; lessened circulation, in heart affection; insufficient oxidation in pulmonary tuberculosis; impeded cell-renewal in arteriosclerosis, are only some of the examples of failing support resulting from the crippling of important organs, which hasten the break-down of other organs and build "complications." An additive resultant emerges out of the new concatenation.

In diabetes the pancreas is not the only organ involved; for, the causes of diabetes have not concentrated their attack and spent their force upon the pancreas. Diabetes is preceded by and accompanied with impairment and destruction in other and often more important organs. The

whole body is more or less affected; diabetes is only one of "several diseases" with which the patient suffers.

There are usually nervous lesions and nervous symptoms, though these are not constant. Hypertrophic enlargement of the heart is common, as is, also, hardening of the arteries. Tuberculosis of the lungs, enlargement and often fatty degeneration of the kidneys, and lobar or bronchopneumonia are common concomitants. There is much other, though often less prominent, pathology in various organs and parts of the body. Indeed, every tissue, even the bones are affected more or less.

Inflammation of the kidneys occurs in at least one half of such cases. Boils and carbuncles, inflammation of the genital organs, sometimes eczema or gangrene, arteriosclerosis, inflammation of the peripheral nerves, sometimes producing striking simulations of locomotor ataxia or paralysis of the legs, shingles, perforating ulcers of the foot, atrophy of the optic nerve (resulting in blindness), loss of sexual power, and coma are the most prominent "complications" of diabetes.

Coma ends in death in a few hours or a few days. Gangrene develops usually in the feet or legs, and occurs largely in elderly patients. It results from the obliteration of an artery by inflammation, the outcome of arteriosclerosis, arterial degeneration, and nutritional perversion.

The patient suffers with several "diseases". Some of these developed prior to the diabetes; some concomitantly with it; and others successive, or even sequent, to it. Not all of the so-called complications of diabetes are sequent to the disordered metabolism resulting from pancreatic failure, but most of them are concomitant and successive developments out of the same causes that produced the diabetes. The firmer our grasp of the principle of continuity the more we must allow to the original causes of the simplest pathology.

If we study any of the other so-called "degenerative diseases of later life" we get very much the same picture. In Bright's disease, for instance, there is the same arteriosclerosis, optic atrophy and blindness, liver impairment, vascular hypertension, cardiac hypertrophy, fatty degeneration of organs and tendency toward pneumonia. In addition there may be dropsy and finally uremia and coma.

In Bright's disease the kidneys are not the only structures involved. In tuberculosis the lung disease is only part of the disease of the body. These same things are true of peptic ulcer, cancer, and other so-called "local pathologies." All so-called organic and chronic "diseases" are merely local developments out of the general systemic derangement.

Just as breeders, breeding for commercial rather than for biological ends, breed for deformity; so in certain pathological states, some parts are forced to develop semi-independently and inordinately, irrespective of the common good of the organism. Acromegaly supplies an excellent example of this. Likewise, the various organic dysfunctions produce their own respective symptom-complexes.

Thus pancreatic dysfunction will produce effects that differ in kind to those produced by thyroid dysfunction, or to those produced by dysfunction of the ovary, or testicle, or the adrenals, or the hypophysis. Impairment of the digestive system gives rise to different affects to those resulting from renal insufficiency, or those due to cardiac failure. This helps to explain why pathology appears so multiform or polymorphous that its essential oneness escapes us.

It will help us if we keep in mind that the various symptom-complexes, arising out of dysfunction of the various glands or other organs, are epiphenomena, or symptoms of an altered constitution, which

eventually terminate in the production of various syndromes, but are not the primary or remote cause which furnishes a complete explanation for a given syndrome. Only a recognition of the universal basic cause for all pathology can bring order out of the present pathological chaos.

"Complications" really have three sets of causes; namely (1) the **primary causes** are those which have been in operation throughout the body for years and, through their persistence, accumulation and extension, are responsible for the general impairment of the body; (2) the **secondary causes** are the functional failures that result from the breakdown of an important organ, and the resulting greater or lesser impairment of its symbiotic partners; and (3) **tertiary causes**—are therapeutic procedures which further weaken and destroy the body.

The aggregate of pathological phenomena, from earliest life, to the final ending in diabetes, Bright's disease, cancer, etc., constitute an organic unity, a continuum, and we must learn to view these conditions as evolutionary results and to consider together the whole congeries of pathogenic influences and pathological developments. Instead of considering the various "local pathologies," whether they develop together or successively, as "special creations," having no relationship to each other, we must see in them concomitant and successive developments out of the persistence, cumulation, and extension of a common basic cause. The unity of phenomena is a fact, even in pathology, and we could, with profit, abolish the confusing and misleading nomenclature of the schools. As we have dispensed with the alchemy of the ancients, and as we no longer utilize their demonology as serviceable or true, we can afford to dispense with their nosological views.

The universality and uniformity of Natural Law—that continuity of cause and effect which runs unbroken through the warp and woof of the very universe—is beautifully expressed by the poet in the following lines:

"The law which molds a tear
And bids it trickle from its source,
That law preserves the earth a sphere
And guides the planets in their course."

This law assures us that the evolution of pathology must be the same throughout the body. The progressive deterioration of an organ or part goes forward in one continuous "stream," sometimes slowly, sometimes swiftly, but is never broken until its causes are corrected or removed. The process is continuous because its cause is continuous.

The principle of the universality and uniformity of natural law renders it an absolute certainty that the evolution of the humblest symptom must be identical with that which governs the evolution of the most extensive and very worst states of pathology. What is true of the parts is equally true of the whole, and, conversely, what is true of the whole is true of its parts. The essential principles which govern the evolution of the systemic deterioration, viewed in the aggregate, must necessarily be the same as those which may be discerned as controlling the evolution of pathological states of particular organs.

The supposition that the organic locality of an affection makes a difference in its essential nature or character is the source of much confusion. So-called local pathologies represent different aspects and consequences of the same thing—various outcroppings of the same subterranean strata. Trace these points of prominence but a step backward, remove the technical rubbish, and we disclose the same foundation for all

of them. The superficially differing pathological states are readily seen to have a common origin and starting point. The minor transformations, represented in local pathologies, are, in their infinite varieties, parts of one vast transformation and, throughout, display the same law and cause.

It is not by accident that the regressive transformations, which occur in the various organs of the body, and which constitute the downward pathological evolution of the living organism, have common traits; are the same in fact. The regressive metamorphosis which occurs in one organ is the same in kind, and the result, also, of the same general antecedents, as are all the degenerative changes in other organs. The same principles underlie the production of pathology everywhere in the body. The same general principles which are found to govern the evolutionary process in the one case must necessarily be found of equal force in connection with the evolutionary process in all other cases. The unity of all pathology must be recognized if order is to be brought out of the present chaos.

There are some three or four or eight or ten general lines of pathological development; all the "diseases" are modifications of these few types. All have the same cellular changes, the same atrophy or degeneration, the same functional deviations, the same ultimate beginnings and the same common causes.

Whether we look at physiological modifications or histological changes, they are found to be the same in one organ as in another and to grow out of the same general causes. Is it inflammation in the liver in hepatitis, or in the pancreas in pancreatitis, or in the kidneys in nephritis? It is the same process, the same neuro-circulatory modification or adjustment. Is it hypertrophy or hyperplasia in the tonsils, or in the heart, or in the liver, or in the kidneys? The two processes are the same in each organ. Is it an abscess in the liver, or in the lungs, or in the fallopian tubes? It does not differ in either location. Is it cardiac sclerosis, or vascular sclerosis, or hepatic sclerosis, or sclerosis somewhere else in the body? Its location does not change its essential nature. Is it tissue destruction in the liver in hepatic sclerosis, or in the pancreas in diabetes, or in the kidneys in Bright's disease? The destruction is the same wherever it occurs, Is it atrophy, or degeneration in the optic nerve, or in the spinal cord, or in the liver, or in the kidneys, or in the heart or arteries, or in any other organ? It is everywhere the same. Great as is the variety of "disease," there is, after all, only a few types of "structure" among them all.

When the pathology in each organ is stripped of its non-essential complications it is seen to be identical in each organ or structure. The knowledge that there is not one **gymnopathology** for diabetes and another essentially different pathology for Bright's disease leads directly to the conclusion that the regressive transformations constituting the pathology in both organs goes back to the same general causes for their explanation.

The essential principles which may be discerned as governing the most ordinary pathological phenomena in so-called "local diseases," must, of necessity, be found to govern the evolution of the whole pathological ensemble, regarded as an aggregate of "diseases," however varied the phenomena presented. From the first minute beginnings of pathology, downward to its culmination in death, the varied processes of pathological evolution are laid down in orderly sequence and along lines of special kinds, the regressive changes in the tissues occurring in orderly fashion from imperceptible beginnings to the characteristic form of the full-fledged pathology. From the minutest beginnings evolves the very worst stages of pathology. There is an unbroken succession which exists in the whole realm of pathology, whereby the very simplest forms of pathology

from cancer or Bright's disease at the lowest level of pathology, to minute changes at the beginning of the pathological series.

In the whole long list of medical fallacies, there is none more unscientific or absurd than an isolated pathology. So-called local pathologies are all parts of one general process and represent merely concomitant and successive developments from (the same cumulative causes.

Dr. Page expresses this as follows: "The fact is that there is a process of degeneration going on throughout the entire structure of the man, even to the last tissue, and the symptoms are all indicative of this, and this is more or less strictly true of all disorders. The naming and classifying of "disease" is calculated to mystify and mislead ; sickness is the proper term for describing them all; self-abuse, in the broadest sense of the word, is the cause of them; and obedience to law, the only means of prevention or cure."—**The Natural Cure**, p. 131.

If there is no isolated pathology, there can be no isolated symptom—the later is as absurd as the former. Purinton is almost wholly correct when he declares that a symptom "tells nothing and foretells less." He is wholly right when he advises: "If you want truth, don't bother with symptoms, watch principles and examine causes—actions and results can look out for themselves."

Pathology, in general and in particular, is progressive in character, both in degree and in form. It not only passes through various stages of development, but tends to develop in different directions from the same apparent beginnings. From its first faint beginnings, perhaps in infancy, upward or downward to cancer, or Bright's Disease, the varied pathological developments are laid down in orderly sequence and along lines of special kinds. The process of degeneration may take certain definite directions, depending upon certain conditioning factors, and give us cancer in one instance, tuberculosis in another, diabetes in another, Bright's disease in another, etc., as end-points, but there is a continuity, not merely in each chain, but one chain with another, as a result of common causes. In the principle of evolution alone is to be found the true explanation of all the varied phenomena of pathology including the whole of pathology ranged in a complete series of gradations from its imperceptible beginnings at one end to cancer at the other.

Dr. Rabagliati thought that there are "two great lines of the development or evolution of disease." Tracing these he says: "In one the sequence of events is indigestion, heart-burn, acidity, the occurrence of watery blebs or blisters on the lips or tongue, sore throat (tonsillitis), acne of the skin, rheumatism (initis, I have ventured to call it—congestion of connective tissue generally, lymph-congestion rather than blood congestion), constipation, bronchitis and broncho-pneumonia itself, scanty high-colored urination often accompanied by a heavy-deposit on standing, insomnia, eczema, and apoplexy or cancer. In the other we have indigestion, fullness and weight after eating, faintness, relieved immediately by frequent eating, and remotely aggravated by the same, enlargement of glands in the neck, the watery blebs on the neck mentioned above, free urination without deposit or precipitate, tendency to free perspiration or sweating, the occurrence of disease in a joint such as the knee, hip, elbow or ankle, anemia (triphthemia, or catatribemia rather it should be called), pallor and attenuation, feeling of general or frequent fatigue, pelosis or proneness to become black or blue on receipt of very slight or unremembered injuries, flushing followed by coldness, clamminess of hands, rheumatism, diarrhea, pleurisy and tuberculosis."

While these two lines of pathological evolution of necessity have much in common, the close observer will discern that the cancer chain develops largely in the plethoric (what medical men call the well-nourished), while the tubercular chain develops in those of poor nutrition. Dr. Rabagliati says: "Of course, these groups of illnesses, one culminating in cancer, and the other in tuberculosis, are not definitely demarcated off from one another; but still, I think, perhaps, are more or less fairly defined."

The doctor thinks that indigestion in some form lays the foundation for our illnesses and that the important thing in both these lines of development "is that they both commence with indigestion". Although indigestion usually puts in an appearance early in the development of any pathology, whether cancer, tuberculosis, Bright's disease, diabetes, or sclerosis, etc., all of which may be metaphorically, considered as the end-points in different lines of parallel or even divergent evolution, it is not the initial stage in the development of any so-called disease.

Pathology being general, it is logically the consequence of all the many impairing influences, both positive and negative, that enter into, or that have entered into the life of the sick person.

Pathology does not exist without cause. It begins where cause begins and persists where cause persists. It is continuous because its causes are continuous. As cause accumulates and extends itself, more and more of the structures of the body break down and the organic and functional impairment grows greater, hence the ever-increasing complexity of pathology. Development proceeds from the general to the special. All pathology begins in simple deviations from normal and proceeds, step by step, to the complex forms. It is not only the cell or the organ which is at fault, but the whole organism, often the whole species. The variation in pathological conditions is not only inevitable; it is continuous. It proceeds historically. The present being continuously built upon the past.

The continuity of causation and the gradual accumulation of its effects are essential to the progressive extension and developing complexity of pathology. Transient causes produce transient effects. The causes of pathology in any so-called disease must be co-extensive with the general pathology present, which is much greater than is generally supposed. If, as a race, we are immersed in degeneration, as is often asserted, the causes of degeneration must be co-extensive with this degeneration. There is a generic and basic cause for all pathology.

All theories are largely guesses at the details of the processes through which causation works to produce its many results. Though guesses at the details through which causation works its way from innumerable small beginnings to innumerable great and complicated results, may be wrong in whole or in essential parts, the continuity of causation and the gradual accumulation of its effects, cannot be doubted.

However, on the other hand, the most perfect continuity of causation does not involve, as a necessary consequence, any identity of "structure" in its final and complex results. Nor is there, of necessity, any plainly evident continuity in its visible effects. These effects may be sudden and violent, although the previous working has been slow and even infinitesimally gradual, and may manifest themselves in almost infinite variety of form and in many different directions. Continuity only precludes individualization.

Almost all chronic so-called diseases are associated with—either preceding or co-existing—dental caries, tonsillar troubles, colds, sinus affections, gall-bladder, colonic and pulmonary troubles. These are all

referred to as a foci of infection, but no effort to determine how "foci of infection" arise has been made. To me it seems quite reasonable that all of the local conditions have a common basic cause. The fact that decay of the teeth, poor skeletal development, nervous instability, mental deficiency, and gastro-intestinal affections have increased in direct proportion to the increasing use of "processed" or manufactured foods and drinks is very significant.

A child starts life under modern conditions of meddling midwifery, over-feeding, wrong feeding, coddling, over-clothing, too much handling, lack of fresh air and sunshine, noise, too much excitement, etc. He develops indigestion with flatulency, resulting in colicky pains in the abdomen which prevent him from sleeping. Frequent colds, and diarrheas and various forms of skin-eruptions develop as a result. These are palliated with poisonous drugs and their causes ignored.

The child grows older and the conditions and care, if anything, grow worse. Colds, sore throat, enlarged tonsils, adenoids, and the so-called "children's disease" follow it through the next few years of life. The child is drugged, inoculated, vaccinated and its tonsils and adenoids are removed. All the while the causes of its troubles are ignored.

Defective teeth, poor eyesight, defective development, a chronic catarrhal condition, and various acute "diseases" accompany the child on to adolescence. Puberty arrives and this may carry him by sheer force of developmental power through adolescence with but a part of the childhood troubles.

At adolescence he learns to smoke, drink tea, coffee, cocoa, chocolate, alcohol, soda fountain slops, etc., to stay up late at night, and to masturbate, and, as his sphere of life widens, he comes in contact with an ever increasing number of impairing influences. This period is marked with various forms of "acute disease," the appearance of asthma, hay fever, nervous troubles, skin eruptions, the first appearance of gray hair, early beginnings of baldness, pasty complexion, and often more serious troubles. The slight, but frequent headache, or other aches and pains, light but frequent, the tired feeling, the blotched, pimply face of the adolescent youth, the pale, ghastly face of the young lady, which she seeks to hide behind a camouflage of rouge and powder—these are small things; but, if neglected, they grow into larger things. They are early signs of deterioration.

Adulthood is reached, and the hair begins to fall out, lines and wrinkles form, sleeplessness and various acute crisis develop. In women painful menstruation develops, if indeed they have not had this from the beginning. They may become morbid, and perhaps more or less hysterical.

The excesses and dissipations of the period from twenty to thirty-five, coupled with imprudent eating and frequent drugging—cathartics, headache remedies, bicarbonate of soda, etc.—and operations, soon lay a secure foundation for "chronic disease." The sensuous and voluptuous usually keep up their bad habits until collapse of function calls a halt. Anorexia and nausea, perhaps, vomiting, force them to eat less. Repugnance to smoke and drink forces them to cut down on these for a period. A "break-down" compels them to rest. Such crises are common in the life of the average man and woman.

As soon as the crisis is over, these patients return, unrestrained and untrained, ignorant and undisciplined, to the same unwholesome mode of living they pursued before the crisis developed. And in this they are encouraged by their relatives and physicians, by their nurses and friends, and by conventional examples all around them. Indeed they are often

coerced by ridicule, ostracism and persuasion to return to the prior follies, should they manifest a tendency or desire to live sensibly. The discerning will readily observe that in all the prevailing modes of treating the sick, there is no lesson taught, no discipline enforced, no condition instituted that is of any value in health or in a subsequent state of disease. The intellect of the patient is left blank and, more often than otherwise, his body is a scene of devastation.

At first these conditions are only functional and periodic, but as their causes are continued and intensified, the affected organs undergo structural changes. Anemia, gastric ulcer, visceroptosis, chronic rheumatism, tuberculosis, etc., now develop. When middle life is reached, and sometimes before, nervous "diseases", insanity, "diseases" of the heart and arteries, diabetes, Bright's disease, tuberculosis and cancer mark the final stages of degeneration.

From their functional beginnings in infancy, to their organic endings in middle life, these so-called "diseases" represent a continuous development out of ever increasing causes. Every chronic "disease" is of slow development and cannot exist without previous systemic impairment. "Functional derangements," says Dr. Tilden, "are of the same nature and from the same universal cause that ends in all organic so-called diseases. All so-called diseases are, from beginning to end, the same evolutionary process. All symptom-complexes—diseases—from their initiation to the ending, are effects, and the most intense study of any phase or stage of their progress will not throw any light on the cause."—**Toxemia Explained.**

He thus pictures the gradual evolution of pathology: "When the organism is enervated from the thousand-and-one influences incident to life, and intoxication has brought on such a state of metabolism that the organism is overwhelmed by waste—excretory products—it is then that inherited diatheses take on activity. If the diathesis is tubercular, gouty, neurotic, or of any of the special organs of the body, it is in keeping with the laws of health and life for the affection peculiar to the diathesis to spring up. If the causes are not removed, the affection will remain functional for a time: then organic change will take place. It is then that affections become diseases; it is then that irritation and inflammation from indigestion become ulceration of the bowels or stomach, and the ulcer perforates, and death ensues from peritonitis caused by the perforation. The peritonitis was caused by the perforation; perforation was caused by ulceration; ulceration was caused by inflammation; inflammation (catarrh) was caused by irritation; irritation was caused by indigestion; indigestion was caused by fermentation; fermentation was caused by enervation; and enervation was caused by the thousand-and-one influences which build or destroy the body and mind of men, depending on whether they are wisely or unwisely applied."—**Impaired Health**, Vol. 1. p, 258.

Each step is built on or out of the preceding one, as a result of the continued operation and intensification of the same cause or causes that produced the initial stages. Every so-called chronic "disease," every bit of advanced pathology, local or general, is of slow development. Each of the so-called "acute diseases" is a crisis and many of them occur before organic change takes place and chronic "disease" appears. Each toxemic crisis is palliated by drugs or treatment, which produce greater enervation, causes are ignored, and there grows an increased toleration for toxins. Chronic "diseases" are the legitimate outcome of palliated acute troubles.

A common mistake is to regard "diseases" as cured and health restored when the symptoms have ceased. In reality the patient is in the

same condition he was just prior to their appearance. It is still a long way back to full health. There is much road that must again be traversed before one arrives at the health which he enjoyed before he began the evolution of his sufferings. Man regards the appearance of symptoms as the beginning of "disease" and their disappearance as its end; and each new appearance of symptoms of "disease" as a new "disease", instead of merely new incidences in one general and continuous condition.

Biologists tend to confine the term degeneration to "a retrograde condition of the individual resulting from a pathological variation of the germ cell." Since, however, deterioration may and does occur in individuals derived from ideal germ cells, we should include in this definition all permanent pathological variations of the somatic cells.

Dr. Oswald says, "every birth is a hygienic regeneration" and, while it is true that thousands of babies are born dead and thousands more are born defective, it is literally true that each new born child is a fresh effort of nature to produce a perfect man or woman. It is asserted that 80%, of babies are born perfect, meaning normal.

But none of these children ever reach perfection. They either die early or else are badly "spoiled in the making." Only a little more than half reach maturity. Of these who reach maturity, 80 per cent are below normal at the time "when they should be at their best. This in a country that boasts of its wealth and plenty; a country where there is a super-abundance of food and a good climate. Certain it is that the adult male and female of the human species is a very disappointing animal. Adults are, in the main, mere caricatures of human beings; not because nature fails to go on with her efforts at perfection, but because of the many and varied influences, which interfere with growth and development and frustrate the efforts of nature to produce a perfect being.

The death rate among infants during the first and second years of life is very high. The sufferings of those that do not die, are enormous. Seventy-one out of every thousand children born in this country die in the first year of life, a higher infant death rate than that of any civilized land where records are kept, higher, even, than the rare for war-ravaged Belgium and France in the years immediately following the war.

That the weakening and deterioration of our bodies begins in infancy and childhood, where it does not begin in embryo or even in the germ plasm, is evident from the fact that one-fourth to one-third of the children of America are suffering with what is, by medical men, recognized as malnutrition.

The United States Board of Education reports that of the children in this country there are 400,000 suffering with organic disease; 1,000,000 afflicted with some form of tuberculosis; 1,000,000, presenting spinal curvatures; 6,000,000 with enlarged tonsils and other gland "diseases," 10,000,000 have enlarged lymphatic glands; 15,000,000 have physical defects; 4,000,000 suffer with malnutrition. It is evident from these figures giving 4,000,000 suffering with malnutrition while, 10,000,000 have defective teeth, that not all cases of malnutrition are included as such.

During the Boer war, three out of five who applied for service in the English Army were rejected as physically unfit for service. A commission appointed to find the causes for this, reported that malnutrition during early childhood was one of the leading causes. During the World War, Premier Lloyd George declared England to be a C 3 nation—a rather low classification.

Over thirty years ago Dr. Alexander T. MacNichol, of New York, found, upon examining, 10,000 children in the schools of that city, that 35

per cent. had heart derangement, 20 per cent. had spinal defects, 27 per cent. had tuberculosis, 60 per cent. suffered from anemia, 15 per cent. suffered with some nervous disorder. He said that if the percentage of organic and functional defects among school children held good throughout the city, and those so suffering were excluded from school, "two-thirds of our schools would be compelled to close for lack of pupils."

Basing his estimates on the findings of physical defects found in 1,4000 school children in New York City, Dr. Chas. C. Burlingham, formerly Pres. of the Board of Education of that city, said that twelve million children in the United States had physical defects at that time. Based on the findings in New York City and assuming that they would hold true throughout the country, Dr. Burlingham estimated that there were then in the United States, 1,440,000 ill-nourished children, 5,615,000 with enlarged glands, 6,925,000 with defective breathing. He estimated for the city of New York, 48,000 children with malnutrition, 187,000 with enlarged glands and 230,800 with defective breathing.

These are the children that supplied most of the men of draft age during the World War. With this poor start in life they got no better. Eighty per cent. of the men of the draft were physically below normal; normal meaning the medium, the typical, and not the ideal or perfect, while one third of them were not able to pass the much lowered standards of physical fitness demanded by a country desperate to secure men. Something like fifty per cent. of those examined in the selective draft during the World War were rejected as unfit. Out of the first draft 500,000 of our young men, in the very flower of their manhood, were rejected as physically unfit for service. In peace times only about sixteen out of every hundred applicants to join the army pass the medical test. Bad sight, faulty speech, and flat feet are the chief causes of failure. Among those who are accepted there are many minor defects.

In 1924 it was estimated that there were in this country, 20,000,000 children of school age. Of these, 14,000,000 suffered with some serious recognizable physical defect; 10,000,000 had tuberculosis ; 10,000,000 had serious tooth troubles, 2,000,000 suffered from some grave form of malnutrition; 1,000,000 showed the first signs of nervous disorders, while all of them had frequent colds and other functional "disorders." None of them possessed perfect health. The medical examiners of Cleveland, Ohio, reported a few years ago that 98,000 children in that city suffer with recognizable physical defects. In Washington, D. C, 90 per cent. of the children, when they enter school at the age of six, present recognizable physical defects. A study of Chicago's school children showed that 85 per cent. have recognizable physical defects, as follow: 86,000 had defects of palate and teeth; 25,000 had defective vision, 13,000 had enlarged thyroid glands, 10,000 were anemic; 10,000 had enlarged lymphatic glands; 6,000 had pulmonary "diseases"; 4,000 had skin "diseases"; 1,000 to 2,000 were suffering from each of the following: nervous "diseases", heart "disease", rickets, bone and joint defects, defects of speech, defects of hearing.

Dr. Hugh S. Cummings, Surgeon-General of the United States Public Health Service says: "Physical examinations of school children have shown that defects are common in the lowest grades. Data obtained by the officers of the Public Health Service showed that enlarged tonsils and enlarged cervical glands were most prevalent at six or seven years of age. The incidence of adenoids was high at six with its peak at eight years. Speech defects were most numerous in the six and seven year-old groups, and decay of teeth was widespread at seven. Other investigators have

found that poor posture is common in children from two to six, and that many visual defects are found in children from two to seven."

The period between the ages of two and six is one of rapid development and if the requisite nutriment is not supplied and if there are present factors which impair nutrition, the child may change, in what seems an incredibly short time, from a normal to a defective one. The foundation for the so-called degenerative diseases is laid and it is only a matter of time until the accumulating causes will produce one or more of these, unless of course, death should occur first.

Drs. Hartman, and Sanders, of the Pathology Department of the University of Texas, stated before the Texas Medical Association, in Brownsville, May 24, 1929, that post mortem findings on patients ranging from 14 to 50 years reveal that practically every kidney shows some structural damage "due to 'diseases' suffered earlier in life."

A few years ago a physician investigated the health-history of what he called his "well patients," meaning those whose internal organs were not seriously impaired. He found that of the total number 100 per cent. had had measles, chicken-pox, or whooping cough in childhood, most of them reporting they had had all three; 70 per cent. had had more or less severe attacks of tonsillitis or quincy; half of them had had "colds" or something else that the attending physicians called influenza, one-fourth of them had had scarlet fever; 17 per cent. gave a history of diphtheria; 13 per cent. had had pneumonia; 7 per cent. had had typhoid fever; and 3 per cent. gave a history of tuberculosis; half of them had lost one or more permanent teeth; 33 per cent. had had their tonsils removed; 20 per cent. had been operated on for appendicitis; and almost every one of these "well patients" had some more or less serious disorder of the digestive tract.

Had the physician carried his search a little farther, he would have discovered that his "well patients" were not healthy, except when judged by a very low standard. They all had many evidences of deterioration in their bodies. It would be interesting to know how many of them wore glasses, what percentage were bald-headed, how many of them made frequent use of aspirin and bicarbonate of soda, due to headache, and indigestion. Just why were they patients if they were well?

Almost every man and woman in civilized life today has something wrong with him by the time he is thirty-five. They are sick and, even though they pass for healthy, one who knows them intimately soon discovers that they are not really so.

We get a still deeper insight into the "health" of the "well patient" when we learn that one out of every six "normally healthy" women over forty and one out of every eight "normally healthy" men over forty die of cancer. Ninety-two out of every one hundred of these "normally healthy" men and women have dental troubles. The majority of "normally healthy" men and women over forty have kidney trouble or heart trouble, or liver trouble, or nervous trouble, or diabetes, or vascular trouble. The prevailing normal standard is so low that the death rate in peace times is higher than the death rate from the casualties of war among warring armies.

The breaking down of the body begins in infancy, often long before, and continues, with increasing speed as we grow older and are subjected to an ever-increasing number and amount of impairing influences. The degenerative changes show up first, as eye defects, teeth defects, posture defects, failure in development, weakness, and "susceptibility to diseases;" later by decayed teeth, falling hair, blindness, deafness, hardening of the arteries, hardening of other tissues of the body; destruction of tissues in various organs, gray hair, bald-headedness, feeble mindedness, and all

permanent pathological changes anywhere in the body. It sums up in "Bright's disease, diabetes, tuberculosis, cancer, brain and nervous "diseases," "diseases" of the heart and arteries, etc., and culminates, finally, in death.

There is strong resistance to the causes of degeneration and efforts to repair damages. There are frequent acute reactions against the toxic condition that is slowly undermining life. This fight against the causes of destruction is manifested by such things as colds, diarrhea, constipation, hives, fever, tonsillitis, enlarged tonsils, adenoids, enlarged cervical glands, indigestion, measles, scarlet fever, etc. These manifest in infancy and follow the child through childhood, youth and adulthood.

It is the regular practice to remove the tonsils and adenoids, cut out the cervical glands, plug the teeth, fit glasses to the eyes, suppress the acute reactions, the biogonies, give laxatives, serums, vaccines and drugs, and ignore all of the causes that produce these degenerations and make the biogonies necessary. Such patch work and suppressive methods overlook the fact that the eye defects, teeth defects, postural defects, glandular enlargements, etc., are not "specific diseases," but stem from common causes.

The bearing of all that has gone before upon both the prevention of "disease" and the care of the sick must now engage our attention. There never was a "disease" begun, that did not continue without intermission, till cured subsequent to the removal of its causes, or till relieved by death. The conventional methods of dealing with such conditions are faulty in that they consider an individual to be healthy, however evil his mode of living, if no physical signs of disease are to be found. The causes that produce these signs and the period of preparation that precedes the signs, are ignored, perhaps; even, unknown to the "schools of medicine." The nescience of "modern medical science" with respect to early pathology, constitutes a fatal hiatus in its structure.

Pathologists have made great advances in the determination of pathology and of differential pathological states, but this has caused them to attach too much importance to special points of pathology, which, therefore receive exclusive "therapeutic" attention.

Our knowledge of actual and differential local pathology has been greatly improved, thanks to the searching character of modern inquiry; while the causes upon which these states directly depend have been most unaccountably ignored. Our "therapeutics" have been directed, not at the removal of causes, but to the palliation of their effects—to the suppression of symptoms and the removal of local parts. The common results of practice are, consequently transient; the actual pathology continues, while the symptoms fluctuate. While intent on the multitudinous aspects of pathology we fail to comprehend its essential nature as related to ultimate causes.

The great obstacle to a correct understanding of pathology and the problems it presents, and, consequently, the chief impediment to its removal, is the too exclusive attention paid to particular modes of its expression. There is insufficient breadth of observation and generalization. It is too often forgotten that the manifestation of pathology, whatever it may be, can never exist unsupported, and that there is necessarily something back of it, often unrecognized because unsought. The symptoms are merely the utterances of something and we commit grave mistakes in considering the symptoms as "diseases" and restricting remedial attention to these. They do not differentiate between the varying phases of vital activity or types of "abnormal" behavior, by which the

living organism resists the causes of pathology, and the actual pathology itself, and, hence, most of their "therapeutic" program is directed at the vital reaction.

The different characters assumed by pathology in its progressive development do not necessarily require a corresponding difference in remedial care. Once the unity of the various phases, local and general, of pathology is realized, it will be seen that there is no sound basis for specific treatments for supposedly "specific diseases."

Treatment that is directed at the changes in the local organ ignores all the changes that exist throughout the body. Hygienists perceive that the patient's present evils, which afflict him, are not isolated and unrelated evils—they are an aggregate of evil, a system, which must be abolished collectively, and not one at a time, and replaced by the factors of good health, before a single major existing evil can be remedied. Treating the end-points and ignoring both the antecedent stages of deterioration and its causes can never lead to desirable results. Pathology is general, cause is general, "treatment" must be general.

Group medicine is the present vogue. Clinical groups, composed of specialists, for every system of the body, are formed, and the sick man or woman who goes to one of these clinics is run through the hands of fifteen or twenty specialists, each one of which examines and analyzes his department of the body. Each specialist determines the condition of the organs and parts of the body that have been made the subject of his specialty, and names the deviation from the normal which he finds. That is the "disease." After the patient has been through the hands of twenty of these specialists, he emerges from the clinic with twenty or thirty "diseases."

What have the specialists really discovered? Symptoms, effects, end-points; nothing more. The nose and throat man find rhinitis, sinusitis, and tonsillitis; the gastroenterologist finds chronic gastritis, enteritis, colitis, proctitis, cholangitis, perhaps even an ulcer; the genitourinary man finds cystitis, leucorrhoea, metritis, etc. Everyone of these local so-called "diseases" are but local expressions of a general catarrhal condition. If ulcer, cancer, nephritis, sclerosis, etc., are present these are but extensions of the same condition.

When we learn to see the ills of the body as mere stages or steps in one continuous process and not as separate and specific entities, we will be in a position to prevent all so-called disease. That process of physical decay which results in poor sight, falling hair, decayed teeth, also results in diseases of the heart and arteries, tuberculosis, cancer, diabetes, Bright's disease.

It is certainly a serious blunder to single out each link in a chain of successive and concomitant developments and give to each of these a different name and ascribe to each of them a different and perhaps a specific cause. We must learn to see the ills of the body as mere stages or steps in one continuous unbroken process, and not as specific entities, if we are ever to make any progress worthy the name in the prevention of "disease" and degeneration.

The group now get their heads together and decide what the outcome of your "disease" will be (a prognosis). Their opinion is based on the usual results of their own methods of treating and abusing the local states. Once the patient deserts them and their methods and turns to other methods, their prognosis ceases to have any value. Outside of their own drugged sphere doctors have no right to an opinion.

A lady visited eleven different specialists and came away with eleven different "diseases". The unfortunate part about this is not that these specialists were all wrong, but that they were all right. That is, they were all right in so far as they named the symptoms and conditions which they each found. They were all wrong, however, in as far as they considered these eleven "different diseases" as separate and distinct "diseases," depending upon separate and distinct causes, and requiring different treatment. These eleven "diseases" are merely eleven manifestations of a common basic cause. For, the fact is, there is a process of degeneration going on throughout the entire structure of the woman, even to the last tissue, and the symptoms are all indicative of this. These so-called diseases merely represent a greater local degeneration than exists generally in the system. Physicians of all schools fail to recognize the essential unity of the so-called diseases and to realize that they all depend on a common universal substratum, aside from the body, itself, as the basis of their support. Each disease is a fixed species, having no genetic relationship with the conditions which preceded it, or which accompany it, or which come after it. Inflammation in one organ is one "disease" and inflammation in another organ is another "disease" and each of these "diseases" is due to a specific and unitary cause. And, thus, their confusion grows more confounded. The more they seek the less they find.

Naming and classifying "diseases" is confusing and misleading. The "diseases" so named are looked upon as organized entities, whereas they are mere waves on the great sea of pathology. So many names for so-called diseases produce complexity and prevent the doctors of all schools from realizing that their many so-called "diseases" are but successive and concomitant effects of the accumulation and extension of a constantly acting genetic cause—cause always being a number of correlated factors. As shown in another chapter, all of these so-called diseases are only symptoms of toxemia and reveal which organs have had the greatest stress levied on them by the toxemia.

The folly of labeling each stage or step in this progressive deterioration and degeneration as a separate and distinct "disease", should be apparent to all. Our failure to recognize them as parts of one general process, concomitant, coetaneous, and successive developments of the same progressive or cumulative, common causes; our failure to see in each so-called chronic or organic "disease," the culmination or summing up of a long series of causes and effects beginning in infancy, or before, and operating throughout the life of the individual, leads to the confusion, uncertainty, groping and failures of modern medicine, with its multiple causations, multiple un-unified phenomena, myriads of specific "diseases," and its supposed need for multiple remedies for "diseases."

True to our ancient practice of lopping off branches instead of cutting away the roots, we suppress "colds," "fevers," "eruptions," "pains," and other symptoms; remove tonsils and adenoids, drain the sinuses, trim up the nose, pull or plug the teeth, cut out the gall bladder, excise the appendix, extirpate the ovaries, saddle the nose with a pair of eye-crutches, etc., and give no attention to the causes of the troubles we are trying to cut away or palliate. It seems never to occur to us that the teeth should not decay, the eyes should not fail, the child should not have to have a diarrhea, or a skin eruption, the tonsils should not have to enlarge. That these things are preventable seems to have escaped general notice.

A woman was examined and X-rayed a number of times by various doctors over a period of time. Her most important troubles were gall stones, weak heart, stomach trouble with "soreness of the stomach,"

catarrh, inflammation of the bladder, womb, and intestine, "pus" on the left tonsil, blood pressure 100, very weak, poor memory, dropped stomach (gasteroptosis). Four years before I saw her she had had an operation with her first child, since which time "her health had not been good."

Under the modern plan of giving over each so-called disease to a specialist, this woman required a gastro-enterologist, a gynecologist, a laryngologist, a psychologist or psychiatrist, a heart specialist, a surgeon, and finally (or first), a clinician to survey the whole field and parcel her out among the ex-spurts.

Another woman, age 23, sought my advice for pulmonary tuberculosis. In addition to the usual tubercular symptoms, she complained of numbness of the whole left hand and arm, painful urination, sinus troubles, abscessed teeth, pleurisy, dizziness upon arising, shingles, intense pain with menstruation each month, simple goitre, low blood pressure (90 mm), rapid pulse, ranging from 98 to 130 a minute, dropsical swelling of one foot, with infection of the bone, neuritis, and trouble with her hip where tubercular serum had been injected. She had had five operations, at least one of these a major operation; had had pneumonia five times, "influenza" nine times, typhus fever, typhoid fever, a "nervous breakdown," and had had to learn to walk again at the age of nine. At twenty-two years she weighed 90 pounds, having weighed two pounds at birth. Both her parents had died of tuberculosis. This woman was "diseased" throughout, and those local conditions which were the worst were labeled as "diseases." They were simply local manifestations of the persistence, accumulation and extension of the same common causes. Each of her so-called diseases is only a part of the universal deterioration of her body.

A. Rabagliati, M.A., M.D., F.R.C.S., Edin., grand old Hygienist of Great Britain, says: "most local ailments are only local expressions of general states. The specialist is by implication here relegated to his proper place, and is informed, if he has wit enough to read the lesson presented, to him, that it is not sufficient to remove an ovarian tumor, e.g., and that if nothing is said at the same time or subsequently as to the causes which induced it, a positive damage may be done to the woman, who may, therefore, while considering herself cured, proceed to manufacture one on the other side, or may find herself in a few years suffering from cancer in the stump of the previous one. Or the child who has tonsils removed, and adenoids cleared away, may and certainly will subsequently suffer from colds, bronchitis, broncho-pneumonia, and the like, and bye and bye probably from rheumatism or rheumatic fever, etc., unless at the same time or subsequently to the operation, his mother is advised to treat him differently from the way in which she treated him before. For, if she does not, a worse thing may happen to him in the future, and so the operation which was intended to benefit may eventuate in damage and not in good. Evidently the same causes which enlarged the tonsils and caused the adenoid growths on the soft palate and nose will, if they are allowed to go on, tend to make the child ill again either in the same or in some other way. Or the middle-aged woman, who has a chronic discharge from her nose, may get it stopped, indeed, by having her nose cauterized by a platinum wire made white hot by the electric current, only to find herself in a few months suffering from a cancer of the breast, which, being in turn removed, eventuates in cancer of the liver, for which there is no relief. These illustrations are, I may say, by no means imaginary, but are drawn from experience of cases in practice."—**Air, Food and Exercises**, pp. 129-130.

Local affections, or local manifestations, are far more serious as being marks of the general condition of the blood, than, they are as being mere local affections. If then, a sick person presents a number of "local diseases" they are not to be considered as independent, or idiopathic diseases, nor yet as symptomatic diseases, one derived from the other, but as concomitant or successive effects of a common cause. Thus when a man presents arthritis in one or more joints, valvular heart disease, or myocarditis, and tonsillitis, the first named local affections are not to be considered as having been caused by the tonsillitis, and as curable by removal of the tonsils, but these affections and the tonsillitis are to be regarded as being due to a common fundamental cause and all, alike, curable by correcting or removing this common cause. Patients often develop endocarditis first, then arthritis, and then tonsillitis last. It is a bit hard to make tonsillitis responsible for these other two conditions when they develop in advance of the tonsillitis. It is just as logical in such a case to say that the endocarditis or arthritis caused the tonsillitis, as, in other cases, to hold tonsillitis responsible for these other conditions. The only tenable view is that the three conditions have a common origin, even if this does knock the idea of specific diseases due to specific causes into a cocked hat and support our contention for a unitary cause, and the unity of disease.

A study of the causes of pathology will prove more practical than a study of the pathology or its symptoms and subsequently treating the local "disease." Pathology is a changeling and a symptom is often nothing more than a single flicker of a moving-picture. Today it is present, tomorrow it is gone. Causes go on. The study of pathological changes which occur in an organ in chronic "diseases", let us say in the kidneys in Bright's disease, is all very well for the technician, although as Dr. Page observes, "If too much time is devoted to it, and to the relation of drugs thereto, by an individual, he may be, probably will be, the very least fitted to advise an inquirer who desires to know what he can do to be saved from disease and the supposed necessity of taking medicine." Now, "from a practical standpoint" as Page says, "when a man's sickness is attended with a certain set of symptoms, as albumen in the urine, final suppression of the urine and uremic poisoning—occasioned by a peculiar degeneration of the kidneys,*** we care nothing about the kind of change taking place in the kidney, but rather ask what kind of change in our habits will keep this, and all other organs of the body in healthy condition." To put this more simply, the study of the conditions of health is of far greater importance than is the study of pathology after this has developed from a failure to comply with the conditions of health.

Physicians of all schools tend to treat "disease" by name and consequently in a stereotyped manner. Names are arbitrary things. A knowledge of the causes of a malady and of the means of removing these causes is alone of real value. All else is charlatanism.

Treating or removing local parts, suppressing local symptoms, removing one of two antecedents, treating so-called "specific disease" with "specific remedies"—all of this is unsound and futile. Neither physiology nor pathology afford any ground for specific treatment.

The Causes Of Pathology

Chapter XII

The cause of any phenomenon is the sum of all antecedent conditions necessary to bring about the effect, result, condition, or phenomenon. An antecedent is a determining factor—a contributory cause. An occasion is any particular agent, or event, or juncture of events presenting a need or exigency requiring action. It is that which leads out or brings about the action.

If this definition is accepted, it becomes evident that the cause of any condition can never be stated in full; for, in a sense everything is the cause of everything. The chain of causation is too intricate to ever be completely unraveled. Explanations, therefore, seek the nearest causes, or those which have been noticeably potent in bringing about the condition observed. It is the duty of scientific investigation to establish for each observed effect the immediately prevenient cause; but, since nothing results from a single antecedent, to discover the antecedents is more important.

We have drawn a sharp line of distinction between biogony and pathology. We have shown that pathology undergoes evolution from minute beginnings to advanced states. We have shown that the vital force is the power by which biogony is—the cause. It remains now for us to find the cause or causes of pathology.

Let us begin by recounting the general steps in pathological development as outlined by Graham and Jennings. It is interesting to note that in his **Cholera** (1883), Graham clearly developed the fact that (enervation, brought on by overwork, emotional overirritation, overeating, wrong food, sexual abuses, "unnatural stimulants," etc., reduces the power of the eliminating organs to "separate out and throw off the impurities (waste) of the blood," so that "the blood is not so thoroughly purified." He says "the performance of the functions of life and the welfare of each and every part of the system, depend upon the integrity of the nerves, in supplying the necessary vital energy."

Jennings traced the development of pathology through three grand stages as follows: 1. "Declension of power." No part of the body, he assures us, ever falters in its function until its energies have been reduced to a point below that necessary to sustain it in normal function. 2. "Impairment and derangement of function, functional disease." When the energies of an organ or group of organs have been reduced to a point below that essential to the maintenance of healthy function, its functions are impaired. In a sound state of the body, when all the parts are sufficiently supplied with power, there may be a large temporary diminution of the power of one or more organs of the body, without any derangement of function, but when the general stock of energy is reduced to a supply barely adequate for ordinary use, any reduction below that level must be followed by derangement. When such a condition exists and the body is subjected to circumstances that require more energy to maintain its function at the standard-level of comfortable health, than is required under the usual conditions of life, then impairment of function must follow. Sudden and great changes in the weather, exposure, fatigue, overeating, excitement, grief, shock, prostrate the greatly enervated, not the vigorous and strong.

Every organ and part of an organ is liable to functional impairment as a result of a reduction of its sustaining energy. Only where there is a pinching scantiness of functional power, do organs fail to carry on their work efficiently. Jennings says: "We have no vitometer by which to graduate this defect, and it is only when power is reduced so low that action falters, or structure changes, that we can begin to measure the damaged condition of the body; and from this point the symptoms become our guide, and our only guide to knowledge of the quality or kind, seat and extent of disease—in the common use of the term." 3. "Structural impairment, or change—organic disease." Every part of the body is susceptible of change or impairment of its structure and substance. This results from functional impairment. A change in the substance or structure of an organ can only be reached through functional impairment; although the action of pathogenic substances is primarily and directly upon the substances of the organs of the body, yet the injurious effect would be discovered first—if we had any means of measuring the vitality of its parts—in a reduction of power. Want of power, then, the most vital kind of power is the immediate cause of impaired action and structure.

Unfortunately, Jennings failed to discern that "disease" is poisoning; or, that weakness is not "disease." For this reason he failed to recognize the office of what he called "arrears of expurgation" in the production of pathology. Graham did understand the evil that flows from the failure of the eliminating organs to "separate out and throw off the impurities." We may briefly summarize the principle developed by these two men, in this order—wrong living, lowered nerve energy, faulty elimination, impure blood, functional "disease" (crises), and organic "disease." Let us begin with:

ENERVATION

An animal has been defined as a nervous system served by organs. The whole body is supplied with nerves and so jugulated is the network that if all the tissues of the body could be melted away, leaving only the nerves intact, friends would be able to recognize the denuded subject, so perfect would be the nervous replica of the former person. The nervous system presides over all of the functions of life. An abundance of nerve energy means efficient organic function; lowered energy means lowered functional power.

If we compare the body to an automobile, the nervous system represents its storage battery and wiring. Its organs represent the spark plugs, starter, horn, light, radio, cigar lighter, etc. If the battery is well charged and the wiring in order, the car has plenty of spark, an efficient starter, bright lights, a loud horn, etc. If the battery is low the starter fails to work, the lights burn dimly, the horn is low and the whole performance of the car is impaired. In like manner, when nervous energies are abundant, organic function is efficient and when nervous energies are low physiologic function lags. This condition of lowered nervous energy is what is meant by **enervation**.

All of the functions of man's body are carried on without his will—in fact, without his knowledge or consent. With the exception of the lungs, none of his vegetative functions are under voluntary control and this is only partially under voluntary control. The bowels are slightly under the control of the will, but in constipation voluntary forcing results in injury. Irritability, digestion, assimilation, growth, secretion, excretion, circulation, respiration, and generation—in a word, the vegetative

functions of life—are carried on without conscious assistance; and "unless a conscious life encroaches on the subconscious by forcing more work than normal, the subconscious will do its work well, and health will be constant. The stomach will not suffer from normal work; it will take care of all the food necessary for the body, if eating is not made too great a pleasure and food drunkenness is not developed." Man has a subconscious accomodator that keeps him nicely regulated to changes of external and internal elements of his environment. This work is all presided over by the nervous system. Without conscious volition, adjustments and compensations are constantly going on; but these self-defensive efforts of Nature are never adequate, never perfect, unless we make a determined effort to cooperate.

Nothing constitutes good health, the highest degree of vigor, but a full and overflowing state of the vital treasury in every department of life. An abundance of nervous energy is the very foundation of that functional efficiency that constitutes good health. For the human body to function normally, for the physiological processes to be carried on ideally, just the proper amount of nerve energy must be generated. Anything below this spells lessened functional vigor.

The human body is not an inexhaustible reservoir of energy to be drawn upon with impunity ad libitum, nor is it capable of generating an unlimited supply of nervous energy. Our supply of nervous energy fluctuates, varying in amount from day to day, from hour to hour, depending on the quantity and quality of our activities—mental, emotional, physical and physiological—and the nature of our environment. There is only a certain supply of nervous energy available for all the activities of the body. When this supply is used up faster than it is generated or recuperated, there is a gradual lowering of the available supply. Any influence that breaks down or uses up nerve energy causes enervation.

What influences use up nerve force? Every act, habit, indulgence, and every function and process of life uses up nerve force. Just living requires energy. Working requires energy. Resisting heat and cold requires energy. Eating and digesting food, breathing, circulating the blood, in fact, all the functions of the body, use up energy. Everything that stimulates the nerves, it matters not what, uses up nerve force, and if the expenditure is pushed beyond normal reproduction, a time must come when the organism will give down, and be unable to protect itself; its resistance will be so low that life will be put in jeopardy.

Enervation may be defined as the sum of all our expenditures—normal and abnormal. When the total daily expenditure exceeds the sum of the daily recuperation, enervation results. Even in a tolerable sound and vigorous body, there is energy in reserve, over and above what is necessary for ordinary purposes. This capital stock of energy, over and above the usual expenditures, is held in store for an emergency, and, while, therefore, the draft upon this reserve is increased by every assault, the supply necessary for the work of maintaining functional and structural integrity will be furnished till the reserve is exhausted. The profound enervation thus created causes a great faltering of function throughout the body.

The condition we call enervation reaches from all the yesterdays to all the tomorrows and bridges today. It is the center around which revolve more problems than around the central pivot of any other doctrine or philosophy ever presented to man for development and elaboration. "We say this unqualifiedly. The theories that cluster around enervation bring

man closer to himself than any flight into space and speculation; it connects him with himself and ties his idiosyncrasies, his faults, his potentialities, his susceptibilities, to an anchor that is firmly set in solid rock. Man need not lose himself. His tether is as long as he chooses to stretch it, and it always guides him back, no matter where he ventures or how far.

"The theory expounded here," says Dr. Weger, "embraces from every angle the question of function, adaptability, efficiency, and determination. It leads to the solution of the why and the wherefore of that period of existence beginning with birth and ending with death. It does not deal with the cause of life; but it covers the entire span between the two and this is the period of your existence with which you are most concerned."

Before dealing with the many causes of enervation, let us trace, step, by step, the results that flow from it, beginning with:

IMPAIRMENT OF ORGANIC FUNCTION

The nervous system presides over organic functioning—all its functions are controlled by the nervous system—the nervous function being the only exception. When nerve energy is normal organic function is normal; when nerve energy is low function lags. When man is enervated all his organs suffer from a lowering of energy, and, as a consequence, secretions and excretions are reduced. Metabolic power is lowered, blood chemistry is changed—perverted—by being contaminated with retained waste products. The term **enervation** sums up the vital depletion which lowers function throughout the body.

When enervation exists digestive powers are lowered. Secretion is not adequate to meet the needs of the food intake. Bowel action is lowered producing constipation. Kidney function is lowered—renal insufficiency. Respiratory function, circulatory function, glandular function, muscular efficiency, mental and sensory powers, are all lowered. The lungs fail to exchange carbonic acid gas for oxygen gas. When there is imperfect exchange of gases in the lungs, digestion is impaired for perfect digestion requires that oxygen be brought in by the lungs, and also in the food. The liver and lymph glands are impaired. With failing function throughout the body, each organ is deprived of its full share of functional support from its symbiotic partners. Pathology is primarily due to failing co-operation and its consequent failure of support, hence, failure of strength and resistance.

When the organism is normal, secretions and excretions are balanced. When nerve-energy is weakened from any cause, secretions and excretions are lessened. A lessening of secretions deprives the organism of its power to renew itself—digestion and assimilation are impaired. Excretions being imperfect, waste products are retained and act as inhibitors of function.

Often, in modern life, we consume our energies faster than we recuperate them, so that our vital or nervous batteries run low. Indeed, many people so prodigally waste their powers that there is barely enough for steady maintenance of the structures and functions of the body at their common level, without leaving a balance as an accumulating fund for emergencies, so that, under ordinary circumstances, the current expenditure of power by many people, while not enough to produce noticeable impairment of the body, leaves them with but a "pinching scantiness of motive power," so that when unusual conditions or emergencies arise, there is no power in reserve to meet the extra demands made upon the organism. These finally reach a period or condition of life in which there is such an accumulation of "pathological embarrassments"

that those "organs standing foremost on the table of insolvency" are the first to falter and complain.

Changes of conditions, climate, work, emotional stresses, etc., may require more power to maintain the ordinary operations of life at their previous common standard. If the power is on hand, held in reserve, the body will easily and quickly meet the emergency, but if power is lacking function will falter. Local abuses of the body may result in such an excessive expenditure of power in one direction that functions elsewhere in the body will falter, for no organ or function in the body stands unrelated to the rest. Whatever is actually prejudicial to the general health becomes a factor in the production of cancer and every other so-called "disease."

Occasional causes of impaired function may or may not be connected with any structural defect, or even with a low state of the vital funds. These may only cause a temporary expenditure of power beyond the immediately available supply and may occur in (those of sound constitution, although this may more easily occur in impaired organisms. Such a tired, weary, faltering condition of the body is soon overcome by a night of sleep. The difference between enervation and such a condition is one of degree and duration and not of kind. All impaired functions, whether local or general, little or much, are due primarily to a tired state of the body or of the organs—to lessened power. The causes that use up nerve energy have operated so long and to such a degree, and recuperation has not kept pace with expenditure, that the enervation is constant.

By reason of the "isolated" state of the different nerve centers, which are the immediate source of organic functioning power, there may be greater local than general enervation, due to the exhaustion of one or more nerve centers. One set of organs may be reduced to the necessity of perceptibly faltering in their functions, while others are still able apparently to maintain their usual standard of healthy action. An excellent example of this is seen in sexual impotency brought on by excessive indulgence. In such a case there is general enervation and a greater local enervation.

The weakening of segmental function, resulting from such local enervation, deprives the rest of the organism of the symbiotic support it requires from the local parts, hence the whole organism is weakened.

As was shown in Volume 1 of this series, nature makes every organ much stronger than the needs of normal life demand and places a strong safeguard over the functions of every organ so that pathology can develop only after this safeguard is broken down. Much and long-continued abuse is necessary to sufficiently weaken the organs of the body that pathology can develop in them, if they are normal at birth.

When enervation has already been brought on it requires but little more debilitating agency or influence to place one on the sick list. The foundation for every case of illness is an exhausted state of the sub-treasury of life; if the funds on hand are low, an unusual draught will necessitate a retrenchment of the vital forces for purposes of recuperation—this is "prostration." Functions falter and discomforts develop. Dr. Oswald presents an excellent example of this in dealing with asthma. He says: "Any waste of vital power may bring on a fit of spasmodic asthma, and the aggravating effect of incontinence is so prompt and so unmistakable that experience generally suffices to correct a **penchant** to errors in that respect. Like gout, asthma is a moral censor, but its reproofs do not so often come too late."

An excellent example of the manner in which enervation impairs organic functions, even in sound organisms, is supplied us by shock. It consists in "a relaxation or abolition of the sustaining and controlling influence that the nervous system exercises over the vital organic functions of the body." There are all degrees of shock, ranging in effect from slight disturbances of function to their almost total or to their total abolition. Shock may completely suspend kidney function, as it does digestive function, and is often known, especially when improper care follows, to result fatally. Psychic shock, surgical shock, traumatic shock, or other forms of shock may each and all produce such a profound enervation as to greatly endanger or to actually end life.

Without nerve force, organic function is impossible; when nerve force is low (enervation) function is feeble. Under a full tide of the nervous energy, with all the organs sound, function is perfect, and a high standard of health is maintained. But with power low, functional efficiency is impaired. Then it is that secretions and excretions begin to flag, nutrition begins to suffer, and the wastes of the body, which are toxic, are retained in the blood, causing:

TOXEMIA

"Disease" means poisoning. All so-called "disease" gives evidence of being caused by toxins. Trall said: "There are aside from accidents—mechanical injuries—but two sources of disease in the world, viz, poisons or impurities taken into the system from without, and effete or waste matters retained." All the causes of "disease," he said, "may be summed up under the heads of impure or obstructing materials (toxemias), and exhausted nervous power" (enervation), due to "unphysiological voluntary habits." Thus, we see that he, along with Graham and Jennings, recognized the office of enervation and toxemia in producing pathology and in occasioning biogony. The chief difference between our present conception of cause and those entertained by these men is the greater emphasis which we place upon endogenous toxins, an emphasis credit for which justly belongs to Tilden. In the following elaboration of the development of enervation and toxemia I shall follow Tilden very closely, quoting and borrowing freely from his works.

Life is a master drama of nutrition and drainage under the control of the nervous system. The blood and lymph, which constitute one grand circulating medium of the body, carry food, water, oxygen and secretions to every cell in the body and carry away the waste from these cells. This ever-flowing river of life makes it possible for the cells to live and function. They cannot live if separated from such a medium.

Just as a dead body, deprived of its circulating fluids and functions, is no longer a body; so, an organ deprived of its nutritive medium no longer exists. All living cells depend absolutely on the medium in which they are immersed. They ceaselessly modify this medium and are, in turn, modified by it.

Everything that combines to make ideal health rests on a basis of normal blood and lymph and nerve-energy. As certainly as all the attributes of health rest on one fundamental physiological basis—full **nerve-energy** and **pure blood**—so, too, but conversely, all so-called "diseases" rest upon one fundamental physiological impairment—**enervation** and **toxemia**.

If a piece of tissue is cultivated in a flask in the laboratory, it requires a volume of liquid equal to two thousand times its own volume, if it is not

to be poisoned within a few days by its own waste. It requires, also, a gaseous atmosphere at least ten times larger than its fluid medium. The cells and tissues of the body have the same need for a fluid medium and gaseous atmosphere if they are to live and function.

However, due to the marvelous efficiency of the heart and arteries in circulating the body's fluids and gases, the lungs and digestive system in replenishing its nutrients, and the kidneys, lungs, colon, liver and skin in excreting its wastes, the body is able to live in a fluid medium of only about six or seven quarts instead of the 52,835 gallons which would be required if it were reduced to small bits and cultivated in flasks. The importance of efficient respiration, circulation, digestion, and elimination—nutrition and drainage—are apparent; and, since we know their efficiency depends upon the integrity of the nervous system, the importance of maintaining normal nerve energy is doubly impressed upon us.

Waste products of the cells—catabolites—are set free by the tissues and organs in the course of function. These wastes are poisonous. This means that the normal functions of life give rise to toxic residues which poison the body if not rapidly eliminated. A normal human being develops enough waste products in a few hours to kill him unless they are eliminated. These wastes are constantly formed and constantly present, and, in normal amounts, are necessary to health, acting as physiological stimulants. For instance, carbon dioxide stimulates the respiratory center that regulates breathing; oxygen has a depressing effect on this center.

When, due to impaired excretion, these wastes of the body are allowed to accumulate beyond the normal amount they become foes of life. Their first effect is that of overstimulation. The retained toxin becomes an ally of enervating habits by overstimulating the organism. Overstimulation is always followed by enervation. Thus there is established a vicious circle, and the longer it runs the farther and farther the victim is carried from the normal healthy standard. Finally there comes a time when the intoxication overflows and resistance is crushed, natural immunities are wiped out, and—death.

The blood stream is being continuously fed by a stream of toxic material draining from the cells. It is true that poison is "never" found in it, except in "harmless" quantities. If the blood is not toxic, it is because the urine is; because the kidneys are incessantly removing toxins from it. There is less toxic matter in the blood than in the organs. That the urinary constituents are highly toxic has been shown experimentally.

Every twenty-four hours the blood receives from the cells half enough material to kill the entire body. Wherever the processes of life are being performed, toxins are found for they result from the normal or physiological processes.

The products of life without oxygen are especially toxic. An increase in oxygen, though it slightly increases the products of disassimilation (catabolites), renders the products much less toxic, due to better oxidation. Muscular work in the open air reduces the toxicity of the blood by three-tenths. Due to more thorough oxidation of organic substances when exercising in the open air, the blood is rendered less toxic and remains so during the repose which follows.

It is as essential to body health that systemic drainage be perfect, as civic drainage is essential to community health. So long as the bowels drain the stomach, liver and mucous glands, and thereby cleanse the blood; and the kidneys drain the blood in a direct manner, conveying the waste, with all its toxins, directly to the outside world; and the skin and lungs

drain the blood of poisonous gases—so long as such drainage is adequate the body will remain purified. There will be no self-poisoning.

The term toxemia carries its own meaning. It is from the Greek, *toxicon*, 'poison,' and *haima*, 'blood'; poison in the blood. There are many ways for the blood to become poisoned and we do not employ the term, toxemia, to blanket all of these forms of poisoning.

Despite their efforts to find such, medical men have not discovered a specific etiology for most so-called "diseases." Even their so-called specific causes must have an ally and hence are not specific—indeed, they are not true causes at all. If a central cause can be found, to which all other causes are subsidiary, the confusion existing in the fields of etiology and pathology, and which now perplexes and leads into blind pockets, the best men in the profession, would end and order would be brought out of the present chaos. It is this central cause which we claim to have found and to which we apply the term, toxemia. DR. Tilden's opinion that the medical profession would long ago have discovered toxemia had not Pasteur shunted them into the blind-alley of bacteriology may be correct; for, the germ theory has certainly blinded the profession to many important truths.

Physiology plainly reveals mutual relations existing between the organs and the blood. The blood is not a self-forming fluid, but owes its state to the functions of the numerous organs, so that no material change can take place in the various organs of the body without in some way affecting the blood and lymph. Neither can the blood be affected without in turn exerting a distinct influence upon the organs and tissues.

The blood is a product of the cells and so great is the body's power to order its internal relations, it is often able to maintain a near-normal blood stream coincident with the gradual poisoning and breaking down of some part of the body. The blood possesses, to a very high degree, the power of self-regulation, drawing upon the body's reserves for its needed elements, or forcing into the tissues, its uneliminated excesses. The blood is what the digestive organs, the liver, spleen, lungs, skin, kidneys, colon, lymph glands, ductless glands, and other tissues make of it. These produce and maintain and sacrifice their dispensable elements and tissues to maintain the blood as near normal as possible, so that abnormalities and pathology show up in the cells and tissues long before they do in the blood. This is the reason most blood tests are practically valueless. The blood picture will remain normal so long as normal functions keep it normal.

The state of the blood cannot be made the remote or primary cause of pathology, for its state is the result of prior causes. So long as organic function is normal the blood will be kept in a normal state. Functional impairment from enervation must precede toxemia, and back of the enervation are its many causes.

The term toxemia is well enough known and, sufficiently used by the medical profession to indicate that no priority or invention can be claimed for its exclusive use in our system. But: "mark the distinction: The medical profession thinks of toxemia in terms of infection by germs introduced into the body; practically, therefore: No germs, no toxemia." It is quite true that the term is used by the profession to designate other and comparatively rare forms of toxemia, but for the most part, when they think of toxemia they think of germs. The man of the street thinks of toxemia as poisoning coming from the bowels in constipation.

We employ the term toxemia in a more comprehensive sense and apply it primarily to the toxins from a different source. The ordinary understanding of toxemia, both lay and professional, is poisons in the blood that have gained an entrance from without, or of poisoning resulting

from the breaking down of organs in advanced pathological states, as in cancer.

Such toxemias—bacterial toxins, ptomaines, pathological products, etc.,—are evanescent in their influence, are fragmentary and are very limited as to cause and effect. They are specific, transient influences which are incapable of acting as **constants** and are therefore, insufficient as a basis for a universal system of causation. As Tilden says: "Poisoning by extrensic toxins, bacterial or chemical, end with their specific influence. They have no tendency to become a constant cause; neither can their treatment immunize against a re-poisoning."

If we employ toxemia as a blanket term it may be applied to anything that poisons. Thus, poisoning by mercury or arsenic or serum poisoning (anaphylaxis), may be called toxemia. A man drunk on alcohol, tobacco, tea, coffee, drugs, overeating, septic wounds, ulcers, etc., may be said to be suffering from toxic poisoning. A chicken dinner, under certain conditions, may develop sufficient putrescent poisoning to cause suffering and death. "If accuracy is no object, it may be said that the dinner caused toxemia." "Food poisoning," says Tilden, "is not a disease, any more than drug poisoning is a disease. To know and to hold this thought is necessary to a rational understanding of cause and effect concerning disease. An injury, a poisoning, an enervating habit, is not a disease nor a cause of disease per se, but is a cause of Toxemia—the only disease." Nor should the reader confuse septicemia (septic poisoning) or the very unusual term, bacteremia (bacteria in the blood) with toxemia.

Unfortunately very few doctors of any school know enough about the toxin theory to do developmental work, or to carry the theory into new territories, or to use the theory to rebut medical fallacies, or flagellate the numerous "cults" into silence, if not understanding. Hence, when they talk of toxemia, it is of some limited, evanescent poisoning that soon spends its force and passes.

All of these poisonings are possibilities, and when they occur are accidental, but they do not represent what we mean by the term **toxemia**. The matter is very simple and there need be no mistake made about it. The toxemia we refer to as the universal basic cause of pathology is a natural product of the body—a **constant**—and is in the blood from birth to death (autogenerated), but never in pathology-producing amounts except when enervation has checked elimination. All other toxemias are secondary and may complicate the basic, or metabolic, toxemia, but they should not be confused with toxemia.

"That the true cause of disease must be a constant is a proposition that cannot be gain-said," says Tilden; "and that constant must be built within the organism itself, and be the sequel of physiological perversion, is another proposition that must stand; for no outside influences can be found that have a constant or continuous influence." Evanescent, temporary bacterial poisonings are not constant and require an ally. Toxemia is a constant product and exerts a constant influence.

The cause of toxemia is the unbalancing of the secretive and eliminative functions of the body, and the relative lowering of its eliminative activities. Any influence of a mental or physical character that reduces nerve energy below the point where secretion and excretion can meet the needs of the organism, causes a retention of waste products in the blood, producing toxemia. Overstimulation from any cause brings on enervation; enervation checks elimination; the retention of waste products builds toxemia. This condition of self-poisoning, or poisoning by one's own retained or endogenously produced poisons, is what we mean by the

term, **toxemia**. This is the one primary, universal, constant, or ever-present toxemia that is the basic cause of all pathology. It is doubtful if most of the other toxemias would ever develop without a pre-existing endogenous toxemia.

Necessary for efficient elimination is full nerve energy; and such a state cannot be maintained while practicing continually enervating habits. When the body is enervated elimination is checked—inhibited—and there follows a retention of waste products—metabolites. Retained cell-waste beyond the normal, causes poisoning. This is the one and only all-inclusive toxemia.

There are many toxemias, some arising from simple chemical substances, arising as end-products of metabolism, or as slightly abnormal intermediary products, others arising from the formation of more complex substances, the exact nature of which is unknown, but apparently derived from the proteins of affected tissue. A complete chemical analysis of these poisons is not possible; nor is it vital to successful care.

Toxemia from retention of tissue waste—faulty elimination—is primary. Toxemia from faulty metabolism, due to affection of organs or functional disturbances is secondary. Enervation, which causes a checking of elimination, must precede toxemia.

Toxemia tends towards the further production of toxemia. The more the body is loaded with toxins, the less able it is to function efficiently. Just in proportion to the extent to which the body is free from hindering toxins is it capable of manifesting energy. Thus, toxemia becomes an inhibitor of elimination.

The animal body must at all times be delicately poised between an appreciable and a non-appreciable toxic state, the degree being determined by the balance that is maintained between anabolism and catabolism and the rate of elimination of catabolic products. Intoxication holds sway everywhere, even where no acute "disease" (biogony) exists, for constant chronic poisoning of the organism takes place under the sway of all enervating influences.

Chronic toxemia means a chronic state of inebriety, and, like chronic alcohol poisoning, leads to tissue and organic changes peculiar to old age, as hardening of the arteries, cancer, and other so-called "diseases." Toxemia is a form of drunkenness. When chronic inebriety of this kind is once established, it means, like all other types of drunkenness, an established "craving" for stimulation. If this is not had in one form, it must be had in another. Thrills and shocks of all kinds are necessary. Incurable and delinquent boys and girls require to be shocked and thrilled. This is what they derive from gluttony, tobacco, alcohol, sensational shows, excessive petting, and crimes of various kinds.

From the cradle to the grave, man's body oscillates between a mild toxemia and a state of toxic saturation; and any shock or stimulation, when near the saturation point, over-crowds toleration, arouses resistance, and a crisis develops. Hence the frequent biogonies that punctuate the lives of almost every one.

Toxemia is a variable condition. One may be comfortably free or have a comfortable and safe margin of tolerance until a single over-indulgence (as at a banquet) in an abnormal amount of proteins, fats, sweets, and starches, suddenly increase toxic pressure. Then all that is required to precipitate a crisis is to have something occur that temporarily checks or closes one of the channels of elimination. Then it is that some attempt at vicarious elimination will appear.

The body harbors many simple and complex toxic substances. Toxins vary from slight irritants' to virulent and deadly poisons. Quantity and virulence determine the danger. They may produce anything from simple catarrh and erythema, to measles and whooping cough, or to diphtheria, smallpox, and bubonic plague. Ailments are due to the crowding of toxic waste into the tissues.

Toxemia is the common state of mankind. The volume of toxins in the body fluids varies from a negligible quantity to a state of saturation. These toxins muddy the waters of life, contaminate everything they touch, and lower the vitality of the tissues. Circulating in the blood and lymph, toxins come in contact with every tissue and pervert metabolism. Cell repair and cell renewal are not perfect.

That primary toxemia is the smouldering cause of every small blaze as well as of every great conflagration is certain. Secondary infections (poisonings) should be considered as accidental or supplementary to the main cause. This principle is fundamental and should not be ignored.

All people in the ordinary walks of life are potentially sick; all are toxemic to a degree. Although (hey have built more or less tolerance for toxins, they are not immune to their influence; but slowly succumb to their pathogenic powers. Pathology is organized change occasioned by habitual adverse stimulation, and can be overcome only by removing its cause. Acute disease, so-called (biogony), is poisoning of some character which causes death; or is thrown off, with recovery following.

The body quickly learns to tolerate metabolic toxins, just as it learns to tolerate tobacco and opium. Chronic poisoning establishes a toleration by breaking down resistance to its influence; but the organism pays for the "immunity" by general enervation and by lowered resistance to every other influence. How does the breaking down of resistance establish toleration? By rendering the body less capable of reacting to the poison. The first effect of the use of any poison brings about a reaction. The acute reaction following the first use of tobacco is resistance. Fever, inflammation, vomiting, diarrhea, etc., are measures of resistance. Resistance is reaction or "war" against the poison.

Toleration is submission. It is broken-down resistance. Toleration is not immunity. It is the man who tolerates lots of alcohol who develops delirium tremens, not the abstainer who cannot tolerate even small quantities. The opium addict who tolerates large quantities of this drug, not the non-user, suffers from opium. Tobacco heart does not develop in the non-user, but in him who tolerates lots of nicotine. Caffeine headache develops in the coffee user not in the person who does not use this drug.

It is a matter of everyday experience that the power of resistance to any particular poison is reduced by its habitual use. As the body becomes less capable of reacting to the poison, increasingly larger amounts of the poison are required to produce an effect equal in intensity and degree to the original one; hence the progressive tendency of all poison habits. By establishing a state of enervation a poison habit diminishes the power of resistance to other stimuli, and so prepares the way for greater general enervation—and lowered resistance to every other influence.

After toleration is established, acute reactions (crises) can be brought on only by taking the poison in unaccustomed amounts—in amounts greater than the body has learned to tolerate. Acute nicotineism may be produced in the tobacco addict by giving him tobacco greatly in excess of his accustomed amount.

Acute morphinism and death may be produced in the morphine addict by giving him an unusual amount of morphine. In like manner,

acute reactions against toxin poisoning may be aroused by increasing the toxic load above the toleration point.

But slight amounts of toxin, or but slight decomposition poisoning are required to precipitate a reaction in the young, before toleration is established. As toleration increases, from habituation, ever larger amounts of toxemia and poisoning are required to bring on a reaction or crisis.

Poisoning, which is tolerated makes for degenerative rather than progressive adaptation in life, since the poisoning will cut off the organism from constructive physiological advance. Toleration means that the warning voice of self-protection has gradually been put to sleep, while the organism is undermined and premature death comes as a surprise to everyone. Tolerated toxins are the only cause of death not due to accident or violence.

Toxemia, which we assert is the universal basic cause of all pathology, is also an effect; for without pronounced enervation, existing long enough to check elimination and allow toxin retention and accumulation, Toxemia cannot evolve. Poisoning from without, or injury, may produce evanescent disturbances, but these pass when the poisoning has spent its force, or the injury has been repaired.

INTESTINAL TOXEMIA

Intestinal toxemia is poisoning (infection) by decomposition products absorbed from the digestive tract. The toxins are exogenous—of outside origin.

Enervation checks secretion and lowers digestive power. With digestive power impaired food is only slowly digested, if at all. The weakened digestive secretions are not able to inhibit bacterial activity and fermentation and putrefaction of food occur. This results in the formation of a whole series of toxins, a part of which are absorbed into the body adding to the primary toxemia already present.

Whether foods decompose inside or outside the digestive tract, they give rise to poisons of varying degrees of virulence, depending on their chemistry. For instance, grain alcohol and wood alcohol are both alcohol and are both products of yeast activity. The greater virulence of wood alcohol is not due to any difference in the yeast germs, but to the difference in the substances from which the two forms of alcohol are made. The poison is potential in the fermenting substance, not in the ferment.

Toxins resulting from protein decomposition (putrefaction) are more virulent than those resulting from carbohydrate decomposition (fermentation). As a rule, decomposition of animal proteins (meat and eggs) produce more virulent toxins than plant proteins. Milk proteins produce less virulent toxins than some plant proteins. There is a difference in the virulence of the toxins arising from the decomposition of different plant substances and, also, a difference in the virulence of poisons derived from different animal substances. The difference in virulence exists potentially in the animal and plant foods—not in the bacteria. The difference in toxicity between vegetable and flesh foods is colossal. The difference in virulence depends on the composition of the protein, not upon the germ decomposing it. It is a matter of chemistry rather than of kinds of germ activity. Indeed, there is reason to believe, as will be seen later, that the organized ferment (germ) takes on an individuality and personality in keeping with the chemical medium in which it is active.

Ptomaines are alkaloids produced by cadaveric decomposition of animal substances. Certain of these, such as cadaverine and putrescine, have been found in the feces. Putrefactive bacteria break down proteins into amino-acids and then further decompose these into simpler substances, which cannot be utilized, by the body and some of which are harmful if absorbed in considerable quantities.

Some of the most powerful toxins known to science are proteins or closely related bodies. Snake venom, for instance, is of this character, as is the venom of the black widow spider. Ptomaine produced by bacterial decomposition of protein is analogous to snake venom. The "diphtheria toxin" produced in the laboratory is a product of protein decomposition and, in many respects, is similar to snake venom.

Protein putrefaction is most likely to occur in the intestine and colon. It yields such substances as mercaptans, amino-acids, indol, phenyl, skatol, etc. The virulence of the toxin developing from putrefaction depends on the chemistry of the decomposing protein. Often the putrescence evolved is of an extremely virulent character.

The fermentation of carbohydrates is most likely to occur in the stomach and intestine. Yeast bacteria possess enzymes that break down the carbohydrates into alcohol, acetic, formic, butyric and succinic acids, etc. These acids, like the decomposition products of protein substances, rob the body of its bases and pervert nutrition. Alcohol and acetic acid are especially hard on the liver, chronic poisoning of this kind frequently accounting for organic liver impairment.

There is no difference, except in degree, between food poisoning and alcoholic or other drug poisoning. A few days abstinence from any accustomed stimulant—food or drug—sets up morbid symptoms. Just as the morphine addict goes through a season of great suffering when denied the anesthetizing influence of his accustomed narcotic, and the alcohol inebriate develops symptoms called delirium tremens, the tobacco fiend is weak, irritable, and the coffee and tea addict suffers with headache; so, the food-poisoned suffers with a sick stomach—nausea, often vomiting, frequently pain, nervousness, coated tongue, and bad breath.

Tilden says "all the symptoms of acute disease are those common to elimination during a fast, and are intensified, by rough-house treatment—drugging and feeding. The difference between the symptoms of a voluntary fast and the symptoms of an acute disease is this: The voluntary fast brings about elimination before the accumulated toxins—before Toxemia—force elimination."

The products of fermentation are usually irritating, while the products of putrefaction are toxic. Hence, non-toxic irritation (simple infection) from carbohydrate poisoning, gives rise to simple inflammation, catarrh, etc.; whereas, toxic-irritation (septic infection) arises from protein poisoning, and results in the more severe types of inflammation, diphtheria, putrid fever, tuberculosis, etc. Putrefactive toxins are more virulent than those arising out of fermentation, hence produce more severe forms of poisoning.

Defective functioning of the gastro-intestinal tract and the consequent fouling of the food supply and the consequent poisoning of the tissues by putrescence or sepsis absorbed from the intestine plays a big part in the production of pathology. Although there are those who hold that intestinal toxemia is the lesser of the toxemias and is not so subtle or insidious in its action as the toxins resulting from metabolic waste, it is safe to say that recurring, intermittent poisoning is far more often due to over-ingestion of food (eating beyond digestive capacity), not necessarily bad food, than to

other causes. The septic toxins of a mixed character that thus gain entrance into the bloodstream occasion constitutional reactions such as chills, fever, pain, inflammation, etc.

The ensuing poisoning requires to be specially coped with and provided against by particular glands, the task of which is a very delicate and arduous one, involving frequent fatigue, and breakdowns due to overwork, making the task increasingly difficult. The liver and lymph glands neutralize the poisonous end-results of gastro-intestinal decomposition. However, these glands are limited in their capacity to neutralize such toxins, and, also, have their detoxifying capacity greatly reduced by the enervation that permitted the indigestion. Sometimes great harm comes to the liver in trying to dispose of these toxic substances. The toxins poison the body, rob it of its bases, pervert nutrition and lower organic power.

When not absorbed in large quantities these toxins act as stimulants. Much that passes for healthful vigor is the excitement of intoxication, the result of the accumulation of poisons absorbed from the food tube in excess of the ordinary powers of the body to neutralize and eliminate. Added excitants do not help the body.

The body speedily learns to tolerate decomposition toxins, so that chronic intestinal autointoxication may persist for months, or years, without the occurrence of any serious crisis, but with a gradual insidious undermining of organic integrity. Some attempt at vicarious elimination will appease.

Foul stools are indicative of bacterial decomposition of food. Reinheimer says: "between inoffensive excreta and such as are offensive and putrescent there may be said to exist a gamut of disease, enough to occupy, year in, year out, an army of thirty thousand doctors, even in a comparatively small country." (England)

Among the causes of fermentation and putrefaction, aside from enervation, are overeating, eating wrong food combinations, eating when tired, excited, worried or otherwise emotionally upset, drinking with meals, the use of condiments, tobacco using, or anything that temporarily inhibits or suspends digestion. Eating excessively when nerve energy is drawn off and used up mentally or physically results in decomposition.

ORGANIC TOXEMIA

The term, organic toxemia, we apply to toxins arising within the body as a result of destructive processes going on in one or more of its organs. Sometimes the toxins are contained in pus, as those derived from an abscessed tooth or tonsil, a pent-up wound, a tumor that is breaking down, suppurating ovaries or appendix, or other abscessed organs. Pus absorbed from such sources is added to the pre-existing toxemia, of which the suppurating process is an effect, and complicates the troubles of the body. Unless forced, such toxins will not be absorbed by those not already toxic.

Tilden says: "A suppurating wound, ulcer, or chancre, is on the outside of the body, and if it causes septic (blood) poisoning, it will be because the waste products are not allowed to drain—to escape. Even vaccinia fails to produce septic poisoning because its poison is discharged on the surface—on the outside of the body. Occasionally the waste products are forced to enter the blood because of faulty dressings; then septic poisoning with death follows."—**Toxemia Explained**, p. 50.

Septicemia (septic poisoning) and bacteremia (bacteria in the blood) are complicating toxemias, they are never primary. Putrescent poisoning

always comes from a foul wound or operation, one that does not drain well. Bacteria are everywhere, and are harmless, but if they get into a wound and cannot get out, then they produce toxins that may kill. The alkaloids of decomposition ■—cadaveric poison—arising from decay of tissue impart toxicity to the germs they saturate. Tilden says "Bacteria have no more respect for a good surgeon than for a poor one. An ox may gore, but if drainage is perfect, the operation will be a success." A pent up wound results in

septic absorption.

Constitutional toxemia is the ever-present condition that permits "pathogenic" organisms to gain a foothold in the body. So-called foci of infection are always secondary to toxemia. It is our contention that constitutional toxemia alone paves the way for secondary infections, that toxin-saturated tissue of low resistance supplies the favorable soil for germ propagation. These may then complicate toxemia. This is the reason the removal of one "focus of infection" is soon followed by the development of another—toxemia breaks down other tissue. Only when toxemia is removed and nerve energy restored can their successive development be prevented.

Retained and accumulated glandular secretions, as in hyperthyroidism, poison the body. This is always a secondary toxemia, complicating the basic toxemia. Those forms of auto-intoxication that result from chronic nephritis, cholangitis, gall-stones, hepatic cancer, diabetes, pernicious anemia, myxoedema, acromegaly, Addison's "disease," gout, hyperthyroidism, etc., are merely complicating toxemias of advanced pathologies. They add to the pre-existing pathologies and hasten the final consummation, but are never primary causes. They are effects of enervation and metabolic toxemia, perhaps complicated by intestinal toxemia, chemical toxemia, or other toxemia. Toxemia (sepsis) arising from the break-down of a tumor (cancer) is a secondary toxemia.

CHEMICAL TOXEMIA

I have employed the term chemical toxemia for the want of a better one. By this I mean poisoning by drugs, chemicals, radium, dyes, food adulterants, bleaches, vaccines, serums, antitoxins, etc., whether taken accidentally, or taken for the "prevention and cure of disease." Every drug, vaccine, and serum in use poisons the body. They are sent into the body through the lungs, by inhalation; through the skin by absorption and injection ; through the mouth, by swallowing; and through the membranes of the eyes, nose, ears, colon, vagina, womb and urethra by absorption. Always they enervate and usually they produce more or less tissue destruction and organic impairment. By overstimulation they add to metabolic toxemia, while complicating it.

The use of anesthetics and other depressing substances may so inhibit metabolism and hinder the oxidation of fats as to give rise to toxic substances that often greatly damage the liver and other organs. Tobacco and coffee each depress the digestive system and permit decomposition of food. Food poisoning is thus added to drug poisoning.

Experiments have revealed that otherwise non-toxic substances become toxic when introduced directly into the blood stream. Even milk proves poisonous when thus introduced. An animal's own blood, if withdrawn and allowed to stand in the syringe for a few minutes, proves toxic when re-introduced. All foreign proteins, when so introduced are highly toxic. Smallpox vaccine is septic, producing septic infection. Blood

transfusion gives rise to toxic symptoms which may range all the way from a mild reaction to speedy death.

TOXIC DEPOSITS

We hold to the theory that the body deposits at various places in the tissues much of the uneliminated toxins and renders them as harmless as possible. Sylvester Graham wrote: "the vital economy has some depository out of the general circulation, and at the greatest remove from the most important vital properties and functions of the system, where it disposes of those deleterious and other offensive and superabundant substances which, from any cause, it is unable wholly to eliminate from the vital domain; and this, as we have seen, is none other than the adipose tissue. And hence it is evident that when, from poisonous or unwholesome food, or from any other cause, morbid and deleterious deposits take place in the animal system, the general receptacle is that portion of the cellular tissue which contains the adipose matter; and there is the strongest reason to believe that those substances become closely associated with the fat."—**Science of Human Life**, p. 500. Again: "The cellular tissue, we have seen, is the lowest order of animal structure; the lowest in vital endowment and functional character; and of all the forms of this general structure, that in which adipose matter is deposited is the lowest species. In the cells of this loose tissue, which is simply employed as a kind of web to connect other and more important tissues and parts, the vital economy, therefore, may, with greatest safety, in its particular emergencies, deposit for a time whatever substances it is obliged to dispose of in the most expeditious and convenient manner, and which it is not able to eliminate from the vital domain for—in these cells, such substances are at the greatest remove from any important vital power or function that they can be within the vital domain, and hence it is that such substances are deposited here and, in some cases retained for years, are of the most deleterious character, as we shall see hereafter.—**Science of Human Life**.

Rousse of Germany presented a similar theory concerning drugs and he was followed a few years thereafter by Louis Kuhne who worked out an elaborate theory of toxic deposits. Rabagliati holds that the "connective tissue is the first great place or part in the body where the products of an excess of food materials, finding their way into the blood, are primarily deposited." He called the connective tissue the "great dumping ground of the blood, the place which was, so to say, chosen by the blood as the least hurtful place or site in which to lay down any excess of material which it might be carrying, and for which it has no use."

It is evident that as the accumulation and deposition of these toxins continue and, as the cells of the body grow weaker and offer increasingly less resistance to the toxins, they are deposited more or less in all the cells and tissues.

Ragnar Berg says: "The tendency to deposit noxious substances in regions of minor physiological importance is reinforced by the physiological proclivity of the connective tissue towards the storage of salts, and especially acid radicals (the non-metal and oxygen portions of an acid except hydrogen) of high molecular weight. The 'predilection' for acid radicals is so marked that when, for example, large quantities of sodium chloride are being given in the food, and the administration of this salt is temporarily suspended, the sodium ion is excreted first and the chlorine ion subsequently. The entry of the residue into the tissues is effected by osmosis from the blood. When better conditions prevail in the

blood the residues are reabsorbed into that fluid, to be oxidized there as far as possible, and ultimately excreted in the urine. In certain disorders of the kidneys, the heart, or the blood vessels, there may be a direct increase of the solid constituents of the tissues, sometimes amounting to double the normal, and in the case of the skin, even to treble the normal. As a rule, however, the retention of these substances is attended by increased storage of fluid in the tissues. The deposited materials carry with them so much water (infiltration of the tissues) that the percentage content of chlorine (for instance) is perfectly normal, and thus retention does not become apparent until the contents of the tissues are reckoned in the dry state."

The absorption of these deposits by the blood, and their subsequent elimination, "when better conditions of the blood prevail," is the key to the method of ridding the body of deposited toxins—normalize the blood.

TOXEMIC DEVELOPMENTS

Having presented the chief sources of poisoning—of primary toxemia and the various complicating toxemias—it is now necessary to view the effects of these. First, however, let us say, with Dr. Weger, that "toxins are toxins regardless of source or origin. Toxemia, whether exogenous or endogenous, is nevertheless toxemia. Differentiation is not the most important issue."

In a broad, general sense, therefore, we may define toxemia as the presence in the blood, lymph, secretions, and cells, of any substance, from any source, which is inimical to health and, which, in sufficient quantity, will impair organic functioning. However, we must not too loosely employ the term in this blanket manner, but must be careful, always, to keep first things first.

In tracing the pathological outgrowths of enervation and toxemia, I shall follow very closely the work of Tilden, varying only in minor details in some places. Again I shall borrow freely from his published works, making use of few verbatim quotations, on the principle that knowledge is the common property of mankind and that private ownership of knowledge is a capitalistic delusion.

Acute "diseases," or crises (biogonies), are the early symptoms of toxemia. Chronic "diseases," adynamic biogonies, or true pathologies, are the cumulative influence of toxemia on organs which fortuitously stood the brunt of toxemic crises. The many "diseases" recognized by physicians and named in medical nomenclature, are symptom-complexes resting on a common base—toxemia. Their many "diseases" only appear after enervation (tire) has checked elimination and the blood has become surcharged with retained waste—the first, last and only **constant** cause of so-called "diseases."

So-called acute "diseases," or crises of toxemia, represent forced elimination. When toxins accumulate above the toleration point, resistance is aroused and vicarious or compensatory elimination (crisis, biogony, "disease") takes place. Abnormal elimination (biogony) is made necessary by the checking of normal elimination, and takes place at a point of least resistance, or at a point that has been weakened by irritating habits, or by occupation. This is to say that once toxemia is established, the organs most stressed from environment, work, or habit, will take on so-called "disease." Acute "disease" (crisis) arises when toxic retention is great enough to cause reaction; chronic "disease" (organic change) results from persistent toxic irritation. There would be no chronic "diseases" if the causes of their beginnings were understood and removed.

Toxemia is constant; crises are intermittent. The last straw, necessary to precipitate a crisis, may be a sudden drop in temperature, overheating the body, overwork, an unusual meal, any shock to mind and body, fear of an epidemic, etc. These place an added drain upon the nervous system, place an added check upon elimination, and increase the toxemia above the toleration point. This arouses resistance and a crisis develops during which all efforts at elimination are doubled. Certain organs or parts are commandeered to do vicarious elimination and the process is called "disease."

A biogony may be likened to a safety valve on a steam engine. When steam pressure rises above a safe level the valve automatically opens and lets out the excess steam thereby reducing the danger of explosion. When the pressure has been sufficiently reduced, the valve automatically closes. In like manner, when the toxic load rises above the toleration point a biogony automatically develops and continues until the toxins have been reduced to the toleration point or slightly below, and then automatically ends.

A cold, tonsillitis, bronchitis, diarrhea, or excessive secretion from any mucous membrane is a true vicarious elimination, and when established as a habit, is named chronic catarrh of the different organs involved. Excessive menstruation, nose-bleed, flux, amoebic dysentery, etc., are means of getting rid of excess. All these crises may be modified by infections generated in the gastro-intestinal canal from fermentation and putrefaction going on there. Such so-called "diseases" as typhoid, pneumonia, "flu," etc., are symptom-complexes to which are added complications by feeding, drugging, anxiety and fear by doctors and nurses, also family and friends.

Catarrh of some part of the mucous membranes is the first, or primary, effect of toxemia—this is to say, the common point of vicarious elimination, before the organism is greatly impaired, is some portion of the mucous membrane.

The stomach, being the most abused organ of the body, is the most vulnerable so that indigestion, or catarrh of the stomach—gastritis—is one of the first crises—biogonies. The stomach is stressed by over-eating, by hot and cold foods and drinks, by condiments, and drugs, by wrong food combinations, by eating under wrong conditions, and in many other ways. Next to the stomach in vulnerability, because greatly stressed, are the respiratory organs; for they are subject to the irritation of sudden changes in temperature, in taking hot and cold air, and in exhaling feculent gases developed within the stomach and bowels, and in inhaling noxious gasses and fumes, as of tobacco, automobile exhaust, etc., from without.

Overfeeding during enervation permits gastro-intestinal fermentation, resulting in irritation of the stomach and intestine, poisoning of the body, and irritation of the nose, throat and air passages by the noxious gasses formed. Gastritis, tonsillitis and colds result. If acute and the result of acute indigestion, the crisis soon passes. But if the condition is perpetuated day after day by enervating habits and imprudent eating, the mucous membrane becomes thickened, the nose stops up, the tonsils enlarge, and general adenitis is slowly developed. In those of the tubercular diathesis, the cervical glands often become very large. The tonsils remain enlarged so long as the errors in feeding are continued, or until the surgeon removes them; then if the enervating habits and imprudent eating are continued, rheumatism develops in gouty subjects and some form of tuberculosis in those of the tubercular diathesis.

Indigestion does not develop often before the mucous membranes of the throat and air passages begin to suffer, and colds, coryza, la grippe, "flu," tonsillitis, quinsy, pharyngitis, laryngitis, bronchitis, and similar catarrhal "diseases" are merely nature's way of eliminating excessive toxin accumulation.

The commonest and simplest type of biogony or toxemic crisis, is called a cold or coryza. It is a compensatory elimination of waste which the regular channels of excretion failed, because of enervation caused by one or more enervating influences, to dispose of. If toxemia is mild and not complicated by infection from putrescent absorption from the bowels, the cold should be gone in two days or less. If toxemia is of long standing and there is chronic intestinal infection, a cold may quickly take on the character of intestinal "flu."

When the diarrhea of mucous, that is the means of expelling toxins in what is called a cold, has reduced the toxins to the toleration point, the cold ends spontaneously. It is customary to say, it is cured; but this is not so. It merely ended. It is not something to cure—it is a curative process. When toxic accumulation forces elimination, the biogony lasts until the urge is relieved and the symptoms subside. This is not cure. Only the urge of toxic super-saturation is relieved. The subject is still toxemic, and enervated and will remain so until all enervating habits are corrected. No cold, or other biogony, is ever really cured until all the causes of enervation and toxemia are removed. The cold is an indication of a morbid state that will increase in intensity with the passage of years, marked by frequent crises of toxemia (biogonies), unless its causes are removed. If the person who has a cold had not been much below the near-health standard, he would not have developed the cold. When the symptoms have ceased (when the cold is gone), its cause lingers still under the surface of our conventional standard of health.

But a catarrhal condition (cold), the cause of which is not controlled, will gradually extend to all the mucous membranes of the body. When enervating habits are continued and nerve energy is more and more lessened, and toxemia becomes more and more profound, more mucous surface is required through which to eliminate. This means that inflammations are produced in other parts of the mucous membranes, hence the individual has "other diseases." There is really no justification for recognizing all these differently located catarrhs as separate and distinct diseases. Starting with gastritis, or coryza, the individual may develop, one by one, frequent crises, as the different areas of mucous membrane are commandeered to do vicarious duty. Catarrh of the nose, rhinitis, if badly managed—feeding, overheating and enervating practices continued—may involve the entire mucous membrane of the air passages.

When the mucous membrane of the stomach and bowels are involved, because of the contiguity of the mucous membranes of the gall-duct and gall bladder, as well as the appendix, the pancreatic duct, etc., these organs take on catarrhal inflammation.

The mucous membranes of the intestines and collateral organs—gall-duct, gall-bladder, pancreas as well as of the reproductive organs—womb, vagina, tubes, urethra, bladder, etc.,—may all become the location of crises—catarrhal "diseases." If this vicarious discharge is sent out of the body through the kidneys, the diagnosis is frequent micturition, or kidney disease. If it goes out by way of the colon, the diagnosis is muco-colitis; by way of the bladder, cystitis. These are mere words—names—but; convey no understanding. Excessive menstruation, nose bleed, diarrhea, flux, amoebic dysentery, etc., are all means of getting rid of excess. An

ulcerated foot or mouth becomes a point of elimination of toxin—a fontanel. All of these crises may be modified by infections generated in the gastro-intestinal canal from fermentation and putrefaction going on there. Pneumonia, typhoid fever, meningitis, small-pox, diphtheria, so-called "flu," etc., are all symptom-complexes to which are added complications by feeding, drugging, anxiety and fear created by doctors and nurses, also family and friends. When the catarrhal "diseases" are backed up by a toxin laden blood supply, they take on an ulcerative form, and if protein ingestion is excessive, the ulceration becomes putrescent.

It is customary to divide so-called "diseases" into acute and chronic types. Both of these types are again divided into benignant and malignant. The malignant types of acute "disease" are made malignant by absorption of putrescent infection arising from decomposition of animal foods in the stomach and bowels. The chronic types of "disease" are made malignant by putrescence arising from degeneration (oxygen starvation) within the morbid growth or tissue itself. All organic degenerations—tumors, indurated glands, thickened and hardened tissue—take on malignancy when they begin to decompose and the putrescent or septic material is absorbed, producing cachexia. The sepsis may be called cancer in gouty and tuberculosis in tubercular subjects. This is the dividing line between benignant and malignant chronic so-called "diseases." When a benign tumor that has hardened, for instance, becomes malignant (cancerous), it is because of a growing systemic enervation and toxemia. So long as nerve-energy is near normal, and toxin elimination is nearly efficient, malignancy is prevented. The body is able to protect itself when secretion and excretion are normal.

Tilden says "the development of degenerative diseases may take place in any tissue of the body. If this chain of symptoms is controlled before cachexia (a depraved condition of general nutrition) is established, cancer will not develop. After cachexia (pernicious anemia), or the stage known as cancer, is developed, recovery is as hopeless as when septicemia, which some day will be recognized as acute cancer, develops in a wound, or after childbirth—or the unlooked-for deaths following operations on the appendix."

Without any attempt at completion, the most common crises that develop when toxin accumulation reaches the saturation point, are: in the throat and respiratory tract, coryza, rhinitis, tonsillitis, adenoids, pharyngitis, laryngitis, bronchitis, croup, catarrhal croup, pneumonia; in the stomach and intestine, gastritis, duodenitis, enteritis, colitis, proctitis; in the genito-urinary tract, cystitis, urethritis, metritis, cervicitis, leucorrhoea, or vaginitis. This all means that one or more special areas of mucous membrane have been requisitioned to do special or compensatory service, and the eliminating process—the "disease"—is named according to location.

When the gastric catarrh extends to the duodenum, it finds its way through the gall-duct to the gall-bladder and liver, producing cholangitis, cholecystitis, and, in gouty subjects, gall-stones, catarrh of the liver. When the catarrh extends up the pancreatic duct into the pancreas it produces pancreatitis, and, finally, diabetes.

When any special area of mucous membrane is forced into repeated or continual crises, chronic inflammation is established. Then coryza becomes rhinitis, with the usual organic changes in the membrane, such as adenoids, hay fever, polyps, ozena, etc., and the inflammation extends into the sinuses, roots of the teeth, etc. Tonsillitis and pharyngitis become enlarged tonsils, and the catarrh extends to the eustachian tube, ears, inner

ear, mastoid cells, etc. Laryngitis and bronchitis extend to the lymphatics and adenitis develops, and in those of the tubercular diathesis, enlarged cervical glands and tuberculosis of the pharynx, larynx, or lungs. Gastritis evolves enduration, ulceration and cancer. Duodenitis takes on ulceration, the catarrh finds its way into the gall-bladder and liver and gall-stones or other "diseases" follow. Pancreatitis develops when the catarrh finds its way up the pancreatic duct, and, then diabetes and other "diseases" of the pancreas. In the colon and rectum ulcerative colitis and proctitis develop; in the kidneys of gouty subjects stones form; in the vagina and womb, ulcers and cancer, in the male prostatitis and prostatic enlargement.

But few crises, if the subject is properly cared for, ever go on to serious organic change, and the come-back under Hygienic care is much greater than in the regular way, and the degree of loss of function considerably less. It is not the sudden and transient, but the prolonged and cumulative causes that do most damage to the organs of the body. Sudden deaths by so-called heart "diseases," apoplexy, etc., have been long in building. Deaths in acute "disease" have had a preparatory stage—"contagious diseases strike down only those who are susceptible." Unfortunately, the average individual thinks he is healthy so long as he is not conscious of discomfort. When a crisis passes he considers himself healthy again. The many "diseases" found in medical nomenclature have been made up of frequently recurring symptom-complexes, caused primarily by enervating habits, and aided and abetted by fear and the poisonous effects of drugs used by doctors. Let us dwell on this a minute. Gastritis becomes chronic because toxemia is allowed to run on. Chronic inflammation of the mucous membrane evolves hardening, ulceration, pyloric obstruction, and cancer. Ulcers are cut out, but the operation does not remove cause, so others form and perhaps, cancer follows. A continuous vicarious elimination of toxins, as seen in chronic catarrh of the nose, produces chronic rhinitis, atrophic or hypertrophic, hay-fever, sinusitis, etc. The sinuses are drained or cut out, and spurs and polyps are removed from the nose, but since these operations do not remove cause, nothing is gained. When catarrh of the gall-bladder develops and gallstones are formed, the gall-bladder is drained, or the stones are cut out, but cause remains to produce more trouble. Insulin is given in diabetes, but this does not remove cause. Stones are removed from the kidneys, polyps and tumors are removed from the womb and vagina, the prostate gland is cut out, tonsils and adenoids are excised, but these illogical makeshifts and palliatives leave cause untouched.

The surgeon is called in to remove organ after organ in appendicitis, colitis, gastritis, ovaritis, cholecystitis, ulceration, ptosis, and numerous other abdominal and pelvic "diseases," because physicians bitterly fail to correct a mode of living that ultimately eventuates in these troubles, but allow functional troubles to run on until organic change takes place and the life of the victim of such ignorance and malpractice is ruined.

Tear after year sufferers are treated for germ influence ■—with serums, vaccines, anti-toxins, toxoids and antiseptic sprays—and for allergy—with allergic preparations—until catarrh of the stomach runs through the various stages—from catarrh, to inflammation, to induration, to ulceration, to fungation, or cancer; catarrh of the nose ends in thickening of the mucous membrane, ulceration, growths, polyps, spurs, possibly cancer; mucous colitis becomes ulcerative colitis, perhaps cancer; catarrh of the womb and vagina, with flooding and painful menstruation, becomes ulceration, polyps, tumors, cancer. "As systemic enervation

increases, organ after organ answers to the roll-call to fall into pathologic line in keeping with hereditary resistance or fortuitous stress."

Biogonies and so-called chronic "diseases" may be named according to the nomenclature but they are all crises of toxemia complicated by other toxins—intestinal infection—ranging from "simple fermentation of carbohydrates to septic decomposition of animal proteins. This gives us colds, scarlet fever, diphtheria, simple and septic measles, discreet and confluent smallpox, tuberculosis and cancer. These so-called diseases result from a pan-infection complicating toxemia. Toxemia with its preceding causes—enervation and enervating habits—are necessary as a foundation on which to build any and all pathology. Let those who must have a distinct and specific cause for each symptom-complex (each so-called specific "disease") find a cause that is always a cause if they can.

Tilden has it that "the formula of all so-called diseases is: Enervation to toxemia, plus enervating habits of body and mind, plus the psychology and chemistry of the environment, plus epidemic influence; the sum-totals: pneumonia, smallpox, measles, scarlet fever, tonsillitis, or any other so-called disease. All these different symptom-complexes are the totaling of fortuity and an exact chemistry."

The toxemia theory is the only theory of cause that does not stultify the source of intelligence, that is rational, that conforms to fundamental laws and principles, that is strictly in line with the principle of evolution (and every so-called "disease" is a legitimate evolution and evolves from existing elements), and that is so simple that children in the grades can apply the knowledge in the preservation of health. It is the only theory of cause that removes the elements of fear and uncertainty.

When secretions are checked so that decomposition occurs, infection takes place. Decomposition of food in the intestine is followed by absorption of toxic material, which, entering the blood, joins the toxins already there, giving a mixed infection, adding to the existing toxemia. If the feeding is of meat or animal proteins and putrescence is favored, "fever" may take on a low grade—become septic, diphtheritic, typhoid, typhus, and, unless feeding is discontinued and care is proper, death may be the consummation. When sepsis appears from protein decomposition, children's "diseases" take on so-called malignancy and contagiousness and often end fatally. Tilden says: "The cause of the great difference in severity, from almost nil to fatal malignancy, is the state of the body, it is a question of the degree of toxemia. In pronounced enervation and toxemia, with gastro-intestinal putrescence from an excessive intake of animal protein, infection from absorption of the intestinal decomposition, added to the existing toxemia, often builds a fatal malady."

Pneumonia and tuberculosis have as a basis of causation putrefaction in the intestine. Pneumonia is from toxemia and acute indigestion ; tuberculosis is from toxemia and chronic indigestion—or chronic intestinal putrefaction. The germs are incidental in both so-called diseases.

The amount of poisoning and the length of time it has been developing determine the severity of organic and systemic impairment. When the body has been compelled to establish a continuous vicarious elimination of toxins, such as a chronic catarrh, in time the sub-mucous tissues and glandular system become affected. In those of the tubercular diathesis, adenitis becomes tuberculosis.

It is necessary to banish from the mind the idea that there is "disease" **per se**; and that there are "diseases" peculiar to infancy and childhood, to virile manhood and womanhood, and to old age. Man is not heir to "disease" and there are not several hundred "diseases" as our inherited

ignorance, stupidity and superstition declare. So-called "diseases" are states of the body brought about by mental and physical habits practiced for years. These habits have kept the standard of health below the biological norm, kept the body enervated and toxemic; and when toxemia accumulated beyond the toleration point, there would automatically be instituted a process of forced or compensatory elimination—a biogony—to get rid of the accumulated metabolic end-products, and this process is stigmatized as "disease." The so-called "diseases" are mere symptom-complexes of a constitutional toxemic state.

Toxin from retained metabolic waste (checked elimination) and toxin from bacterial fermentation in the digestive tract, evolve such a state of pan-toxemia that crises are repeatedly, often almost continuously, developed. Headaches, tired feeling, nausea, vomiting, constipation, occasional diarrhea, so-called bilious spells, bad taste in the mouth in the morning, coated tongue, dizziness, catarrh, sore throat, colds, closing of the nose, tonsillitis, coughing, asthma, rheumatism, lumbago, sweating feet, flagging memory, "attacks" of so-called "flu," or about every epidemic, remind the subject of his toxin saturation and of the evil of his mode of living.

Jennings declared "disease" to be "mere negation of health," a non-entity. Tilden says, "There is no disease per se: The discomfort and pain named disease are states of health. Health is unthinkable as an entity; the most immatured mind can think of health only as a comfortable, happy state of the body. That a painful, unhappy state should be thought of as a healthy state changed into an entity is not reasonable."

All of the so-called "diseases" represent but different effects of the same cause (toxemia and its complications) operating through different anatomical structures, as well as functional channels. Although this gives us a "great variety of diseases," the organ whose symptoms are most in evidence dominates the pathological picture and the sufferer's state is associated with these dominant manifestations. Where an organ has several functions, one of these functions may be chiefly affected, and thus we get the "disease" of the organs split up into different varieties and these varieties are called "diseases," and named according to the disordered function whose symptoms are most in evidence.

The toxemia theory makes all so-called "disease" a unitary system, in which a cold or a catarrh may be shown to be the beginning of a morbid chain of causes and effects that will end in premature aging and death. Just what morbid tissue-change (pathology) a dead-house examination (autopsy) may reveal, matters little; for end-effects may manifest in great variety. "But what of it?," asks Tilden. "Dead men tell no tales. The great philosophy of toxemia, however, declares that all diseases have one origin. Cancer is not different from other diseases elementally. It is the effect of physical and mental habits which subtly reduce nerve-energy, permitting the accumulation of catabolic debris (the waste products of metabolism), which are toxic, and the retention of which is the cause of **Toxemia**—the universal cause of all so-called diseases."

Down below every symptom, functional disturbance, and organic change, there is a chronic subtle poisoning insidiously destroying integrity—the nemesis that follows in the wake of enervating habits. An organ subjected to overactivity, toxic influences, and irritants, wears out more quickly than others. The constant overactivity resulting from continuous toxic irritation, slowly, gradually, but surely breaks down the organs of the body producing pathology.

Evolution is not a study of origins—origins precede evolution. Something cannot evolve out of nothing. Evolution must have a starting-point, but is not that starting-point. Evolution gives us the perfect and the imperfect, good health and impaired health, life and death, using the same laws and the same elements. Development proceeds from the general to the special, from the simple to the complex. Pathology begins in simple deviations from the normal and proceeds, step by step, to the most complex forms as seen in advanced Bright's disease, diabetes, dementia, etc.

It is easy to start with the first cold in infancy and trace it to cancer in senility. The ending is not necessarily cancer. It may be any one of the organic changes known as chronic "diseases," or it may end in one of the so-called acute "diseases." The morbid chain of so-called "diseases" differs in individuals; a cold is only a beginning, while the end in one person may be diabetes, in another Bright's disease, in another tuberculosis, in another heart impairment, in another cancer, and other endings in others, depending on inherent or larval weaknesses, occupational and habit stress, stress of frequent crises, etc. Just what tissue, glandular structure, organs, or parts is first to give down before the on-march of toxemia, depends on inherent weaknesses, occupational stress, emotional states, and function-changing influences and habits.

A reasoning mind, professional and lay, should see order in the march of cause and effect, as organ after organ becomes involved under the influence of toxemia and infection and the special stressing from inheritance, occupation or habits. The trained mind should be able to recognize every symptom-complex now recognized as a "special disease." as one of the various links in a pathological chain reaching from the first stomach-upset, or the first cold in infancy, to the cancer or insanity in old age. Not a single link in this chain of so-called "diseases" has a separate origin or individual existence.

In all nature complexity gives rise to the greatest variations. The more variations the more stable the type. Hence, though a syniptom-complex may be so definitely—specifically—formed as to approach individuality, the discerning mind never sees a duplication. The number of possible symptom-complexes is great enough to fill a large book on **Medical Nomenclature**. The symptom-complexes are so numerous, so varied, and so blended into each other, that the whole is a tangled maze that mystifies and confuses. The more the subject is studied with the purpose of isolating and individualizing each so-called "disease," the less understandable and the more complicated it becomes.

Organic "diseases" (true pathology) are very gradual in their development and are marked by seasons of quiescence, interspersed by crises of longer or shorter duration, and of mild or severe character.

Organic "diseases" are listed under the head of "chronic diseases"; but they are the end-products of years of elimination of toxin poisoning. Chronic "diseases" of all kinds are end-products of a long series, or succession, of varying causes and effects, requiring time for maturation.

What is Cancer? What is senility? What is Bright's disease? What is diabetes? What is rheumatic arthritis? What is paralysis? The end-results of toxic crises, requiring years of pathological evolution to produce these endings, and everyone of which could have been halted at any time in its course by removing its cause. No mind is keen enough to say which ending a pathological chain of symptoms, starting with a cold or a gastritis, followed with the catarrhal complexes of the air passages, and

repeated spells of acute gastritis, will take: whether ulcer, cancer, tuberculosis, or other ending.

Why cannot pathologists, clinicians, diagnosticians and other specialists comprehend that cancer, for instance, is the end of a pathological chain requiring years to evolve; that it is not autonomous or of recent development; that it is not a "special creation." "Cancer has no symptomatology except cachexia," says Tilden; "all other symptoms are those of the diseases of which it is the ending." There are no specific "diseases."

Medical literature abounds with discussions on the successive stages of "disease," the sequelae of "disease," "secondary specific diseases," etc., but they fail to grasp the essential oneness of all so-called "disease." They are like the Irishman who, upon his first visit to the city, could not see the town for the houses.

If it is possible to have a pathological chain of symptom-complexes, starting with a cold in infancy or childhood and ending years later as an ulcer or a cancer, or as tuberculosis, or Bright's disease, it should become common knowledge so that the layman, being aware of such a possibility, may live in a manner to avoid such an ending. There are few etiological factors outside mental and physical habits to account for the extensive nomenclature of the profession, and the well informed layman may avoid these habits.

Think for a minute of a series of stomachic crises developing over a period of years, and, eventually, ending in cancer. Each crisis or "stomach attack," as it will be called, is treated as an individual manifestation of a spontaneous derangement of the organ, as the cause is never clear in the mind of the doctor. When the crisis passes, the "disease" ends and a cure is pronounced. No thought is given to any relationship the "disease" may have to the sufferer's habits, nor is it thought that its cause remains and another crisis will occur soon again. The incident ends as it began, with neither the sufferer nor the doctor any wiser; hence, not fortified with a knowledge of prevention. Years of these periodic spells of indigestion end in ulcer or cancer, a wholly unnecessary ending if the cause had been known and removed.

Tilden says: "After a pathology is evolved doctors think they know all about the disease; but the underlying cause remains unknown to them. If any relationship is thought to exist between habitual periodic discomforts—crises—and the life-ending pathologies, it is that the pathologies have been for years the unrecognizable or undiscoverable causes. In this the cart is put before the horse; and herein lies the reason for the prevailing chaos in the cause and cure of disease.

"Without established effects—pronounced pathologies—the most expert diagnostician aided by every known instrument of precision and expert analysis, throws up his hands and declares that he can find nothing wrong with the patient, even when the patient declares himself sick. These patients are junked in a class all their own, and labeled neurotics—neurasthenics.

"Etiology goes no further back than established pathology, according to the regular school. Indigestion, according to present-day diagnosis, is a symptom of a functional or organic disease of the stomach. If functional, it is passed as a cured derangement at each manifestation, with no bearing whatever on any organic pathology that the stomach may present thereafter. It matters not how many functional crises, when they pass there, they end, so far as cause is concerned. When organic disease

evolves, from that point on the cause and termination of disease is worked out so scientifically that it is almost an exact science."

All organic pathologies pass through a similar development period. Most of them give years of flashing warnings—functional disturbances—in the form of crises, or biogonies (so-called acute "diseases"), before organic change occurs. Headaches end in apoplexy; the removal of a uterine fibroid is followed ten years later by cancer; Bright's disease follows many crises extending over a period of years. Those who do not heed Nature's warnings, but become accustomed to crises, live through many of them, and gamble on the chance of living through many more, develop the worst types of pathology.

Toxemia is the much-sought-for unknown beginning of all pathology. It is only when organs, because of perverted anatomism or organic change, due to being frequently stressed by toxic saturation, fail to function properly, that "scientific medicine," begins to talk of "diseases" and their causes. All of the preceding stages in the development of the trouble are ignored, even unknown. Yet, as Dr. Tilden says: "Toxemia is the only rational explanation of the evolution of all so-called diseases. Such pathologies as cancer, tuberculosis, Bright's disease and others are proved by the toxin theory to be as orderly in their inception course, and termination, as the germination of an acorn—growth, nutrition, fructification, decline, and death of the oak tree. All pathologies are as orderly in their inception, course, and termination as any evolutionary phenomena in Nature."—**Philosophy of Health**, March, 1925.

The Hygienic theory is that all so-called disease (biogony), in whatsoever form it may manifest itself, is, in substance, an effort of the body to rid itself of accumulated waste matter (toxemia) and poisons, which taken in their entirety, we call pathogen. They are house-cleaning efforts. But at, no time, from the first cold to the end, during a "fatal disease," or an "incurable chronic disease," is the blood free from an excess of toxin. All the time there is gradual accumulation of toxin and a gradually increasing toleration therefor; all the time the system is in a state of overstimulation from the toxins, and all the time an imperceptible organic change is taking place in all the tissues of the body; and the part of the body bearing the brunt of the "crises" is imperceptibly taking on greater organic change, until its function is lost. All the organs of the body are weakened—the ductless glands as well—and various derangements develop, as their secretions and excretions are arrested by continued toxemia and pan-toxemia. If the organ most crippled chances to be a vital organ, the subject dies. Pathology is the end-effect of perverted physiology—a perverted evolution. Every organic change has its-beginning (cause), its individual evolutionary course, and its end.

The eliminative process often extends to the surface of the body, producing one form or another of what Tilden calls exanthematous or eruptive gastro-intestinal catarrh—measles, smallpox, chickenpox, etc. He adds, "respiratory diseases and eruptive diseases are interchangeable." "This brings up the relationship of pneumonia and smallpox—the former an extension of gastro-intestinal catarrh to the lungs, and the latter an extension of gastro-intestinal catarrh to the surface of the body. Both of these types of disease vary from, a light, almost insignificant derangement to a malignancy that is fatal in almost every case."

How much, and what portions, of the body will be requisitioned to do vicarious duty will depend on the amount and nature of the toxins and the relative degrees of vulnerability of the various organs. Tilden says: "If the most vulnerable organ of the body is the skin, it determines the type of the

disease. If other organs happen to be the most vulnerable, they take on the burden of elimination; then the crisis may be a pneumonia, gastritis, typhoid, rheumatism, or other so-called disease, taking its name from the organ through which elimination centers. A Bright's disease develops when the kidneys take on the work of eliminating infection absorbed from the bowels; tuberculosis of the lungs develops when the elimination is by way of the lungs. The character of all so-called diseases is the same, varying in intensity as the toxemia varies, as the organs differ, and as the psychology and physical environment vary. The manner of manifestation is not the disease; that, is only the peculiar way the system has of eliminating toxins which have accumulated until reaction forces elimination."

Perhaps we cannot expect those who believe in special creation in pathology to accept the truth that the eruptive "diseases" (exanthema) are toxicemic crises, complicated by putrescent poisoning, and that the whole long list of hundreds or thousands of so-called "diseases" have their origin in toxicemic crises; that so-called chronic "diseases" are evolved from crises repeated until organic change takes place. Scarlet fever, chickenpox, smallpox, measles, tonsillitis, whooping-cough, gastritis, kidney "disease," meningitis, infantile paralysis, and all other so-called "diseases" are manifestations of one and the same blood and flesh condition, and rest on a basis of enervation and toxemia. The severity of the type ranges from slightly catarrhal to a malignant septic poisoning. In diphtheria epidemics, cases range from a catarrhal tonsillitis to a "malignant croup" that ends in death in from twenty-four to seventy-two hours. If antitoxin is given in heroic doses, the victim dies earlier in convulsions. The severity of the type of diphtheria shows the same range of variability from one epidemic to another.

What is true of diphtheria is true of all other epidemics. The greatly toxicemic are prostrated by the so-called "infection" and "contagion" of epidemics, while the slightly toxicemic are affected but slightly, or not at all. The greatly enervated and toxicemic die, the other class recover.

The organism becomes more or less tolerant of toxins, and, as enervation becomes more profound, toxemia increases, until crises are of frequent occurrence. Those who carry toxins to the point of toleration will develop occasional or frequent crises—biogonies. Any added drain upon the energies of the body that puts an added check upon elimination, increases the toxemia beyond the point of toleration and occasions a crisis—a process of vicarious or compensatory elimination, a "disease." All people in the ordinary walks of life are potentially sick: all have a degree of toxemia for which they have built more or less toleration. The sudden "outbreak" of much sickness in the immediate wake of catastrophe—• flood, storm, earthquake—which dissipates the little remaining resistance they have, reveals that large numbers of people are at all times on the verge of sickness; that only a little more strain—enervating influence—is required to bring on a crisis.

It will be asked: Why does toxemia cause pneumonia in one case and typhoid in another? Why is diphtheria more virulent than tonsillitis? Why is one case of diphtheria or of scarlet fever more virulent than another case of the same "disease"? The answer to the first of these questions will have to be discovered in the laws of heredity, nutrition and environment. The answers to the other questions are to be found in the degree of enervation and toxemia, and in the nature and source of the complicating secondary toxemias.

The body varies its reactions to various toxins. Hence, different poisons, derived from different types of foods, are determining factors in the development of different "types" or "forms" of so-called "disease."

Dr. B. S. Claunch says, "one person works in a certain environment, eats certain kinds of food, takes practically no exercise, is flat-chested and has weak lungs; another does a different kind of work, eats a different food, is thick chested, has strong lungs, but a weak heart. If these individuals live in such a manner as to produce 'disease,' the former will most likely develop tuberculosis, while the latter will suffer from circulatory disturbances."—**Health First**, Feb. 1924, p. 5.

Those who have short necks and a large supply of blood to the the head, develop hyperemia of the brain, and are in line for building tumor, paralysis, paresis, apoplexy, etc. Individual differences in structure and relative functional powers determine local resistance.

We have emphasized the part played by organic stress produced by habits, occupation, etc., in determining the part of the body that will bear the brunt of toxemic crises and develop the pathologic end-result of the process. A few remarks on this point will help to make it clear. Overeating, eating wrong food combinations, and eating when in discomfort, stress the stomach. Overeating stresses also the liver, ductless glands and the kidneys. Toxemia plus gluttony produces "rheumatism" in the gouty; gall stones in the lithemic; tuberculosis in the tubercular diathesis. Toxemia plus imprudent eating produces gastro-intestinal catarrh in those who gluttonize.

Tobacco in any form stresses the stomach, kidneys, nerves and heart; if smoked it also stresses the respiratory organs. Toxemia plus tobacco (or coffee) causes heart disease in those who use these stimulants. Coffee stresses the heart and nervous system, producing headaches, and other nervous symptoms.

Excessive venery places a special stress upon the nervous system. Hence, toxemia plus excessive venery produce nervous troubles, locomotor ataxia and paralysis in the neurotic; impotence and prostatic enlargement in men and neuroses in women.

Enervation checks elimination, producing toxemia. Toxemia overstimulates and produces more enervation, thus forming a vicious circle. When alcoholism is the base cause of this vicious circle, such "diseases" as delirium tremens, hardening of the liver, multiple sclerosis—hardening of all tissues—develop.

When sensual habits form the basis of the vicious circle, we see food drunkenness marked by the so-called "heavy diseases"—pneumonia, typhoid fever, the eruptive "diseases," tuberculosis, et alii.

HEREDITY

For a study of the principles of heredity, the reader is referred to Vol. 5 of this series. There it will be learned that heredity is the transmission of germinal characteristics, including germinal weakness. But we do not inherit "disease."

We inherit organization. One may inherit a weak, narrow chest, weak lungs, etc, but he does not inherit tuberculosis. Congenital defects, and larval weaknesses are more likely to be due to nutritional deficiencies than to an affliction of the parent.

There are influences that reach the germ plasm and damage it. Alcohol is the best known of these. Food has a still greater influence on the germ-plasm. Experiments have shown that plants grown in poor soil

are smaller and generally produce smaller seeds than those grown in good soil. Further experiments showed that such seed, even when planted in good soil, give rise to smaller plants and seeds than do normal seed. Cold and alcohol have analogous effects upon plants and animals. Fortunately, these changes, being quantitative and never qualitative, do not change the hereditary constitution, and, if their causes are removed, disappear in one to three generations. Indeed Nageli found that plants which had acquired certain adaptive modifications by living on the alpine heights since the "ice age," lose these characters perfectly during their first summer in the low lands."

But as Prof. Conklin says, **Heredity and Environment**, page 247, "probably such cases are not instances of true inheritance; they do not signify a change in the hereditary constitution but an influence on the germ-cells of a nutritive and chemical sort." Such a cause must act through more than one generation to sufficiently deteriorate a hardy strain of germ-plasm to result in a predisposition to "disease."

"No doubt," says Jennings, "it required ages of the continuous action of appropriate causes on definite tissues or sets of organs, to prepare them for the first exhibition of the pneumonia—and these mild at first—of small-pox, measles, and other forms of disease that are denominated specifically contagious. And they who have the misfortune to possess a cachectic or scrofulous habit of body, in consequence of which they are ever liable to serious maladies from slight causes, have not fallen into this dire condition accidentally, or suddenly. If their pedigree could be traced back to a strong healthy race or stock, and all the impairing causes that have been instrumental in reducing them to their unenviable inheritance could be correctly computed and presented, it would exhibit an appalling spectacle."—**Philosophy of Human Life**, p. 100.

DIATHESIS—Predisposition

Constitution is the sum total of the comparative development and soundness of all the organs of the body at any given time. It is susceptible of improvement or impairment.

The best constitutions among modern civilized man are more or less organically defective, these defects resulting either from heredity, defective nutrition, injury or abuse (some of the circumstances and habits of life bear more heavily upon some organs than others), and have tendencies toward functional disturbances in different directions, and in different degrees. One may be safe in saying that whatever his organization may be, no man in civilized life enjoys, at any time, a perfect equilibrium of functional action throughout his whole organism, nor enjoys it to the same extent at all times.

Few, if any, of us possess perfect organisms. Almost every one of us has one or more congenital or acquired structural defects—some (anatomical weakness or deficiency that cripples life more or less. Dr. Dewey called these "ancestral legacies," and regarded them as "constitutional tendencies to disease." Dr. Jennings referred this "bias" or "Predisposition to disease" to an "inherited constitutional defect of the tissues of the organs concerned."

Diathesis is a bodily condition, or constitution, or tendency that predisposes to a particular "disease" or class of "diseases." It seems to be largely a defective anatomism—hereditary, congenital, or acquired—which acts as the localizing agency. Those who have stomach trouble are imperfectly built. Tubercular subjects are built for tuberculosis. This is

more or less true of all "diseases." Sometimes there is defective function where no anatomical defect is discoverable. Diatheses are divided into general and special.

General diatheses are the gouty (arthritic, lithic, rheumatic, uric acid), scrofulous (strumous, or tubercular), cancerous, furuncular, neurotic, etc. **Special diatheses** are defective anatomisms of the various organs of the body.

What is a diathesis? What are its causes? It must be confessed that it is often only a term to cover our ignorance. Neurotic diathesis—what is it? What does it depend on? We assume that it is a defective anatomism of the nervous system, that predisposes to nervous affections. What is a scrofulous diathesis? It is a defective structural development of the lymphatic system, which favors the development of tuberculosis. Mr. Reinheimer speaks of a parasitic diathesis. The Germans speak of an **exudative diathesis** in those who have a tendency to certain types of skin eruptions. Many individuals, especially children, seem prone to develop skin eruptions, while others though frequently ill, do not have much skin trouble. The same causes that produce skin eruptions in one person produce colds, or bronchitis, or gastritis in another. Special or organic diathesis is the only explanation of why people develop different organic "diseases"—why one develops a heart, another a liver, another a kidney, etc., affection—from the same causes.

Two men acquire the drink habit. Shortly thereafter one develops hyperemia of the liver which goes on to the production of cirrhosis, ascites and death. The other develops neuritis, and, if he continues to drink, graver forms of nervous degeneration. One man may drink large quantities of alcohol and yet live to old age. Another may die in early life from but a few years of drinking. It must be evident that when alcohol produces liver "disease" in one man and nervous "disease" in another, the difference is in the vulnerability of the respective organs of these men and not in the alcohol. When comparatively moderate drinking kills one man at an early age while another who drinks heavily lives to an advanced age, this, must be due to the relative resistance of the two men and not to a difference in the alcohol used.

"Medical books," wrote Trall, "are full of amusing specimens of thoughtless statements on this prolific subject. Thus, Hooper, in his 'Physicians Vade-Mecum, with Improvements by Guy and Stewart,' gives us the predisposing causes of inflammatory fever in the following words: 'Plethoric habit of body, with a strong muscular system; a good and unimpaired constitution.' If muscular strength and a good constitution predispose us to disease, it is certainly very dangerous to have good health. The same author gives us among the predisposing causes of yellow fever, the 'male sex,' and among those of miliary fever, the 'female sex.' It is of such stuff that many medical books are made. I only marvel that some transcendent genius has not recorded human nature as a predisposing cause of disease."—**Hydropathic Encyclopedia**, Vol. 2 p. 74.

Anyone who will take the trouble to examine the very latest books of today on the practice of medicine will find that the "male sex" and the "female sex," "pregnancy," "Jewish race" and other perfectly normal, healthful conditions of human life are still listed as predisposing causes of "disease." These apparent predispositions in male or in female, etc., we hold to be due not to greater susceptibility of one sex over the other, but to differences in their mode of living and in the conditions under which they live.

Predisposition is nothing more nor less than weakness or "inverse resistance," as Eabagliati called it. Resistance is a quality of organized matter, and if organization is weak, resistance must be weak. If organization is inherited, as we claim, then predisposition to "disease," or a less amount of resistance than usual to the causes of "disease" is hereditary, providing this weakness is inherent in the germ plasm and is not merely somatic in character and having its origin in defective development from causes acting upon the soma from without.

However, the old notion of "inherited tendencies" to a given form of pathology has been and is greatly over-worked. It is all too often used to cover up the doctor's ignorance of the real causes of trouble. It is often based on nothing more mysterious than the fact that the same conditions that produce the "disease" in the parents are usually present in the life of the child. The same food, bad hygiene and lack of sunshine that produced tuberculosis, for instance, in the parent may and often do produce the same pathology in the child. Why shouldn't members of families develop like "diseases"? They have similar habits and develop like tendencies—carry cesspools under their diaphragms. Certain "diseases" are peculiar to certain styles of living. The modes of living peculiar to the different periods of life produce "diseases" peculiar to these ages. Pathological evolution waits upon enervating habits to break down resistance.

Anatomical predisposition will not cause a given pathology to evolve; the individual construction only determines the specialization or localization of the pathology; the actual building of pathology is left to influences that break down natural resistance and allow the development of self-poisoning—the constitutional condition from which all "diseases" known to the nosology differentiate (specialize). Wrong life deranges nutrition, and while the constitutional derangement is alike in all, each individual will evolve a pathology peculiarly in keeping with his own anatomical construction.

Predisposition begins with the abandonment of orthobionomic living, although it is not recognized until after generations, perhaps, of such living has produced grave anatomical blemishes. The mere absence of detectable stigmata tells us very little about how far along the pathway of degeneration the individual and the resident germ plasm may be.

Diathesis or predisposition may be the result of poor ancestry (poor ancestral nutrition), insanitary surroundings in childhood, or of abuse of the body; the result being tissue weakness and an undue susceptibility to toxic materials. It is the sum of Nature and nurture; largely a defective anatomism. If we are born with a certain tendency, it is called congenital; if the tendency is developed after birth, it is called acquired.

The human organism is a complex of varied organs and tissues, each of which serves definite functions, all of the varied functions essential to health and life. While every organ of the body is essential to wholeness of life, some are relatively more important than others. None can be dispensed with without disturbing more or less the nicety of physiological equilibrium necessary to normal function of the whole body.

In an organism, which, starting as a single cell, has built itself up step by step, evolving its various organs and parts, manufacturing them from material supplied by the mother, and linking all these organs and parts together by means of the nervous system, glandular system, and the blood and lymph systems, and making each part dependent on the whole and the whole dependent on each of its parts, there exists such a close harmony and inseparable unity that no organ can act as an independent isonomy. If an organ is weak it is not permitted to become sick ("diseased") so long as

the general economy is able to sustain it. Not until there is a lowering of the general health standard, due to enervation and toxemia, can an organ which is below the general standard of excellence, become the center of an affection. When enervation is brought on, and because of this, secretion and excretion are impaired, and toxins resulting from faulty digestion are added to the retained cell-waste, the weaker organs or systems of the body become "diseased." It is not the mere possession of organs, but their functioning that determines health. A corpse has all the organs of a living body, but it lacks the power to function. Normal function is the basis of an enduring health. This is dependent upon two general factors—namely, the structural integrity of all the organs of the body and sufficient functional power to carry on the functions of life. If there is no power in the powerhouse the motors do not run. Similarly, the organs of the body, however perfect may be their structure, function vigorously or not, depending upon the amount of power that reaches them.

Anatomical defects are not to be regarded as, in any sense, causes of pathology. They do not make themselves felt so long as we have sufficient nerve energy to maintain normal function. "When functional energy is low and toxemia is present they offer least resistance to the toxins and thus become the seats of pathology. They are the first parts of the body to break down when it is subjected to over-stimulation, abuse, and depressing influences. As Dewey expressed it; "by whatever means brain power (nerve energy) is lessened, abnormality is incited in the weak parts; hence, generally, from the original weakness there is a summing up, as *** acute or chronic, local or general disease."

When energies are low hereditary and acquired tendencies (weaknesses) are most troublesome. They are unable to keep up their end of the game. If the energies of the body are just sufficient to maintain comfortable action under favorable circumstances, a little additional strain placed upon them will produce discomfort, pain, faltering of functions and other evidences of weakness and "disease." If these changes in external conditions that put a tax upon the body are sudden or great, this makes it more difficult for the enfeebled organs to keep up comfortable action. Any change that necessitates a little additional expenditure of power to maintain the usual functional standard, when the extreme of forbearance has been reached, will cause a faltering of organic function with an added check thrown upon elimination. Those who are strongly predisposed to "diseases" of the lungs, for instance, require only to be subjected to sufficient enervating causes to break down resistance and then the lungs become "diseased."

A diathesis is not pathology, nor the cause of pathology. It is only a constitutional peculiarity or defect which determines the type of pathology that will develop when sufficient impairing causes are brought to bear upon the organism. It is not a cause of pathology except in that it is a weak point, a vulnerable point, in the fortifications of the body. The producing causes of pathology lie elsewhere and the diathesis must always lay dormant unless these are present.

Page truly declared that, "the gouty, the rheumatic, the strumous, the 'colds,' and all other diatheses, are practically unimportant distinctions. The technical difference is, of course, well understood and admitted. In any event, it is certain that the course of living best suited to prevent one, is also best adapted to prevent or remove all. For all practical purposes, however, they may be all classed together; and whoever desire, either for themselves or their children, exemption from, or the alleviation of

suffering, have only to adopt a pure mode of living in order to escape, or emerge from, the disease diathesis."—**The Natural Cure**, p. 132.

Although we can always modify that twist in the constitution that is the result of wrong habits of living and thinking, can always strengthen and fortify weak parts more or less, a diathesis or constitutional bent is built through years of "evolution," and is in many cases a family characteristic that will require almost a century (three generations) to completely eradicate.

ANIMAL AND VEGETABLE PARASITES

Many parasites find a habitat in and on the human body and, under certain conditions, these are capable of causing much trouble. Under favorable conditions these parasites multiply very rapidly, whereas, under unfavorable conditions, they multiply slowly, if at all, and appear to do no harm.

Agriculturists and horticulturists know that when plants and trees are deprived of some of the elements of normal nutrition, they become victims of parasites. They can control these to a limited extent by spraying the plants and trees but their attack will continue until the plants and trees are destroyed unless the lacking elements of normal plant nutrition are supplied, after which the plants are able to defend themselves.

This same is true among animals including man. Those of lowered resistance are not able to prevent parasitic invasion. However, as soon as normal resistance is restored the parasites disappear.

Dr. Shew tells us: "The children of the Indians were never known to be troubled with worms; so that, we have reason to believe, that if a hardy course of training and diet were pursued with civilized offspring, such would uniformly be the result in their case as well. Worms are an evidence of debility. They cannot generate in the living body if it is preserved in a truly healthful and vigorous state."—**The Hydropathic Family Physician**, p. 21.

Tilden declares: "It should not be forgotten that parasites will not find lodgment in the intestinal tract of normally healthy people. To find anyone troubled with any kind of parasitic disease is proof positive that his nerve energies have been broken down, and as a consequence, his digestive power is below normal; hence everything must be done to restore his resistance." "It is impossible for parasites to develop in the intestines of a child or adult unless the digestive secretions are weakened to such an extent that they have no destructive influence on the ova, or eggs of the parasites taken in with the food."

Jennings declared that only a "depravation" of the secretions of these organs gives the parasites a "title" to a "residence" therein. When men become victims of intestinal germs, or when parasites, such as hookworms, infest the intestines of thousands of people, it means that wrong or imprudent eating has been indulged until a favorable intestinal habitat has evolved for the propagation of germs and worms. Tapeworm and hookworm cannot develop in a normal stomach and bowels. Only those have tapeworm, hookworm, and other intestinal parasites, whose secretions have lost their defensive potency. When digestion in the intestine is below normal, parasites flourish; when one is enervated and the powers of elimination and secretion are greatly lowered, parasites may affect the body. When the body's digestive function has given out, the body loses its protection, the ova of the various parasites, taken into the body in food, are not destroyed, because the digestive secretions lack the

power to digest them. Hence, they develop in the digestive tract. Reduced alkalinity of the body's fluids favors premature exfoliation of the mucous membranes and this gives opportunity for parasitic invasion of the body itself.

What tells most in parasitic "diseases" is the loss of resisting power and this loss is due to behavior that weakens the powers of the body. The parasite is a notorious weakling. For a higher organism to evidence a pronounced liability to parasitic imposition proves that it has indulged in weakening habits.

False feeding habits determine us in the direction of liaisons of a biologically undesirable kind. They tend to encourage the "idlers" and would-be parasites amongst the world of micro-organisms at the expense of our strenuous and moderate partners. Such feeding habits produce a soil favorable to "infection." Infeeding habits render an organism increasingly liable to parasitic invasion.

There are two ways of life—one the way of industry and cooperation ; the other the way of improvidence and predacity—work and theft, or production and appropriation. Both ways exist in nature, but they lead to opposite goals. The predacious, whether minute or large, prey only upon those forms of life that are unable to offer strong resistance.

Man is provided with power to resist the influences of all animal life below him in the scale of existence. Only sick men—those who have lost their normal resistance—become victims of parasites, animalcules, and germs. Because of the supply of toxic blood to the tissues, these degenerate and lose their resistance to parasites and germs that cannot obtain a foothold in a normal healthy subject.

Health gives the best "immunity" against parasitic "diseases." Supremacy rests upon true fitness, the fitness that spells freedom from degeneracy—integrity—a kind of fitness with which Darwinism and its fictitious "selection" jargon and medicine and its countless forms of vicarious atonement are wholly unacquainted.

Parasitism and its concomitant and coetaneous degeneration are fostered by a superabundance of nutrition, by a "royal diet." Health preeminently depends upon symbiotic support. Carnivores are notoriously hot-beds of parasites and there are parasites that prey upon parasites. The predacious life and its inferior food supplies produce degeneracy and destroy resistance.

Prthagoriscus Mola, the "huge" and "majestic" sun-fish, is a veritable hot-bed of parasitic infection. Geddes and Thompson describe a tuft of barnacles upon his back, the biting isopods, like enormous fleas, upon his skin, the trematodes sucking like leeches upon his eyes; and within they find, "not only his alimentary canal crammed with worms more than food, and his liver changed from its natural brown almost to the likeness of a tangle of white worsted, of which each thread is a tape-worm." Such is the condition of fish, fowl and beast engaged in the service of death and eternal emptiness—the predatory, non-symbiotic feeders of earth. Thus we see that many associations, though apparently compatible and even indispensable, are unreal inasmuch as they are of a retrogressive nature.

Not all whose resistance is impaired are troubled with parasites, but some are. Particularly the poor and those who live in unhygienic, unsanitary surroundings and eat poor or unclean food, and drink polluted water are affected by parasitic "diseases." Filthy houses, dirty beds, lack of body cleanliness, etc., favor the acquisition and development of parasites. The kind of parasite that one will acquire will depend upon what parasites

are indigenous to his locality and climate, as well as to the season of the year. Or, one may receive an imported variety from some one else who is infested with them.

It is true that parasitic "diseases" are sometimes, though rarely found in the well-to-do, who live conventionally clean lives. These people have broken down their resistance to parasitic invasion by an unwholesome mode of life and have, through some channel, come in contact with the parasites.

Some parasites are found chiefly in the skin. Before parasites can gain a foot-hold in the skin and thrive therein, there must be a lowering of the powers of life. Nutrition must be abnormal and renewal of tissue slow and imperfect. The skin must be weakened and debilitated and ready to undergo degeneration. In such a condition, the normal scaling of the skin takes place prematurely and the skin does not renew itself promptly and perfectly. This gives opportunity for parasitic invasion. That this is true is proven by the fact that the improvement of the skin by sun-bathing soon ends most parasitic skin "diseases."

Because of a lack of some of the elements and conditions necessary to the production of high-grade tissue, retrogression takes place and parasites find a ready entrance into the skin. It should be easy to comprehend that any influence that impairs the powers of life, and thus impairs and disturbs nutrition, will build a systemic condition favorable to the invading parasitic hosts. It will also be readily seen that in order to bring about a complete and permanent cure of parasitic "diseases," it is necessary to build up the general health and correct all environmental factors that are impairing health.

Parasites are supposed to be conveyed from one person to another in a wide variety of ways—the use of common hair brushes, combs, towels, caps, wearing apparel, sleeping in the same bed or coming in contact in any way with the body or clothing of the infested individual. Some parasites are supposed to be carried by dogs, cats, birds, etc., and spread among men through these agencies. Many find their way into the body in food and drink, usually in the form of eggs. Others like fleas, bed bugs, lice, etc., when they get into a house find many hiding places from which they sally forth, and bother almost every one that stops for a minute in the house. Some, however, seem to be immune to attack by bedbugs, although the room may be full of them and other occupants of the room are much annoyed by them. Some are never annoyed by mosquitoes. This peculiarity is, by some, thought to be hereditary. Skin parasites live upon the skin. They feed upon its tissues and fluids and produce their young in its layers. They thus form a constant source of irritation which causes itching, inflammation and various efforts of the skin to protect itself. These efforts at self-defense on the part of the skin, constitute the symptoms of the "disease" or "diseases" caused by the particular parasite. The excretions of the parasites are, of course, poisonous and form part of the cause of the skin "disease'."

Intestinal parasites live upon the food in these organs. When they get into the body they may find lodgment in the liver, kidneys, lungs, heart, or elsewhere, where they live upon the blood and tissues of their host.

There is but one cure for parasitic "disease" and that is to reestablish digestion and assimilation; then the body will cease to be a welcoming host to various parasitic organisms. Any plan that fails to restore resistance fails. The Rockefeller Institute found a way to free the bowels of hookworms without increasing resistance. The cured people were soon full of hookworms again, for they were living in a manner to convert the body

into a habitat for parasites; their body defenses were impaired, and, until their life is corrected and full nerve energy restored, a cure cannot be said to have taken place.

GERMS

The **Boston Medical and Surgical Journal**, March 12, 1924, in an editorial entitled "New Conceptions of Disease and Treatment," discusses the trend away from bacteriology and the laboratory specialist and toward bio-chemistry and a return to clinical methods and says: "The reason, therefore, of an eclipse or partial eclipse of bacteriology may be found in the belief that this branch of medicine, if it has not come exactly to a blind alley, has at least come to a halt ***. There are signs, more or less vague as yet, that new conceptions of disease are arising, although such views are themselves nebulous. It is thought by some that there is more or less fundamental unity of disease, and that many of the nosological labels attached to them are superfluous and confusing."

If there is a "fundamental unity of disease," as we have proclaimed for over a hundred years, there are no specific "diseases" requiring specific germs to cause them. With the recognition of the unity of pathology all ideas of specific causation will die a natural death.

There seems also to be a fundamental unity of bacterial life. The many forms of bacteria known are easily transmuted back and forth into one form or another. It has long been known that so-called "pathogenic bacteria are not organisms with special features, but that each is a member of a group of organisms possessing closely allied characters." Their characters are not stable and comparatively slight changes in their environment cause modifications in them. The cultural and microscopic character of "pathogenic" and non-pathogenic bacteria of the same group are so similar that differentiating them is often extremely difficult. The "pathogenic" bacteria have "acquired" their "pathogenic" properties "in many instances" to a very slight degree and some of these characters are not permanent. So-called specific germs are "specific" only so long as their food supply is specific.

Prof. J. G. Adami, perhaps the greatest pathologist of his time, issued a book in 1918 under the title, **Medical Contributions to the Study of Evolution**, in which he advanced the theory that all bacteria change with their environment so that the "most virulent disease-creating microbe," "fatal to humanity," may develop into a harmless or perfectly innocuous one and vice-versa, by feeding it upon different food stuffs in different surroundings. He says, "We can take a culture of streptococci so weak that only the most susceptible animals are influenced by it, and so augment the virulence that eventually the 100th or 1000th of a drop of a twelve-hour culture, or even much less than this, may cause the death of strong adults in six hours or less."

Dr. Rosenow, of the Mayo Foundation, performed some work with bacteria that is to the point. His transmutation of the organism of the pneumococcus group is a classic. He succeeded over and over again in bringing about a change from a streptococcus organism to a pneumococcus organism, and back again to a streptococcus; or he could run these around through any one of a number of different strains, or even types, and then bring them back to the type they were before, by following a routine of culture and animal inoculations. It is, therefore, possible to have a streptococcus of one type in an original "focus," which may

produce somewhere else in that same body, perhaps, a pneumococcus or a streptococcus of a different type.

Sir Wm. Power, British Medical Officer of the Local Government Board, was asked before the Royal Commission on Vivisection what he meant by "a definite specific organism." He replied, "A definite organism which will react always in a certain way to a certain series of culture tests." When asked what "diseases" are associated with organisms for which such a test has been established, he replied: "I cannot say that we have got to that stage with any one of them."

Before a convention of the Association of American Physicians, Atlantic City, May 16, 1938, Dr. Hobart A. Reinmann, professor of Medicine at Jefferson Medical College, Philadelphia, described his observations of the activities of an organism known as **micrococcus tetragenus** for a period of four years, during which time this germ turned itself into fifteen distinct forms, when its food supply was changed. Allbutt and Rolleston say, "It is thus possible that the pathogenic bacteria have all been derived from non-pathogenic forms."—**System of Medicine**, Vol. II, part 2.

Should not such a discovery as this shake the structure of the specificity of the so-called "germ diseases" to its very foundation? There is nothing strange or mysterious in the discovery of these simple truths by the learned germ theorists, but why do they reach no simple or logical conclusion from them? Is it because they are prepossessed with an illogical premise to begin with, and are blinded by the glare of their own spotlight?

When the history of microbes is finally written, it will reveal that the many varieties of bacteria now described are all derived from one or a few basic forms which are changed by changes in their food, temperature, etc. We believe that the countless varieties of practically all the "pathogenic bacteria" of today will finally be traced back to two or three common every-day ancestors. We are fully convinced that the multitude of species and types are but children of one union, sent out into their respective fields of activity to change their forms according to the demands of necessity and environmental dictates; that after their peculiar mission is fulfilled, they disappear, or assume the likeness and individuality of their prepotent sires, by retracing their steps successively by the same paths that were taken into their first field of operation.

We favor the view that the type of "disease" determines the morphology of the germ present and not vice-versa. Also, it is our contention that germs take on a form and character in keeping with the chemistry of their environment and that their supposed "specific" character and toxicity depend on their environment. There is every reason to believe that non-toxic bacteria become toxic in a septic environment. They derive their characteristics of virulence or innocence from their environment. Non-toxic bacteria become toxic in a septic environment and vice versa. For instance, Sir Richard Douglas Powell, a leading English bacteriologist, stated a few years ago, that if tetanus and gas gangrene germs are washed clean and freed from their environment, they are quite harmless. It has been found impossible to "infect" animals with the **spirochseta pallida**, the supposed cause of "syphilis." Infection can occur only when virus from a lesion is employed.

A germ is either toxic or it is not, and the fact that the supposed most malignant germs are found devoid of toxicity compels the conclusion that their toxicity is accidental and that its cause must be sought outside of themselves. When toxic germs become non-toxic the cause must be in

their environment. When germs that are "ordinarily innocuous suddenly become actively virulent, it must be due to the fact that they have come in contact with an environment that evolves toxicity. "The incidence of contagion or communicability can be explained in this way."

Bacteria both lose, and at other times gain, a certain degree of virulence and toxicity. Since this is limited by the environment in which they live, it is natural to conclude that it is their environment that confers upon them their toxic nature and powers. But if germs are to be considered the cause of "disease," they cannot lose their degree of virulence, and at the same time still maintain their power of infecting men in the manner that they are supposed to do—even granting such a thing to be possible.

Dr. Weger says: "Germs—bacteria of all kinds, in whatever disease they may be found—receive their virulence from the state and condition of the tissues themselves. This accounts for the fact that, when they are successfully grown on various culture-media of the same kind, they gradually lose their virulence, until they are altogether inert and fail to reproduce the reactions accredited to the original strain. No one so far as we know, has ever been able to reproduce an infectious disease by taking disease-producing germs from the normal air, and we defy the bacteriologists to prove that they can obtain filth from any other source than from filth itself. This is, indeed, a significant fact. If the germs are endowed with an original virulence and toxicity, they cannot produce disease unless their powers for infecting the body remain a permanent and invariable quantity. Everybody knows that such is not the case. For instance, people know that there are fifty varieties of bacteria in the human mouth."

It is our advice to leave the poor bacteria alone. Settle once and for all the question of their function and mode of action, admit them to the symbiotic family of life, and leave them to their nefarious, or helpful work, and get after the real causes of their activity.

Germs are saprophytes; that is, they live off dead inorganic matter. They are omnipresent scavengers in Nature's great laboratory, working over dead organic matter into forms appropriate to the nourishment of growing vegetation. They are essential nitrifying agents in the soil. Without them, neither plant nor animal could long exist and the earth would rapidly become encumbered with dead bodies. In the septic tank, sewerage is reduced by them until it finally passes out pure water in which fish may live. From both the esthetic and economic viewpoints, they are benefactors. They are friends of higher life. We live in a balanced and inter-dependent world, which is too complex to ever fully understand, but our dependence upon the symbiotic support of germ life is, at least partly, known.

In the body germs break up and consume dead and dying cells and discharges from the tissues. They perform the same function in the body that is ascribed to them everywhere else in nature. Viewed from this angle, they are purifying and beneficial agents. "What a wonderful vista would unfold itself before our eyes," says Dr. Weger, "were we to base our future germ investigations on the theory that, primarily, pathogenic organisms are our friends and not our enemies."

Germs do not, cannot, attack healthy tissue. They are saprophytes, scavengers, and are busily engaged in reducing dead organic matter to the dust from whence it came. The mere fact that bacteria accompany a pathological process does not justify us in assuming that the microorganism is the primary factor in causation. If bacteria can attack and kill healthy tissues, organs and organisms, then it should not be long

before these bacteria shall have destroyed all the higher forms of life and have the world to themselves.

Microbes are spread throughout nature, are ubiquitous in fact. Human groups swarm with them. They are in the food we eat, the water we drink and the air we breathe. We are reared in an environment laden with them. We cannot escape them. We can destroy them only to a limited extent. We must accept them as one of the joys of life. The modern theory of "disease" causation shuts its eyes to the sources of population; and overlooks the fact that natural children and pigs thrive on swill. "Children live in an atmosphere of germs and should be sick all the time if germs cause disease."

Germ theorists estimate that an average of 14,000 germs pass into the nose in an hour's breathing. In the subway and in a crowded building, we probably get this many into our noses in a few minutes. Many more are taken in in food and drink. Microbial populations abound throughout nature. Germs, in any location in which they are able to thrive, multiply so rapidly that they would produce more germs in a few days of their own activity than would be taken into the body in a year in the most germ-laden environment. From the stand-point of Natural Science, germs cannot be regarded as the cause of "disease," for, if they are, we should all be the victims of one or more germs at all times.

The body is built to offer effective resistance to the entrance of germs. The unbroken skin not only prevents the microbes living on its surface from entering the organism, but it is capable of destroying them by means of substances secreted by its glands. The skin joins the mucosa at the nostrils, mouth, eyes, ears, anus, vagina and urethra. This mucous membrane, or internal skin, if unbroken, is impermeable to microbes while its normal secretions are germicidal. So long as the skin which covers man's body and lines his cavities remains intact, germs have no influence on him; and when the skin is broken, the air and sunshine keep the broken surface dehydrated, and the germs fail to cause fermentation.

The microbe is washed to his destruction by a flood of serum that the powers of life send immediately to every abrasion, tear, or cut in the flesh of the body. If the bungling "scientific" man does not check the flow of healing serum with astringent antiseptics and obstructive dressings, healing will be by **first-intention**—Nature's way.

The respiratory membranes allow oxygen to pass into the body, but exclude dust and microbes. The digestive membranes permit water and digested foods to enter the body, but resist the penetration of the bacteria that swarm in the digestive tract. Integrity of the respiratory and digestive membranes constitutes ample protection against bacterial invasion.

When health is normal the digestive secretions are sufficient protection against germs and parasites. Germs may cause putrefaction in a meal of lobsters when enervation prevents digestion; but when digestion is normal, the bacillus is utilized as food along with the lobster. All of the digestive juices are germicidal and the normal digestion digests germs as readily as it does apples or bread.

There is no susceptibility on the part of any healthy organ to bacterial injury. All of the body's healthy secretions and the blood and lymph are antagonistic to bacterial life and activity. It is obvious that, living in a world swarming with microbes, if these cause "disease," man must possess powerful resistance to them, else he would have perished long ago. Except for this resistance he could not live through infancy.

If germs are powerless against a healthy body the logical preventive is the cultivation of health. If the body manufactures its own antiseptics

and antitoxins it should be supplied with the proper elements of sun, air, water, food, exercise, rest, etc., out of which to build these protective potencies instead of being subjected to the present mad-house efforts to produce artificial immunity.

A certain or specific germ is said to cause a certain or "specific disease." That this is not true is obvious from the fact that the germ is never the cause of "disease." It may form one of the multiple factors that collectively constitute cause. For, as Pasteur, himself, said: "In a state of health the body is closed against the action of disease germs." It is a mistake to single out one of the correlated factors that constitute cause and hold it responsible for pathology. Germs alone can no more produce pathology than a seed alone can produce a tree. Just as a seed must have a fertile soil, moisture, air, water, warmth and sunshine, if it is to grow into a tree, so the germ, if it is to add its complicating influence to an evolving pathology, must find certain essential conditions existing in the bodies of those it enters, before it can do the slightest harm. Normal nerve energy and pure blood—in a word, good health—are proof against germs of all kinds.

Tilden says: "Germs, like heat, cold, clothes, food, drink, and every other object in man's environment, may become a secondary ally of toxemia; but none of the objects or elements in man's environment can cause disease except as they may enervate the body, and check elimination of toxin, thereby super-saturating the blood with dead body-cells bringing on disease—the only disease, Toxemia."—**Critique**, May 1937.

Impaired health provides the suitable soil in which germs thrive and grow. The soil is more important than the germ. Infection and degeneration can set in only when the soil is badly fertilized by inappropriate nutrition. Germs are immanent coagulators—always secondary; a possible reinforcing or contingent cause, but never an exciting or primary cause.

If germs are a cause, they do not constitute **the** cause of "disease." If they require an ally, if antecedent conditions are essential to their work, they are, at most, but part of the cause of "disease," and are never primary; probably they are not even secondary. Germs are assumed to be the cause, but any one element in a chain of causation may as reasonably be singled out as the cause. "The germ is a busy body waiting everywhere for organic matter to give him a job by fertilizing the soil in which he likes to play and work," says Dr. Weger.

A universal cause comes first; then the ferment in the form of a germ gaining access to the weakened tissues, takes on activity and attempts to assist in the removal of undesirable material by liquifying it. The morbid material generated by this activity is more a byproduct of the disintegrating tissue than a virulent poison resulting from bacterial maliciousness. Germ activity, in this view, is an outside accessory that facilitates the removal of autogenerated filth.

If tissue loses its resistance, and impaired secretions are present, an otherwise harmless germ may thrive and produce poisons. Bacterial toxins are metabolic products of bacterial activity, their character being determined by the feeding habits of the patient. But the germ is never the cause, anymore than the germ associated with diphtheria is the cause of diphtheria. There must be a prepared soil for its propagation, and germs can only be secondary complications of a pre-existing toxemia. At most they may become an auxiliary cause, but not the primary cause. They may complicate when there is a perversion of chemistry. But the germs of the so-called specific "diseases" never take on specificity until the vitality of

the different tissues is lowered and nutrition perverted because of dysemia—the chemistry of the blood fails to supply the essential elements; then germs, previously innocent, take on virulency in keeping with the general enervation and systemic toxemia of the individual.

The **Medical Journal and Record**, March 17, 1926, says editorially, "Many acute and semi-acute diseases originate in the mouth, nose or throat by inhalation of microbes or germs there present which are excited into activity by causes as yet unknown. *** This seems to be the theory that is gaining in favor, that some unknown cause activates latent germs into activity." First it is assumed that germs cause "disease," then when it is found that the presence of germs does not produce "disease," it is further assumed that another and **unknown cause** causes the germs to cause "disease," but never that the **unknown cause** is the real cause of the pathology.

The best works on bacteriology declare that all the germs of a supposedly specific character are often found in people who do not have, have not had and do not subsequently develop the "disease" which they—the germs—are supposed to produce. Do germs cause infection part of the time and fail to do so the rest of the time? If so, are there some individuals whom they never attack and others whom they never immunize? If germs create "immunity," as serologists claim, why are there "chronic infections"? "What causes the "chronic infection"?"

Sir Wm. Osier says: "The presence of the Klebs-Loeffler bacillus is regarded by bacteriologists as the sole criterion of true diphtheria and as this organism may be associated with all grades of throat affections, from a simple catarrh to a sloughing gangrenous process, it is evident that in many instances there will be a striking discrepancy between the clinical and the bacteriological diagnosis." Here we have it stated by the very highest medical authority that diphtheria germs may be present in the throats of those who are sick (have simple catarrh and other affections) without producing diphtheria. The **Lancet** (Dec. 10, 1927) stated that of 772 cases admitted to the Birmingham hospital in all of which the bacteriological report was positive, 391—about 50 per cent.—showed no clinical evidence of diphtheria. It should be evident that something more than germs is essential to the development of diphtheria.

Pathologists report finding diphtheria germs in from 7 to 15 per cent. of the throats of healthy persons they examined, while this germ has been found in skin "diseases," emphysematous Kings, vaccine pustules, puerperal fever, pyorrhea, eczema, leprosy, "rabies," and other conditions remote from diphtheria. Dr. Hitter demonstrated the diphtheria bacillus in the throats of 127 school children when no diphtheria was present.

What is true of diphtheria germs is true of the germs of tuberculosis, typhoid fever, pneumonia, or any other so-called "disease." They are found in the mouth, throat, air passages, stomach and intestines of those who do not have, have not had, and do not subsequently develop the "diseases" these germs are supposed to cause.

The hemolytic streptococcus is a micro-organism with the reputation of being a dangerous invader of the human body. It is considered a real menace to health. Observations have verified the fact that this germ is frequently harbored by the well and the sick. Because it is harbored by the well, it is said " unsuspected dissemination becomes a serious possibility." Fifty per cent. of normal throats are said to harbor these germs. Ninety per cent. of normal persons harbor them in their tonsils; in eighty per cent. of normal persons they are found in the depths of the tonsils; in one hundred

per cent. of normal persons they are found in the crypts of the tonsils. It is remarkable that any of us are alive.

Large numbers of streptococci must be constantly passing into the alimentary tract. Furthermore, these same and other "dangerous types of bacteria" can reach the stomach through the medium of food. But hemolytic streptococci are not found in the feces. They are even absent from the feces of scarlet fever patients, who almost always harbor large number of these organisms in the throat. What becomes of these hemolytic streptococci? Are they readily destroyed by some protective mechanism in this part of the body? Gastric juice of normal acidity kills streptococci in five minutes. It has also been scientifically proved that hemolytic streptococci do not thrive in a fecal mixture at body temperature. The germ is not, therefore, primarily responsible for enteric disturbances.

"Carriers" are individuals, more or less healthy, who harbor and spread the germs of some "disease." We are told that every epidemic develops a number of "carriers." These people, while accused of harboring germs of "disease" do not themselves have the "disease." They are declared to be immune. Yet if it were possible to prove it, many so-called carriers die in every epidemic. These are the subjects medical writers refer to when they tell about how the "flu" epidemic carried off the strong and robust rather than the more delicate and less robust.

The condition named "carrier" is gastro-intestinal decomposition. The germs live and grow in the weakened digestive tract. Impaired secretions permit them to thrive there. When one is enervated, and has his powers of secretion and excretion impaired—when the body's digestive functions have given out—the body loses protective power and germs develop in the digestive tract and produce decomposition.

The man who has built himself into a seething compost is in line for developing any of the so-called communicable diseases. The condition can be corrected.

Doctors are the worst "carriers"—mental carriers. They spread not germs, but the fear of germs. Fear breaks down resistance—enervates. Enervation permits germs to live and grow.

If a germ is the specific cause of "disease," it "will always cause "disease"; but if it is found in health and "disease," which proves that it needs an ally, the germ cannot be regarded as cause. If typhoid, diphtheria, cholera, pneumonia and other so-called "infectious diseases" are solely the result of microbes, and microbes are everywhere, and microbe carriers are in every community, if they are found in people who have not had and do not subsequently develop the "infection" the microbe is supposed to produce, how can we attribute these conditions to microbes? Human groups swarm with tubercle bacilli. They are found in many kinds of food. In spite of this, not every one develops tuberculosis. The robust and vigorous laugh at these little fellows.

The supposed causative germs of so-called "disease" are not only found in those who do not have the "disease," but they are frequently missing from those who do have the "disease." The presence of a cause without its "disease" and the existence of a "disease" without its cause, is the equivalent of effectless causes and causeless effects. Nowhere outside of medical science are such things possible.

"If in diphtheria, the bacillus is not found, the illness is renamed something else," says the **Encyclopedia Britannica**. Dr. Beddow Bayly says that the diphtheria bacillus is missing in 14 per cent. of cases of clinical diphtheria. (**London Lancet**, Sept. 1898) ; the Report of the Royal Commission on Vivisection (1912) says this germ is absent in 20 per cent.

of such cases, while Sir Wm. Osier reports them to be absent in 28 to 40 per cent. of cases. A few years ago the British Ministry of Health instructed physicians thus: "The notification of cases of diphtheria under the Infectious Disease Acts, should be limited to persons actually suffering from diphtheria, i.e., those exhibiting clinical signs of the disease, with or without bacterial evidence of its presence."

During the 1918-19 influenza epidemic the profession was forced to abandon Pfeiffer's bacillus as the cause of influenza. It was often absent where it should not have been, that is, it was not associated with clinically diagnosed influenza, and it had the additional bad habit of appearing unaccountably in the throats and secretions of healthy persons. Indeed this germ was found in the sputum of 35 per cent. of 132 normally healthy men examined at Camp Pike.

Walter R. Hadwen, M.D., M.R.O.S., of England, in a lecture at a public meeting in Los Angeles, California, June 16, 1921, quoted Dr. Muthu of the Mendip Hill Sanatorium, who, he said is "perhaps one of the most experienced men in tuberculosis," in England, as saying, "In fifty per cent. of his cases he could not find tubercle bacilli at all." Dr. Hadwen himself declared: "Nobody has ever found a tubercle bacillus in the earliest stages of tuberculosis." It is stated by good authority that the germs sometimes put in their appearance only after the tuberculosis has existed for two years, and that in some cases they cannot even be found after death. It must be evident that tuberculosis is not due to germs.

Germs are rarely found in cases of the most fatal types of tuberculosis—the so-called hasty or galloping consumption. On the other hand, those cases of tuberculosis in which large quantities of bacilli are found are usually the chronic types and frequently end in recovery.

Strangely enough, the very "diseases"—colds, scarlet fever, measles, chicken pox and small pox, to mention only a few—which afford the most favorable field for study, are just the ones in which the causal organism is unknown.

All efforts to produce so-called "specific diseases" in man by introducing germs into the body have failed. There was the celebrated attempt of Dr. Waite to kill Colonel Peck. Waite fed his victim cultures of all the supposed "disease" producing germs that he could secure, both home grown and imported. These cultures included cultures of the germs of the most "deadly diseases" known, but Colonel Peck seemed to thrive on them. Waite was finally forced to resort to chloroform and a pillow to get his victim out of the way.

Dr. Pettenkofer, professor of bacteriology, at the university of Vienna, reached the conclusion that germs do not cause "disease." One day, while instructing his class in the bacteriological laboratory, he startled his students by picking up a glass containing millions of living cholera bacilli and swallowed the entire contents before the astonished students. De Kruif says "There were enough millions of wriggling comma germs in this tube to infect a regiment, but Pettenkofer only growled through his beard: 'Now let us see if I get cholera.' "

"Mysteriously, nothing happened and the failure of the mad Pettenkofer to come down with cholera remains to this day an enigma without even the beginning of an explanation."

Dr. Thomas Powell, who died a few years ago in California in his eightieth year, is thought to have taken more germs than any other man. Years ago he challenged his medical colleagues to produce a single "disease" in him by germ inoculation. For years many of the germ

theorists did their best to silence this discordant note. Cholera germs, bubonic plague germs and germs of every description were innoculated into his body and fed to him in every kind of food. Again and again they scraped his throat raw and painted it with diphtheria germs. But in all these many efforts, not once did they succeed in producing a single "disease" in him.

In **Physical Culture** (May 1919) John B. Fraser, M.D., C.M., of Toronto, Canada, describes a series of experiments performed there, from 1911 to 1918, to determine whether or not germs cause "disease." They spent the first three years in an effort to determine whether the germ appears before or after the "onset" of the "disease." The verdict was "after the onset." In 1914 the work of "incorporating fresh vigorous germs in food and drink and then using that food in the ordinary way began. Dr. Fraser says:

"The first experiment made was taking fifty thousand diphtheria germs in water, and after a few days suspense and no sign of the disease it was considered that the danger had passed. ***

"In the second experiment one hundred and fifty thousand diphtheria germs were used in milk, and again no signs of diphtheria appeared.

"In the third experiment over one million diphtheria germs were used in food without producing any sign of the disease.

"In the fourth experiment millions of diphtheria germs were swabbed over the tonsils and soft palate, under the tongue, and in the nostrils and still no evidence of the disease was discernible. As these results were very satisfactory it was decided to test out some other kinds of germs. A series of tests were made with pneumonia germs in which millions of germs were used in milk, water, bread, potatoes, meat, etc., and although persistent efforts were made to coax them to develop absolutely no sign of the disease appeared.

"Another series of experiments were carried out with typhoid germs, especial care being taken to infect distilled water, natural milk (not pasteurized) ; bread, meat, fish, potatoes, etc., etc., with millions of the most vigorous germs that could be incubated, and but for the knowledge that they had been taken, one would have known nothing about it.

"Another series of tests were made with the dreaded meningitis germs, and as the germs are believed to develop mainly in the mucous membranes of the nostrils, especial pains were taken to swab millions of the germs over the floor and sides of the nostrils, into the turbinated sinuses, over the tonsils, under the tongue, and back of the throat. In addition to these tests other tests were made in food and drink—millions of germs in each case, and yet no trace of the disease appeared.

"The experiments with the tuberculosis germs were carried out in a different way—more time was given between the experiments so as to allow the germs to develop; for clinical evidence has shown that this disease may remain latent, or imperfectly developed for months. Consequently it meant months of watching and waiting before one could be positive that the germs would not develop.

"Here again millions of germs were used in water, milk, and food of various kinds; every variety of food and drink was concerned; and as almost five years have elapsed since the experiment with T.B. began and no evidence of the disease has appeared I think we are justified in the belief that the germs are harmless. In addition to those experiments combinations of germs were used, such as typhoid and pneumonia, meningitis and typhoid, pneumonia and diphtheria, etc., etc., but no evidence of disease followed.

"During the years 1914-15-16-17-18 over one hundred and fifty experiments were carried out carefully and scientifically and yet absolutely no signs of disease followed."

The London Lancet Medical Journal of Canada (June, 1916) records some of the same or similar experiments by a medical man and six others which covered a period of two and one-half years, and, in which cultures of the germs of various "diseases" particularly those of diphtheria, pneumonia and typhoid were used in all kinds of foods and under the most favorable circumstances. The germs were administered in doses ranging from fifty thousand to one million and five hundred thousand without producing a single evidence of "disease." A number of experiments were made in the Naval Detention camps during the influenza epidemic of 1918-19 to transmit the "disease" from the sick to the well. Several such experiments were made on sixty-eight volunteers from the U. S. Naval Detention Training Camp on Deer Island.

Several groups of volunteers were inoculated with pure cultures of Pfeiffer's bacillus; with the secretions of the upper respiratory passages, and with blood taken from "typical influenza" cases. About thirty of the men had the germs sprayed and swabbed in the nose and throat. The Public Health Report, sums up the results in these words: "In no instance was an attack of influenza produced in any one of the subjects."

Ten other men were carried to the bedside of ten new cases of influenza and spent forty-five minutes with them. Each well man had ten sick men to cough in his face. With what results? "None of these volunteers developed any symptoms of influenza following the experiment."

Some similar experiments conducted in San Francisco are described in another article. Here one group of ten men were given emulsifying cultures of Pfeiffer's bacillus with no results during seven days of observation. Other groups of men, in all forty, were given emulsions of the secretions from the upper respiratory passages of patients in the active stages of influenza. These emulsions were sent into the nose by a medicine dropper and by an atomizer. The results are described in these words: "In every case the results were negative, so far as the reproduction of influenza is concerned. The men were all observed for seven days after inoculation."

Similar experiments with the same negative results were carried out in Philadelphia, at Camp Pike, and at other places. Surely such results or lack of results do not speak well for the germ theory in general nor for the idea in particular that the mucous membranes of lungs, intestines, etc., are particularly susceptible to germ invasion. Rather, we would say, they completely negative the whole theory. They show, at least, that germs alone cannot cause the "diseases" which they are supposed to cause. Dr. M. Beddow Bayly, M.R.U.S., L.R.C.P., writing in the London **Medical World**, June 1928, says: I am prepared to maintain, with scientifically established facts, that in no single instance has it been conclusively proved that any microorganism is the specific cause of a disease."

In more than sixty years of intensive farming the germ idea, there is not one "disease" that has been proved to be of germ origin, and not one can be cured according to the germ theory. Unless a germ will cause a disease every time it infects the body, it is not a cause. A cause must be constant and specific in its influence, or it is not a cause. "Germs are omnipresent—this is one of the fundamental truths Pasteur or his contemporary, Bechamp, discovered; but he and his followers appear to

have overlooked the fact that germs fail to have a specific influence all the time."

Investigations in the bacteriological laboratory throw no light on the conditions in the body which permit the germs to grow or which prevent them from growing. They tell us of a few germs, which, it is claimed, are the active agents in "disease," but they tell us nothing of the conditions which permit these agents to become active. They grow in those conditions and only in those conditions of life which give rise to such complaints as indigestion, catarrh, etc.

The view I would put before the reader is that "disease" is caused, not by the germ, but by the state of the body that allows the germ to flourish. And this condition of the organism or any part of it which renders possible the growth of the germ therein is the much sought for "filterable virus." It is the outgrowth of violations of the laws of life and is no chance or haphazard condition.

Dr. Tilden says: "The state of the body immediately preceding the appearance of germs is, therefore, the important one and determines the possibility of infection or disease. In fact, it is the necessary factor without which disease could never appear—germs or no germs. These latter are merely adventitious—secondary. It is, indeed, difficult to understand why a whole profession, as in recent years, has gone insane on the subject of bugs, to the utter neglect of those states of metabolism and nutrition which, when vitiated, constitute the universal cause of all disease."

Dr. Paul Carton, long the head of one of the largest sanatoria in France, for tubercular patients, declares in his **Consumption Doomed**, p. 19: "In tuberculosis the soil is practically everything *** one becomes tubercular by enfeebling one's organism, and the only means of getting rid of the bacillus, once it is fairly engrafted, is the heightening of the spontaneous resisting power. In a word Koch's bacillus is not much more than a saprophyte, a moss, a parasite which fastens upon failing organisms and seals the fate of those already falling into ruin." So-called tubercular germs are common enough that all of us are exposed to them many times during our life time. Not the germ, but "susceptibility" to the germ is what counts in producing tuberculosis. If one is not "susceptible" the germs die out; otherwise they persist.

Medical men and bacteriologists are practically a unit in declaring that germs cannot secure a foothold in a healthy body, but that a "nidus" or "suitable soil" is essential to their genesis. They do no harm in a body that is in a normally healthy condition. Unless there is a condition of the body varying from health, germs can do nothing. If germs cause "disease" why don't they produce "disease" in a healthy body? Why must the body already be diseased and its resistance low before they can produce "disease"? Do they cause "infection" part of the time and fail to do so the rest of the time? The normal body is capable of destroying all germs and parasites. The tubercle bacillus and the pneumococcus are not exceptions to this rule. The regular profession believes that the blood can be immunized. Normal blood does not need it, and the process lowers its resistance; and the victim of low resistance—toxemia—is further deteriorated by such treatment.

How foolish, then, to look for the "infectious agent" and ignore the circumstances which disarm the body against microbial invasion. It is difficult to understand why a whole profession has gone insane on the subject of germs, to the utter neglect of those states of metabolism and nutrition which when vitiated, constitute the open sesame to germ invasion.

Resistance is broken down when any habit of body and mind is practiced continually to excess, and without sufficient rest to keep the nerve energy at the normal standard. Restore resistance by rest and a corrected mode of living, and elimination follows; after which man is immune to the ubiquitous germ.

The researchers have falsely and wickedly heralded the fear-engendering story that the world is teeming with a host of vicious microscopical and ultra-microscopical beings against which no amount of integrity is a shield and the ravages of which we can escape only by placing ourselves in bondage—a servitude born of fear—to the man with the squirt gun and hollow needle. So-called research has supplied the world of men with unnecessary occasions for fear and has done this deliberately in order to cause them to abandon self-help and self-reliance and place their trust in a half-baked mere hope of a science.

An unreasoning way to rid the victim of germs and parasites is to destroy them with germicides and parasiticides. After killing them off what is to be done about the habitat—the patient? The belief that germs can be killed inside the body is untenable, for any chemical that destroys micro-organisms also destroys the body. Even if medical men are still trying to kill "venereal germs" with drugs, the fact still remains that they damage their patients more than they do the germs.

Neither the pneumococcus nor the tubercle bacillus can be killed in situ; but if they could, what of it? To kill or remove an effect leaves the cause as active as before. To kill the germs without removing the liability-engendering morbidity is to leave the body open for further "invasion." Nothing is really gained.

There is much evidence to show that the use of germicides actually lowers resistance to germs. One example will suffice. Carbolic acid kills germs—■ human blood kills germs. But if carbolic acid is added to blood, it destroys the blood's defenses so that germs grow more rapidly. The famous "gold cure" for tuberculosis was shown to behave in the same manner. The sick organism is better off "without these aids."

Even if the germicides were successful they would be futile, for, mere destruction of alleged "pathogenic organisms" is no adequate safeguard of health and unless the intrinsic morbidity is removed by remedial measures, other organisms and other symptoms will soon supplant those artificially suppressed. A few minutes reflection will reveal the physical impossibility of reaching all the germs, actual and prospective, with poisons, or of "curing" and preventing "diseases" by the injection of all manner of serums for alleged "immunization" against the legions of "infective diseases" that our general morbidity engenders.

Sterilization, vaccines, serums and chemical preservatives have caused too much neglect of natural preservation, which alone can insure health and strength to the individual and to the race.

It will be appropriate to close this section with the following by Dr. Page:

Kissing and The Germ Theory

You may make a wound and poison it—
That is, vaccinate my child;
But kiss him; The very thought of it
Is enough to drive me wild.

Implant the seeds of Lock-jaw,
Consumption and decline
By any means save kissing him—
It's there we draw the line.

—**The Open Door**, Jan. 1918.

INFECTION

The word infection is bandied about by doctors of high and low degree and by laymen as though it were of settled meaning. The word is an old one and is used now with a different meaning than it had a hundred years ago. Medical authors now define it to mean the "invasion of the body" by germs and parasites.

Historically and psychologically the words "possession" and "infection" represent only different rationalizations for the same superstition ; for identical delusional processes, and deluding morbid etiological valuations. The imaginative spirit invasion of the older priests and physicians has become the hypothetical invasion of the body by germs, which now cause "disease." The witches and wizards of old are now exorcisers of germs, bacteria.

Hygienists apply the term to the introduction of decomposing organic matter into the organism. Tilden puts it thus: "all infections—all types of infectious diseases are from one source: protein decomposition. Putrescence means decay of protein. The infective product is the same in grease, foot-and-mouth disease, smallpox, diphtheria, scarlet fever, typhoid fever, and syphilis. Septic infection covers the field, and means putrescence—protein decomposition. The type depends upon the environment and the tissue involved."

The idea of specific infection has no place in a rational philosophy of cause. So-called specific infection is septic infection. Sepsis is the only infecting agent in all the so-called specific diseases. Sepsis arises from decomposition. All secretions, excretions and exudations are non-toxic until they decompose, whereupon they become toxic.

There is no apparent difference in the effects of infection, whether that infection comes from an infected wound, a wound of the womb in childbirth, or abortion, ulceration, an ulcer in typhoid, etc. The only apparent differences are those of degree, and this depends on the condition of the patient, and the amount of septic matter absorbed. Whatever the part that may be played by germs, the constitutional effect is always the same.

The supposition that there are specific diseases caused by specific infections arises from the fact that every organ or tissue in the body lends its own individuality to "disease" processes. We do not expect to find identical symptoms in "disease" of two totally different parts of the organism. "Disease" of the lungs would present symptoms which differ from some of the symptoms of "disease" of the liver or bowels. However, inflammation is always the same in whatever organ or part it is located. And any inflammation in any part of the organism will, if great enough, occasion systemic sympathy—fever and general nutritive disturbances.

So-called specific infections are limited in their operations to particular parts of the body, and when these parts are barred against their action, there is no development of the supposed specific "disease." Where the parts are susceptible to the action of the infectious matter, the effect or injury that will be produced by a given amount of virus of a definite

virulence or toxicity, will depend on the vitality of the parts, and the circumstances under which it acts. Some men are naturally and habitually invulnerable to infection, while others are proof against its action at one time and liable to be affected by it at another. Resistance depends on an abundance of nerve force and normal secretions.

A simple infection arises from any injury or non-toxic irritation. This quickly heals, if the cause is removed. However, such an infection can easily be forced to take on sepsis if the cause is not removed and strict cleanliness observed. A thickening of the mucous membrane and ulceration will result. After this has taken place, if the exudate cannot drain away fully and freely, it will undergo decomposition, resulting in local septic infection. If drainage is not established there is then a possibility of systemic septicemia.

Infection or sepsis is generated by the decomposition—fermentation and putrefaction—of dead animal and vegetable substances and secretions. We hold to the theory of the **Unity of Infection**. Infection is due to the absorption of decaying animal or vegetable matter and is always the same in whatever part of the body it takes place. A specific infection is not more nor less than a septic infection. Contact with putrescent discharge is essential. This is primarily a skin infection and does not menace life. However, should blood infection be forced, then life is endangered.

The differences in the various septic substances, that is the differing degrees of toxicity, are derived from the chemistry of the substances from which they are derived and the stages of decomposition in which they are found. As an example of the unity of infection, smallpox vaccination serves admirably. It is sterilized pus, that is, pus which has had all germ life therein destroyed, yet it is admitted by its advocates to be frequently responsible for general vaccinia, cellulitis, septicemia, urticaria, erysipelas, so-called syphilis, tuberculosis, lock-jaw, meningitis, sleeping sickness, and many other conditions. Yet it is always septic pus from a cow.

It requires positive contact with, and absorption of septic or putrescent matter to result in infection. Medical men define infection as the invasion of the body by disease germs. But, as Tilden declares: "It should not be forgotten that unobstructed free drainage from wounds, ulcers, canals, ducts, keeps them aseptic (non-poisonous). The deadly germ on the hands, lips, drinking cups, hanging straps of street cars—■ in fact, found anywhere and everywhere—is not deadly until it gets mixed up with man's deadly, dirty, filthy physical and mental habits." Germs do not become toxic until they get into a toxic environment.

Sepsis in the intestines may give rise to cholera infantum, typhoid fever, pneumonia, diphtheria, meningitis, inflammation of the brain, peritonitis, appendicitis, or other infections, all depending on the virulence (chemistry) of the toxins present and the systemic and organic resistance offered to it. Intestinal toxemia is correctly considered as an infection. So, also, is organic toxemia and vaccine and serum poisoning. The phenomena of **anaphylaxis**, which follow serum injections, may manifest in a very extensive variety of "diseases," ranging from aching in the joints with slight fever, to tetanus, convulsions and immediate death. Usually several forms of "disease" are present together as a result of serum inoculation.

The conservative power of the body limits all infections, as long as possible, to the lymphatic glands. These glands possess more immunizing power than ordinary tissue. The spread" of all infections is along the lymphatic channels; but where lymphatic restraint is broken or overwhelmed, all the fluids of the body become infected and death may

follow quickly. The lymph nodes in the groin, for instance, arrest so-called venereal infection and hold it up long enough to neutralize and destroy it. If the amount of infection is great and the immunizing power of the glands is inadequate, suppuration follows and a heavy pus discharge carries the infection out of the body. If toxin infection in the lungs is great enough to cause suppuration of the lymphatic glands in these, the resulting "disease" is called tuberculosis.

Our view is that local infections—tonsillitis, rheumatism, chorea (St. Vitus dance), and heart "diseases,"—all spring from a common root and soil; and that root is enervation, and the soil is toxemia, to which is superadded intestinal putrescence. These "diseases" may be consecutive; one may follow the other in point of time in any conceivable order, and so be mistaken for cause; but one is not the cause of the other. They represent concomitant and successive developments out of a common cause.

Before a morbid process can evolve, the power of the part or of the body as a whole to generate its own immunizing agents must be broken down or overwhelmed. The reason two people similarly infected do not suffer alike, is that the one is more enervated and toxemic than the other and hence has less resistance; less self-immunizing power. Immunizing power has nothing to do with muscular strength. One patient has a mass of putrefying food stuff in his intestine and has diarrhea. Another has a similar mass and develops typhoid. In the first, the powers of resistance were sufficient to resist infection, and the decaying matter was expelled. In the second there was low resistance which permitted infection.

Sepsis is often generated in the intestine, in the uterus, under a tight repute, etc. Lack of drainage, uncleanness, etc., account for this. The disease resulting therefrom will depend upon the structures involved. Its severity will depend on the amount of septic matter absorbed, the condition of the patient and the aid or interference that the organism is given.

In septic infection, if proper drainage is established and the exudate washed away—this is, if cleanliness is observed—the primary infection will end within a few days. However, if drainage and cleanliness are neglected, reinfection will take place. General septic infection may follow.

The healthy individual, and by this we mean one who possesses real health, not merely one who conforms to the conventional health standard, easily resists infection where it is not so great as to completely overpower the organism at once.

When toxemia has brought about a chemical change in the tissues of the body—when a favorable habitat is produced by enervation and toxemia—germs, which are omnipresent, become an auxiliary cause, but never a primary one. Add to the state of nerve depletion and toxemia an intestinal decomposition that is in keeping, and you have a walking cess-pool too vile for the ubiquitous germ to respect. Checked secretion produces infection, just as checked excretion produced toxemia.

A properly cared for body is fully resistant to internal and external germs; but infection can develop in those of full health, if injuries do not drain well. When the enervated and toxemic have the infection of intestinal putrescence added, we have so-called germ invasion. Children who develop meningitis, or any of the other so-called contagious diseases, must be autotoxemic from improper food and improper care of the body; and, to bring about an epidemic, there must be an atmospheric state—domestic, civic, or general—that intensifies the already large stock of enervation.

A leading medical authority declares "disease is contagious and some people will be sick in spite of their best efforts to stay well." We answer: "Not if they have any real knowledge of how."

Many people who are apparently healthy are in reality "living sepulchers"—so completely enervated and so thoroughly toxemic that it requires just a little added enervating influence—cold, heat, the mental depression of bad news, a heavy meal, the shock of a slight operation—to send them pell-mell into eternity. Popularly and professionally, if a man appears well and feels well, this is enough. No matter if he is on the brink of the grave, his most vital organs so impaired and deficient in vital power that as soon as they begin to falter the whole system is broken up and life becomes extinct.

What have germs to do under such circumstances as these? The people who die in this manner are usually the apparently healthy—the "pictures of health"—those big feeders with wonderful appetites, with full red faces, well-rounded abdomens, and excessive weight and who are commonly thought to be in the "pink" of condition.

The cause of this sudden death is not in having been attacked nor overwhelmed by virulent germs, or by germs in large quantity, but is due to living a life of bad habits in such a way, and by transgressing every physiological law to such an extent, that their resistance has been reduced to a minimum. They die because they have destroyed their power to live.

EPIDEMICS

An epidemic is mass sickness in which one form of biogony predominates, either actually or psychologically. One so-called "disease" is made the head-liner, and there is a tendency to diagnose all illness as the "epidemic disease." The so-called Pneumonia-Influenza Pandemic, of 1918-19 furnishes a striking example of this. The conditions diagnosed influenza and pneumonia are present every year. At that time they were merely present in much greater numbers.

The pandemic followed upon the heels of the war. Years of fighting, coupled with the fears, dreads, anxieties, griefs, sacrifices, deprivations, etc., had so prostrated the world—had produced so much enervation and toxemia—that there was simply an increase in the forms of illness that are always present at that season of the year. Influenza was the headliner and doctors and laymen alike had their eyes on this name. Thus pneumonia, pleurisy, colds, bronchitis, typhoid fever, appendicitis, sleeping sickness, meningitis, tuberculosis flare-ups, etc., were frequently diagnosed as influenza. The epidemic was a state of mind, a method of diagnosis, a panic.

There was, at that time, a great increase in all seasonal forms of illness. In the training camp where the writer was stationed, hundreds of cases of mumps developed during the influenza pandemic. But these did not make the front page. During this pandemic there were as many or more colds as ever, but almost nobody had a cold. Colds were influenza. Influenza was a blanket term that covered whatever the patient had.

When the Spartans besieged Athens during the reign of Pericles, an epidemic "broke out" in Athens. The city was over crowded, the people from the outlying districts having retreated, with their cattle, within the city's walls. Water was scarce, food was scarce, the city became filthy. The stress and strain of war enervated the people and sickness developed. Such a plague was undoubtedly composed of many forms of "disease."

The "astounded and mystified" profession has been aberrant, or deluded, on the subject of germs, and has settled upon this one, out of thousands of influences that may be perverted into "disease" building influences, as the sole cause of all "diseases." Hence, when an epidemic or pandemic, or even an endemic or an unusual sporadic case, develops, these germ-deluded wiseacres get together and speculate on the identity of the germ, meantime prescribing a palliative that may kill the patient as surely as opium or its derivatives kill pneumonia cases. "There was an appalling mortality during the 'flu' pandemic. The reason for it was that the profession became hysterical, and prescribed all sorts of preventives and cures (?)—most of which proved detrimental, and many killed."

In all epidemics, the biogony is individual. By this, I mean that the individual and his body chemistry, determines the type of "disease." This is the reason no so-called epidemic "disease" ever comes alone. "Only those individuals in the peculiar physical condition causing the outcome of bubonic symptoms," says Dr. Page, "will have the disease; when the last of these is down the so-called plague is 'controlled.' "

When the laws of life have been broken and the people have become perambulating cess pools, they will suffer "zymotic diseases" of their own building. Vegetarians and fruitarians will develop the lighter forms of catarrhal inflammation; those who exceed their animal protein limitations will develop septic inflammations. Just what type of biogony will develop in a given case, will be determined by the most vulnerable tissue or organ. Like "diseases" develop in those who are similarly conditioned. Jennings explained the matter thus: "By reason of debilitating or health-destroying agencies on the one hand, and the rotary renovating operations of nature on the other, that are in ceaseless progress in most constitutions, the members of communities always stand in different and constantly varying attitudes in relation to all great and general causes of physical derangement, to which they are equally exposed; and when such causes sweep over them, they learn who of them, at those times possess similar local infirmities, so far as those cases can make the revelation. It is on this account and in this manner that the great periodic atmospheric revolutions prove such mighty revealers of secrets; that they disclose "the weakest parts of men, and make 'violated law speak out its thunder' in such terrific accents."—**Philosophy of Human Life**, p. 123.

What causes epidemics? The view that has prevailed since Pasteur is that germs are responsible. Epidemic "diseases" are said to-be infectious or contagious and are transferred from one person to another in a variety of ways. Thus the "disease" spreads over the community or nation. So solid is the superstition built about epidemic contagion, and so profitable is the inoculation practice built thereon, that it presents a veritable Gibraltar, against the walls of which reason makes little progress.

During great epidemics some become ill and die quickly; others die more slowly; some become ill, but recover; some become slightly sick, but present no "specific symptoms," the great majority do not become ill at all. We must assume a certain amount of susceptibility, or even of unhealthiness both in the person originally "attacked" and in those who have been "infected" by him. There are those to whom "the pestilence that stalketh in darkness and the destruction that wasteth at noon day are not fearful. Though a thousand fall at their feet and ten thousand at their right hand, they are unscathed." It is an every day occurrence to find individuals passing unscathed through the most virulent epidemics. If the health of everybody were equal to the health of those who remain "immune," there could be no epidemic.

Hygienists do not believe in the contagiousness of any "disease." A healthy person will not "take" any "disease." No normal person is susceptible to the influence of any so-called contagion. We hold that to account for an epidemic it is necessary to take into consideration all of the responsible factors; that it is necessary to account for the first case of an epidemic.

It is not possible, for instance, that the first case of smallpox was "caught" from a prior case. The first case of measles, or of scarlet fever, or of bubonic plague, or other "infectious disease," was not developed by contact with a prior case. If the first case developed without contact with a prior case, then millions of cases must have so developed since. A cause or combination of causes, which is sufficient to produce a given effect once, may do so again millions upon millions of times. The law of parsimony demands that no more causes be admitted than are necessary to the production of any given effect.

The view that the so-called contagious and infectious "diseases" cannot arise **de novo**, makes it impossible for there to have been a first case of such sicknesses. Yet it is quite obvious that the first case of any so-called contagious "disease" could not have arisen from a prior case.

If one's physical condition is ripe for the development of, let us say scarlet fever, he will develop it, even though there is not another case on earth. That is the way the first case developed. If his condition is not ripe for its development he will not develop it, even though there is a case in the same bed with him—there have been millions of instances like this.

It is our contention that the individual's internal condition is the important factor in these developments. Since Pasteur's time (about 1875) no regard has been paid to the internal condition necessary to evolve "infectious diseases" and medical men have been germ hunting and pushing the idea of the omnipotency of germ-activity into every department of medicine and seeking to attribute to it every "ill that flesh' is heir to."

Germs are ubiquitous—they are always with us and "carriers" are always present. If germs produce an epidemic, why do they produce an epidemic only at times and not at all time? If they are the cause of the epidemic, why does not everyone come down with the epidemic disease? Why does one have a cold, another pneumonia, another appendicitis, and another remain well during a small pox epidemic? All efforts to produce influenza on the basis of germ causation, in experiments carried out in 1918, were futile.

Whatever all the causes of an epidemic may be, it is absolutely certain that only those who are ready for the development of the "disease" will develop it. In all the epidemics, endemics and pandemics that have occurred in the world or any part of it, in any and all ages, "some constitutions have been," as Jennings says, "able to stand erect amid all the disturbing elements that have prevailed around them." Again: "Atmospheric revolutions, the vicissitudes of the seasons and sudden and considerable changes of the weather, affect persons with different predispositions, or that possess different structural proportions and endowments, differently"; but "a man with an iron constitution may fix his abode where he pleases and health will be his portion."—**Philosophy of Human Life**, p. 122.

Epidemics hold an intimate relationship to prostrating influences and to filth. Note the plague of Athens, the epidemics of the Middle Ages, the pneumonia-influenza pandemic of 1918-19. The great plague of London came in one of the hottest and driest summers in London's history, which

followed immediately upon a dry winter. There was little water for drinking or cleanliness, and this was more or less stagnant. Fear, apprehension and dread were added to the prostrating influence of the long dry, hot spell, by the presence of many comets. The plague perceptibly abated when the first rain fell and almost died down when winter arrived.

In 1925 London suffered an epidemic of tonsillitis. It was an unusually hot and dry summer. But there was plenty of good water and the filthy, crowded, slum-like conditions of the Middle Ages were lacking. No plague would or could develop in the London of today.

Defective drainage and sewerage, cess-pools, open sewers, over crowding, and, in the country, cow lots, have all contributed to the production of epidemics. Humidity, damp cellars, damp houses, damp weather, etc., favor the development of diphtheria. Sussana W. Dodds, says: "When we do away with organic filth, banish corruption from the haunts of men, we shall put an end to epidemics of putrid diseases. Thorough sanitation is the one thing needed, first, last, and all the time."—**Drugless Medicine**, p. 455.

But these things are not alone enough to account for epidemics. Most people living under these same conditions, "escape" the epidemic. Individual condition is still paramount. As Graham has it: "It may be confidently asserted that all the causes which obtain beyond the control of man, would seldom or never develop epidemic disease, without the concurrence of those causes which operate through his voluntary conduct."

Prostrating influences bring down only those whose resistance is already low—those who are enervated and toxemic. So far as the sufferers are concerned, all epidemics have the same basic causes—enervation, toxemia and gastro intestinal putrescence. Dealing with cholera, Graham says: "The propagation of the disease depends less on the absolute power of any pestilential or exciting cause, than on the predisposition of the human system." Consequently, "whether it will be taken by an individual, depends very much, if not entirely, on his own voluntary conduct."

As Graham said, people do not usually ask "What, and how much shall I eat and drink, and in what manner shall I live in order to sustain my body in its highest and healthiest condition?" but "almost every human being, rather, at least in practice, demand—How far can I indulge and live?" so that it should be "no cause for wonder that chronic and acute diseases, in all their dreadful forms and modes of destruction, should be multiplied throughout the human family, ***. Nor is it wonderful that some local, or general cause, not powerful in itself; such as exhalations of decaying vegetable or animal matter, the character and quality of food, a sudden change in the temperature, or humidity, or dryness of the atmosphere—or something else, equally simple and obvious in its nature and existence, should, in consequence of the peculiar condition of the human system, superinduce an endemic or epidemic disease, whose fatality corresponds with the reduced state of the vital power of resistance in man, the influence of moral causes cooperating, and the propriety or impropriety of medical theory and treatment."—**Cholera**, p. 17.

Most children are overindulged on feast days and holidays. Their stomachs rebel at the abuse and trouble develops. So-called epidemics of colds, sore throat, etc., follow. If there is over-indulgence in animal protein, as at Thanksgiving and Christmas, putrescence evolves and pneumonia, scarlet-fever, measles, diphtheria, etc., develop. This is the reason so many children in populous centers have these ills following feastings and this gives rise to the superstition that these "diseases" come in epidemics.

Even here only the enervated and toxemic are made ill. Even the "specific diseases" cannot develop except in toxemic subjects—those with a back ground of protein-poisoning, and who have suffered from putrescent intestinal infection until pronouncedly adenitic.

Epidemics thrive when conventionality is subjected to unusual depressing influences—wars, rumors of wars, financial depressions, atmospheric and climatic vicissitudes, etc.—and when more than the usual amount of enervation exists. It is then that the shock of a change of a few degrees in temperature, to hot or cold, or prolonged dry or wet weather, prostrates the most vulnerable. Excitement, fear and immunization measures of all kinds, force a few to go down with the epidemic, who would not do so otherwise, thereby prolonging the epidemic beyond natural limits. For epidemics end when they reach the resistant and poised of the community. There it stops, there it always has stopped, and there it always will stop; for, as the old Irish bull has it "Well people never get sick." The epidemic ends when there are no more subjects who are sufficiently enervated and toxemic to succumb to the prostrating influences.

Jennings truly declared: "Those present whose capital stock is not equal to the emergency, are prostrated more or less, according to the amount of sustaining energy which they have in store at the time. Those individuals who are the nearest to bankruptcy in this essential article, fall first and fatally, others hold out longer, some recovering and others dropping off. Here too is to be found the reason why a much larger proportion of the cases that occur in the first stage of an epidemic prove fatal, than in the later stages."—**Philosophy of Human Life**, p. 115.

Those who are weakest and who are the most heavily toxemic fall first and have less recuperative power. Of these Tilden says: "All they need is a fulminant—in disease a sudden drop of ten or more degrees in temperature, a slight indigestion, a mental shock, fear, etc. A long warm season followed by cold, a long dry season followed by wet weather, bring many to such a state of enervation that the change becomes the fulminant—the last straw—that starts an epidemic."—**Philosophy of Health**, April, 1923.

People free of toxemia and gastro-intestinal catarrh with putrefaction, whose mucous membranes, are all healthy, are fully resistant to any epidemic influence. From that large part of our population who are toxemic and putrescence-poisoned, epidemics develop. Law and order play no favorites and admit no exceptions. If the "epidemic influence" were the cause of the epidemic, then all who come within its range would develop the "epidemic disease." There is a good and sufficient reason why there are those who pass through the worst plague epidemics unharmed. Health is the great (and only) immunizer, and health is based on good habits. A sound organism with full nerve force repudiates pathogenic influences. If "disease" is contagious and every one is healthy, how can disease be "caught"?

In every epidemic the severity of the type ranges from extremely mild to fatal cases. Under any and all schemes of treatment, from rational to absurd—from expectant, watchful waiting to heroic dosing—people get well and die in keeping with their vital tenacity. Not the "epidemic influence," but the condition of the sick person determines this.

In human epidemics the psychology of fear prolongs and intensifies the epidemic by further enervating so that many develop the "disease" who would not except for this last straw—fear—that breaks the camel's back—resistance. The hullabaloo by newspapers and health doctors about

epidemics, vaccination, daily death rates, new cases, etc., produce panic and the less enervated and toxemic become ill. "When fear from newspaper scare-lines and health-board reports of "astonishment," "mystery" and inability to find the germ are added, the fearful and impressionable, those who lack knowledge and poise, go down.

After a crop of colds start, add fear, stupid medication, nursing and feeding; then colds, (coryza), rhinitis, pharyngitis, tonsillitis, laryngitis, and pneumonia and death are as natural as the "disease" is "mysterious" and "astonishing" to well-educated physicians. Every epidemic comes as a surprise to doctors because they do not know the causes of epidemics.

Mass hysteria, as exhibited in religious excitement, is instanced by Graham, as examples of the pathogenic effects of fear and anxiety aroused by the "fearful expectation of the presence and action of a mysterious agent." He gives examples of how this so affects the organs and functions of the body as to prostrate the victim. He points out, too, how each additional victim of the suggestion-induced panic "powerfully increases the predisposition of the body for such an effect." Of one such phenomenon he says: "The excitement extended and increased—and the phenomenon of falling down in a swoon became truly epidemic." This epidemic spread over a large part of New England. Some of the frenzied victims of this epidemic were "nearly paralyzed in their bodily powers."

He emphasized that "certain actions of the mind may produce certain conditions of the nervous system, causing corresponding effects on the organs and functions of the body; and that when peculiar causes have produced peculiar phenomena, and the causes are fully believed to be general, mysterious and irresistible, and the phenomena the necessary results of the action of those causes, the mind of all, coming under the strong and continued excitement, may so act on the bodily sympathies, and through them, on the organs and tissues, as absolutely to induce the same involuntary phenomena in most or all, and thus render them extensively epidemic."—**Cholera**, p. 29.

He believed that after "long continued abuses have reduced the vital energies of the nerves of organic life to a very low level, in a great portion of the people, and a particular type of 'disease' develops in some, fear and anxiety and panic are alone sufficient to keep up an epidemic disease," and also that by "acting on those of better habits," fear and frenzy may so "debilitate the nerves of organic life, and so disturb the various functions of the system," and predispose these individuals to "take on disease" which "being improperly treated, may terminate either in the prevailing disease itself, or one which shall so assimilate itself, in all its symptoms, to the prevailing disease, that it will be unhesitatingly pronounced the same, and thus, epidemic disease may not only range over the level of its origin, but also frequently undermine and sweep away many in the higher orders of habit and condition."

The alarm produced by the "new and terrible disease" that "everybody talks about" and the symptoms of which are "carefully observed and published in the newspapers," and handed on by "the ten thousand tongues of busy rumor," and "listened to with deepest sensibility by the ten thousands ears of fearful anxiety," produces "universal panic" causing hundreds, perhaps thousands "in the delirium of fear," to pour down "fatal quantities of brandy, laudanum" and other "remedies" "corresponding in violence with the supposed power and malignity of the cause of the disease" and "plunge drunken and stupified into the forced embrace of death."

"We know" he says, "that overwhelming fear, by arresting at once all the functions of life, may cause instantaneous death; and we know that violent and continued fear" and "brooding anxiety," will prostrate the strongest.

Fear is a child of ignorance. Knowledge alone can immunize us against fear of "disease" or of epidemics. Teach people that only the man who has built himself into a seething • compost, by wrong living, is in line for the development of any of the so-called "communicable diseases" and that no immunization scheme—no plan of vicarious salvation—can take the place of right living, and they will no longer fear "disease." The human mind is prone to throw obscurity and fearful mystery over subjects that are far from being mysterious. Correct knowledge alone can cure this tendency.

RESISTANCE AND IMMUNITY

Man is adapted to his environment; is coordinated with and adjusted to the universe and the cosmic rhythms. Only when his organism is impaired, from wrong living, do the natural elements of his environment—heat, cold, dampness, dryness, pollen, germs, parasites, etc.—become foes of life. For instance, weather changes that have no appreciable effect upon the strong and robust, occasion all manner of disagreeable symptoms and increase the severity of already existing ones in the sick and those of low resistance. The normal body easily adjusts itself to these changes, the impaired body fails to adjust itself. Man, no more than the lower animals, should be the helpless victim of his natural environment. That delicacy which like the house plant, is injured by every breath of air, and that rottenness of constitution which is the effect of indolence, intemperance and debauchery, lay the foundation for the numerous pathologies and premature deaths.

All experienced physicians have seen tuberculosis, diabetes, rheumatism, Bright's "disease," and other so-called "diseases" follow prostration from profound toxemia (crisis), injuries, and shocks of various kinds. The meaning of this is that a toxemic subject has had his remaining resistance reduced below the protecting point. As a result whatever organ (or organs) is predisposed by habit, occupation, or diathesis, will give down.

Resistance may be defined as that physiological and chemical condition of the body, particularly of its fluids and secretions, which enables it to successfully resist and counteract unfavorable influences acting upon it from without. Resistance varies with individuals, and with the varying conditions of the same individual. Between "complete immunity" and "extreme susceptibility" there are all degrees of resistance. "Immunity" and "susceptibility" are, therefore, only relative terms.

Resistance may also be defined as the possession of sufficient energy to carry on the functions of life adequately under conditions and circumstances that demand added nervous expenditure. So long as, through the practice of right habits, the state of resistance is maintained at a high standard, temporary adverse influences will not check elimination enough to produce toxemia, provided too much food is not ingested. A well person cannot be sick. But, when we become enervated, weak, and organic functioning is impaired, elimination is imperfect and resistance—power to stay well—is lost.

What about germs? When energy is abundant they are harmless. When energy is low the organs fail to secrete the enzymes that

"immunize" and make us proof against the ever-present bacteria. Only then are microbes able to thrive in the body. Health is the great immunizer.

In wounds, nature prepares her defenses if there is time—she walls off the septic pool by organized infiltrations or exudates to prevent absorption of the decomposition.

Increased toxicity produces a general kataphylaxis, or "defense rupture." Toxins lower resistance to all unfavorable influences. When the body is enervated from any cause, elimination is checked; then if to the wrong life that brought on the weakened state, are added the evil influences of filth, decomposition, overcrowding, fear, etc., resistance will be brought so low that environmental influences, which once failed to make an impression, are able to add the one last straw that breaks the camel's back.

The failure of organic resistance is the immediate cause of "infection," otherwise the least contact with microbes would suffice to produce "infection." To be pronouncedly liable to "infection" is to be always perilously near "infection" and the incidence of "infection" is only too likely to follow in the wake of liability. Instead of scaring us about the dangers of "infection," doctors would be better employed if they taught us how to live so that even if our neighbors are not clean there is little or no risk to us.

The inherent integrity of the organism is its own best safeguard. Liability to "infection" is in keeping with degeneration. When germs invade any living organism it is a sign the organism is enervated and its chemistry is perverted. How foolish to look for the "infectious agent" and ignore the circumstances which disarm the body against microbial invasion.

The "soil" is more important than the germ. The factors that create the nidus for germ activity are the primary antecedents of the "disease." These should be given first consideration. Medical investigators tell us that mice fed on a deficient diet and then inoculated with "virulent bacteria" give a mortality of approximately fifty per cent.; whereas, adequately nourished mice inoculated with the same culture give a mortality of only ten per cent. Resistance to "respiratory infections" is markedly less and anaphylactic reactions more severe in animals on a deficient diet. Malnutrition always causes lowered resistance and it is safe to say that no person ever suffers from "infections" and "contagions" who has been adequately nourished.

The respective potencies of the physiological means of defense are derived from the environment—from food, air, water, sunshine. The defensive power of the epithelial tissues is dependent upon proper nutrition. Infection and degeneration can only set in where the soil is badly fertilized by inappropriate nutrition. Only those who are weakened by unwholesome living, poor nutrition and faulty emotional conduct can become a prey to "bad germs."

Infection, whether parasitical or bacterial, is not a matter of accident, but of "soil." Bad "soil" conditions are due to bad behavior—all bad actions producing bad reactions upon the body. An organism that has degenerated into a mere bouillon culture has brought itself to this state by its own transgressions.

The development of "infection" does not depend upon the chance meeting of man and microbe. This meeting is constant, but generally without result. Microbes, even the most "dangerous," are with us always, yet infection is uncommon. When the tissues lose their resistance, and abnormal secretions are present, will not a harmless germ thrive and

produce poisons? But that germ will never be the cause any more than the germ associated with diphtheria is the cause of diphtheria. The prepared soil must precede the germ's propagation and germs can only be secondary complications of a pre-existing toxemia. Constitutional toxemia is the ever-present condition that permits "pathogenic" organisms to gain a foothold in the body.

Man's resistance can be increased or diminished by any and all factors that increase or diminish his stock of nerve energy, or that increase or diminish his load of toxemia. His mode of living and the treatment he receives are both either enervating, hence toxemia-building, or energy conserving, hence blood purifying.

Sir Almroth Wright declared that "the cure of bacterial infections depends neither on the storage of fat nor upon bronzing of the skin, nor yet upon the breathing of fresh air (sea-coast air, pine-wood air, mountain air, or upon warm southern air), but only upon the destruction of the invading bacteria by the anti-bacterial substance in the body."

Granting that he is right, where does the "anti-bacterial substance" come from? How does it get into the body; or how does the body produce it? Upon what conditions of food, air, rest, exercise, sunshine, etc., does the abundance or lack of abundance of this "antibacterial substance" depend? How may it be increased? How is it decreased? Does it just jump into us in the dark, or does it depend upon conditions that are under our voluntary control?

Immunity primarily means freedom or exemption from a penalty or consequence. Immunity in this sense amounts to a suspension of the law of cause and effect. The consequences of any act, right or wrong, are inherent in and concurrent with the act. There is no way by which one can be exempt from them. Every abuse of the mind and body administers its own penalties. "Men are punished by their sins, not for their sins."

Put your hand in the fire, you are burned and you cannot be immunized against burning. Alcohol inflicts its own consequences. So does overeating. Excesses and dissipations of all kinds do likewise. To the effects of these things there is no immunity.

It may be urged that immunization against causes of this nature is not claimed; only immunization against bacteria, or their toxins. To this I answer that it is no more possible to immunize the body against bacterial poisons than it is to immunize it to painter's colic, tobacco, opium, caffeine, arsenic and other poisons. Immunity to painter's colic cannot be produced by inoculating a man with white lead. Immunity to delirium tremens cannot be produced by inoculations with alcohol.

No amount of treatment to any injury can have any possible influence in preventing another injury. In the same way, no amount of treatment of poisoning will prevent another poisoning. If poisoning comes from sausage, cheese, fish, olives, canned foods, etc., the cause must be discovered and avoided. Prevention must come from an improved technique in food preservation, rather than from efforts to immunize the consumers of spoiled foods with vaccines and serums made from each variety of ptomaine. Who is so devoid of reason that he cannot see that the way to avoid poisoning is to avoid the poisons? Immunization schemes are basically false.

Tolerance for bacterial poisons can be established, as can tolerance for alcohol or opium; but in the first case, as in the latter, the body pays for this tolerance with enervation and lowered resistance to poisons in general. Tolerance to bacterial toxins, as to other poisons, means lowered

resistance—physiological depravity. It is, therefore, no more desirable than alcoholic toleration.

Some "infections" are said to confer immunity; some make one more susceptible; some confer lasting immunity; others confer immunity for only a limited time; some confer full immunity; others only make future "attacks" less severe. It is doubtful that biologic law is so chaotic as this indicates. I prefer to think there is something wrong with the theory.

The theory that "disease" immunizes against itself is very old, having existed in folk-lore for ages. There is not the slightest evidence that it is true, but the medical profession has accepted it and built a very remunerative practice thereon. A brief glance at the facts will suffice to show how false it is.

One may have hundreds of colds during a life time. No number of colds builds immunity. Cases are on record of individuals having had pneumonia as many as fifteen to fifty times. One may have la grippe or influenza a number of times. The same is true of typhoid fever, malaria, etc. Tuberculosis does not confer immunity. Indeed medical authorities say that influenza, pneumonia and tuberculosis seem to make one more susceptible.

The following table, taken from **Infection and Immunity**, by Sternberg, and quoted by him from Baiselis, who compiled it from literature carried in the medical journals a few years ago, is enlightening.

Disease on the 2nd, 3rd and 4th attacks:

	2nd	3rd	4th
Smallpox	505	9	0
Scarlet fever	29	4	0
Measles	30	1	0
Typhoid fever	202	5	1
Cholera	29	3	2

The table gives the highest number of second and third cases for smallpox. Nathan Oppenheim, (M.I.), in his **Medical Diseases of Childhood**, says of the difficulties of understanding "susceptibility," while dealing with smallpox vaccination: "Equally inexplicable are such susceptible cases as the remarkable one of Albutt, where there were three successful vaccinations, each one of which was followed within a comparatively short time by an attack of variola." This case is by no means an isolated one. Cases are recorded of individuals having had smallpox as many as five times, both with and without vaccination.

The table makes no mention of diphtheria, but Ziusser in his **Infection and Resistance**, says second "attacks" occur in 0.9 per cent. of cases. Quain's **Dictionary of Medicine** (1902) says: "One attack of diphtheria confers no prolonged immunity upon its subject. Even during convalescence the patient has been known to develop the disease afresh, and this may be repeated more than once," while Goodell and Washburn, in **A Manual of Infectious Diseases**, state: "It is uncertain how far one attack of this disease (diphtheria) protects against a second. Certainly relapses and second attacks are not very rare."

Standard medical authors list the following "diseases" in which "no lasting immunity is conferred by one attack": Gonorrhoea, pneumonia, influenza, glanders, dengue fever, dysentery, leprosy, sleeping sickness, meningitis, Rocky mountain spotted fever, rheumatism, croup, tonsillitis and colds. Zinsser says of "infectious diseases in which one attack conveys

lasting immunity" : Plague, typhoid—second "attack" rare—about 2.4 per cent. (Churchman) ; cholera, smallpox—second "attack" very rare; chicken pox—second "attack" very rare; measles—second "attack" uncommon, but less rare than scarlatina, yellow fever., typhus fever; syphilis—reinfection rare, though more common than formerly supposed; mumps—second "attack" rare (Krans) ; poliomyelitis. Malaria, syphilis and tuberculosis are said to present "immunological problems" that are not yet clear.

Zinsser says: "Thucylides, in the second book of his account of the Peloponnesian wars, in describing the plague at Athens, notes the apparent safety from reinfection of those who had recovered, suggesting the possibility of their being immune against disease in general." If this idea were true, then all attention to sanitation and hygiene represents both wasted and misdirected effort. We need, rather, to cultivate the plague to prevent "disease" in general.

The immunity superstition is much older than this. Zinsser tells us that the phenomenon of "immunity" conferred by one "attack" of a "disease" was not "only observed but put to practical utilization by the ancients of China and India. Thus the practice of inoculating children with smallpox material from the active pustules of patients, or making them sleep in beds or wear the shirts of sufferers was a dangerous practice but logical." He adds: "Such methods, though barbaric and eventually unjustified by the high mortality incident upon them, were {actually brought to Europe and for a time practiced in European countries."

The gist of the whole theory, and both the ancient logical but barbaric and the modern scientific practices based thereon, is that, in order to be immune to "disease," we must first become "diseased," or, as it is now taught, have an animal become "diseased" for us—a form of vicarious salvation. Immunity, in this theory, does not depend on health, nor upon the causes of health, but upon "disease" and the causes of "disease." The theory reverses the whole order of nature. Health is preserved by first getting sick. You become immune to the cause of a "disease" by having the "disease." Or else, you introduce the cause into the body of an animal and then appropriate his "acquired immunity" to yourself and thus save yourself.

The Hygienic theory is that we avoid "disease" by avoiding its causes; that we preserve health by supplying the body with healthful conditions. There is no immunity that does not come of a high degree of health and the elements upon which health depends. There is no immunity that is born of the products of the suffering of animals. We are assured that some are immune to germ invasion. For instance, there are thousands who ignore the presence of the so-called malarial and filarial mosquitoes. These are said to possess immunity. Immunity is a mere term. To say that one individual possesses greater resistance than another is merely to say that the one is more healthy than the other, and if we do not go beyond this and determine why one is more healthy than the other, we are simply begging the whole question.

What is "immunity." We contend that it is health—that health gives the best immunity against "bacterial diseases." "Infection," whether parasitical or bacterial, is not a matter of accident but of "soil." Bad "soil" conditions resulting from bad behavior (all bad actions produce bad reactions) determine the germs pathogenically. "A normal human being is invulnerable to germ influence; indeed germs are kept innocuous by normalcy," says Tilden.

Sereologists experiment with "make-shift" immunities and tamper with old established bonds sacred to integrity and norm-immunity. "Make-shift immunity" is one that is unattended by a concomitant reduction of liability. Sereologists say to us: "Live as you please, eat any offal or putrid carcass to which your carnivorous taste may incline you, practice any vicious habits to which your cultivated cravings may lead you, violate any and all the laws of your being, dissipate and go to excess as you will, we will wring from the bodies of our animal victims, in the laboratory, serums to immunize you against the necessary consequences of your misconduct."

They ask us to abnegate genuine hopes of achieving wholeness for a fictitious promise of "magic"—of vicarious salvation. They omit to mention that the serums, the production of which is a lucrative business, are most likely to result in a whole long train of evils of their own, which are often more lasting than their promised benefits are supposed to be.

We are justified in assuming that with an occurrence of "infection" the body 'is forced to reorganize its means of defense. A "make-shift" defense is hastily thrown up. Whether we have a "makeshift" immunity or a norm-immunity must depend upon how we order our life thereafter.

Tilden correctly declares. "The whole immunizing theory is a vicious circle, and is annulled by the facts that when people do not live in a manner to enervate and check elimination, they do not become infected; and when infected, if they overcome enervation they rid themselves of infection, and stay rid of it. And a stronger attack on the citadel of germ delusion is the fact that when children are given proper care, and a normal health standard is maintained, they are not susceptible to infection. The truth in a nutshell is that the so-called infections are autogenerated, and are avoidable by rational living."

Causes of Enervation

Chapter XIII

Enervation is a state of lowered nerve force, a condition brought on by using up nerve force in excess. A state of mere temporary or partial exhaustion of power from too long continued or excessive action is quickly recuperated from, if sufficient rest and sleep are secured. Activity of all kinds use up energy; energy is recuperated during periods of relaxation and repose. Rest is Nature's great restorer. If stimulants are substituted for rest, recuperation lags and, finally, function falters.

For the body to maintain the state of good health it must be given light, heat, air, water, rest, exercise and given these elements in right amounts, proportions, qualities and combinations. Too much light overstimulates and brings on enervation; the same is true of heat. Not enough light also enervates, as does lack of heat. Deficient or impure air lowers the health standard, either by oxygen starvation or by poisoning. Food, even though suitable, may be taken in excessive or in deficient quantities, or it may be taken at the wrong time, or in wrong combinations. Water may be wholesome or taken in deficient quantities. Exercise may be carried to excess; or rest may be overdone and produce enervation. The mental state can be stimulated to the extent of producing mental or physical "disease."

The nervous system possesses two general powers—the motive and the sensorial. The motive power is employed in those important vital operations which are concerned in the growth and sustenance of the body, and in the actions, and functions of the various organs. The sensory power is employed in the functions of sensation, reflection, volition. These two powers of the nervous system, though somewhat different from each other, are yet so intimately related that for their highest and best condition, they both equally depend on the most healthy and perfect state of the nervous system. Whatever, in any measure, deteriorates the nervous structure, or impairs its functional powers, always necessarily diminishes both the motor and sensorial powers of the body. In the nervous structures excitement or exalted sensibility is followed by reduced function or enervation.

Since both these powers depend upon the integrity of the nervous system, all excessive exercise or expenditure of one always diminishes the functional energy of the other. All excessive exercise of the mind or the passions always necessarily diminishes the functional power of the stomach and all other organs concerned in the growth and sustenance of the body. On the other hand, everything that increases the demand for the concentration and expenditure of nervous power in the stomach and other organs, for the performance of their function beyond what is indispensibly necessary for the healthy operations of the body, always and necessarily diminishes the sensorial powers. In short, whether energy is Wasted in motor or in sensory activities or in both, the result is the same.

Excesses, mental or physical, use up nerve force and cause enervation. Anything that "acts" on the body and mind stimulates and causes a "reaction." We can "react" as long as we have nerve energy. When we have used up our surplus nerve energy we are fatigued, and require rest and sleep to recuperate. When we do not stop 'stimulating our nerve energy ebbs away, and the organs of the body lose power to function

efficiently. The individual can dissipate his nervous energy, but he cannot add to it by any act of his own. Nature alone can build this up, and it is done during rest and sleep.

Work, worry, and the pleasure-seeking habit peculiar to civilization, or any influences that draw heavily on the capital stock of nerve energy, enervate. If nerve energy is used up in work or play, worry or grief, fear, anger; ill temper, or overworked emotions, passion, excessive joy and sorrow, overeating, eating improper food or wrong combinations of food, or eating putrescent food causing ptomaine poisoning, or the use of stimulants, or in intrigue, dishonesty, fault-finding, grouchiness, or complaining, or in sight-seeing, or if the body or mind is abused in any way, or if sufficient rest and sleep are not obtained, and if such habits are continued and become chronic, there is a gradual lessening of nervous energy producing enervation. Outside influences may reduce man's energy and cause faulty elimination. Enervation always causes a checking of elimination.

In the following presentation of the causes of enervation, no effort has been made to group the many enervating influences with reference to their importance; rather it has been sought to sum up the cumulative effects of the expenditures these occasion.

SENSORY EXCESSES

All of the nerves of special sense may be used to excess. Nerves, in their normal state, give out a feeling of comfort and Veil-being. When they have been forced to spend over much, or are forced to give out a feeling of well-being beyond what is good for us, or beyond the normal capacity, or when artificial pleasures are indulged, they send out a feeling of discomfort, which should serve as a warning, and should guide us back to normal behavior. It is no part of wisdom or science to ignore, negate or dispute this truth.

Overstimulation of the eyes is quite common. In these days of much sight-seeing, movie-going, etc., the strain on the nerves is great. Eye-strain is enervating. The reflex influence of the body's effort to compensate for a visual defect is especially important. The stress in such a condition is more or less constant.

This is an age of much and varied noise. The time will come when it will be necessary to eliminate the noise of the streets of the cities. Bells on churches and street-cars, the rattling of wheels, honking of horns and blowing of whistles, and the various noises produced by machinery will have to be eliminated from city life to save people from nervous "diseases."

Noise shocks the nervous system and the constant nerve-shocks from the loud noise incident to modern civilization result in a great wear and tear upon the brain and nervous system, producing fatigue (enervation), lowered functional efficiency, and "nervousness." Noise, while eating, disturbs digestion. Life in the large cities with their elevated trains, street cars, thousands of auto horns, riveting machines on the steel structures of sky-scrapers, typewriters, telephone bells, music or its substitute—jazz—noisy crowds and noisy talkies, the loud blaring of radios, jazz orchestras, is almost unbearable. The mental worker disturbed more by noise than the physical worker, makes a futile effort to overcome the irritation caused by these incessant sounds and tries to increase his mental concentration upon his work. This effort constitutes an added strain upon his nervous system

and severe nerve weakness, morbidity, despondency and other neuroses and psychoses result.

The city worker needs peace, quiet, relaxation, rest. But he does not usually seek these when he is off work, or when he is on vacation. He becomes part of a noisy crowd at the beach or at a dance hall where a "hot" dance orchestra, with "an inspired cymbal dasher" "whoops it up." Speed, noise, stimulation—these are added to the hot dogs and soft drinks with which he commits suicide.

Sensuality (sense indulgence) may, perhaps, be made to cover almost the whole class of enervating practices common to mankind. Within limitations, man may properly and beneficially indulge sense. But there is a limit beyond which discomfort develops ■—a warning to moderate or desist. It is customary to ignore the warning, palliate the discomfort, and persist in the indulgence, so that the organism is gradually weakened and premature death results.

Sylvester Graham says: "The grand experiment of the whole human family seems ever to have been to ascertain how far they can go in indulgence, how near they can approach the brink of death, and yet not die so suddenly and violently as to be compelled to know that they have destroyed themselves."—**Science of Human Life**, p. 350. Humanity has been on a debauch for ages but there is almost always a desire to evade responsibilities for habits that waste life.

We pursue the phantom of pleasure over the boundry lines of discretion; that is, we enjoy mental and physical pleasures beyond the powers of resistance—we use up nerve energy beyond the point of full return or restoration before a like expenditure is again made. Pleasure seeking is wasteful of energy and is especially baneful in its influence upon those who are already enervated and toxicemic.

It is unfortunate that so few are willing to heed sound hygienic advice in order to prevent suffering. They prefer to indulge their appetites and other animal pleasures, often deliberately choosing such enjoyments and pursuing them in the face of known dangers. These regard the true office of the doctor to be merely that of waiting upon them when they are ill and will not heed any advice about the regulation of private and public hygiene with the view of preventing illness. The intelligent may have a better time by adopting better plans.

To ignorantly or wilfully disregard the limitations set by each individual's body to automatically warn him when he is going too far in work or pleasure leads to body impairment. Enjoying beyond your limitations brings "disease" and death. "There is a way which seemeth right unto a man, but the end thereof are the ways of death."

The continuous attendance upon picture shows or dances, or indulging the sexual function so frequently that no time is given for recuperation, brings on enervation. It is no mere accident that austerity, chastity and beauty are found together in nature. We barter away the potentials for a heaven in the here and now for Bacchanalian revels. "We are so drunk on our thousand-and-one mental stimulants that we cannot see or understand that we kill ourselves before mental maturity."

This is an age of great strain on the nervous system; no wonder the asylums are filled to overflowing. The late hours, the hurrying convivialities, the luxuries of modern city life, the noise and excitement, make early wrecks of the nervous system, and with it, of digestion, nutrition, excretion, and the general vigor of bodily repair. These influences impair the powers of life almost from the first day of extra-uterine existence.

The past lives of those who visit us show that their weak spot is nervous impairment. The nervous system being unbalanced at birth, in most of them, due to malnutrition, is then unhinged or almost shattered by the customs under which, as children, they are reared.

MENTAL AND EMOTIONAL CAUSES

Great stress must be placed upon the emotional states in their office of producing enervation. No other school, save the purely psychological, emphasizes the bearing of the emotional stresses upon the physical condition that the Hygienic does.

The whole body is under the dominating influence of the cerebro-spinal nervous system, and its functions are easily disturbed by mental and emotional states. The influence on circulation and digestion of sudden news, the unexpected meeting with a friend, or enemy, has certainly been experienced by every adult at some time or other in his or her life. There is often a feeling of absolute physical weakness, a complete distaste for food, even in the midst of a previously enjoyed meal and there may even be nausea and vomiting.

The least intelligent person can discern the connection between the shock of bad news and the headache that follows. The discerning can also trace nausea, sour stomach, a "bilious attack," etc., to the same cause. Shock temporarily upsets the normal balance of physiological function, causes a sudden cessation or diversion of the flow of nerve energy and over-balances the chemistry of the body.

Today much stress is laid upon psychological factors and there are entire systems of care based upon mental influences, but, lacking a knowledge of enervation and toxemia, they lack a clear understanding of the prostrating influence of powerful emotions. Everyone knows that atrocity stories in war produce fear and panic, but it seems difficult to pierce their understanding with the fact that atrocity stories by doctors and health boards also produce fear and panic.

The destructive effects upon the body of certain emotional states are as interesting as they are evident. The effect is often like an electric shock, altering the feelings, impairing physiological functions, and affecting the individual's sanity as certainly as alcohol or opium. Pathology and death may be produced mentally and epidemics are often produced in this way.

Enervating influences beyond the compensatory capacity of the body, produce enervation. Mental and emotional influences may be so great and may so profoundly affect the body suddenly as to produce sudden collapse, or they may be less marked, but chronic, and produce a gradual sapping of the body's energies. It is hardly possible to comprehend the magnitude of our physical responses to mental stimuli, or our mental and emotional responses to physical stimuli. The sum of adverse reactions multiplied by the days of our existence spells the degree of enervation.

Every physical and mental impulse or stimulus registers in the body according to law. Constructive and strengthening stimuli are those that do not conflict with the well-ordered processes of life. The emotional reaction to the stimulus generated by a good or virtuous thought or deed is constructive. It produces a wholesome expansion, warmth and a feeling of well-being. The influence on physiological function is one of wholesome stimulation, of a more abundant flow of potent secretions, and of better transmission of nerve energy.

Wholesome reactions are occasioned by emotions of tolerance, kindness, goodwill, generosity, unselfish service, gentleness, modesty,

moderation, truth, and love. Laughter, a jovial disposition, happy thoughts, an all-inclusive love, are aids to digestion, aids to assimilation and nutrition, aids to elimination. These are all positive, health-building influences.

Fear, apprehension, worry, hatred, malice, envy, jealousy, selfishness, pride, intrigue, dishonesty, theft, covetousness, usury, cruelty, gossip (libel), etc., produce reactions of a contrary character. All inharmony and discord interfere with physiological processes. Instead of wholesome expansion, there is produced a contraction of the moral and physical fibre. Nerve impulses are short-circuited, side-tracked. Metabolism and function in general are interfered with and disorganized.

Extreme emotions act as a shock to the nervous system, inhibit all the bodily functions to a great degree, even completely suspending some of these temporarily. Over-worked emotions are often directly responsible for impaired health and they aggravate all existing pathology by unfavorably affecting digestion, assimilation, nutrition, glandular secretions, and all excretory functions which eliminate waste from the body. Hard physical work consumes less energy than continued excitement, impatience, useless chattering, fear of approaching our "superiors," or worry.

Fear, worry, joy, grief, apprehension, hurry, irritability, anger, resentment, hate, jealousy, envy, discontent, self-pity, etc., are not only all enervating influences, but produce definite psychological toxins which, in the form of cellular waste, must be eliminated in addition to all the toxins from other sources. Chronic "fatigue intoxication" and "depression shock" are potent causes of trouble.

Habitual emotional reactions tend to become deep-set, fixed and automatic in the nervous organization, just as do the complicated actions of swimming, skating, dancing, etc. Once established, emotional habit-reactions (neuroses) may persist, as habits, long after the original causes have ceased to exist.

Every organic "disease" has a pre-organic stage. This is to say the organic change is preceded by functional impairments. Emotional over-irritation is one of the commonest forms of over-irritation and functional impairment. When the over-irritation persists, as is so frequently the case, thus prolonging the functional disturbance, organic change results.

Destructive emotions are not always in evidence. On the contrary, many people, including many patients, intentionally conceal them and they must be dragged to the surface by the skillful probing of the attending Hygienist.

Excitement is often taken to including joy, happiness, enthusiasm, etc., as enervating influences. But a little reflection will reveal that the stimulation of joy and enthusiasm causes rapid expenditure of nerve energy. It is well known that sudden joy has sometimes killed suddenly. This does not detract from the constructive value of joy in its effects upon the whole organism when it is gradually appropriated or absorbed.

Nothing is so depressing and nerve-annihilating as fear. So rapidly does it dissipate nerve-energy it has often been the cause of sudden death in weak individuals. It benumbs and paralyzes the body and rapidly enervates. It also has a directly inhibiting influence upon secretion and excretion, causing toxemia. The weakest organ gives down in time to fear, dread and apprehension.

In biogony, fear paralyzes the body's power of self-cure. Few things are more ruinous to the sick person than fear of death. "Fear kills as many in the every-day diseases," writes Tilden, "as any other influence."

The stomach ceases to function under fear. Dr. Cannon, noted investigator of the physiology and pathology of digestion, was once watching the movements of the intestines of a cat by means of the X-ray . One day during the course of his observations a dog barked near the laboratory, frightening the cat. The cat's intestines immediately became rigid and immobile, forcing him to discontinue his experiment for several hours. Fear had caused the rhythmic muscular motions of the cat's intestines to cease altogether. Many experiments have shown that these same influences interfere with and impair the functions of the glands that secrete the digestive juices. Note the dryness of the mouth because of suspended salivary secretion, in fear.

Not only are the muscles and glands involved in digestion impaired by fear, but the muscles and glands of the whole body are impaired. Human beings, due to their more highly organized nervous systems, are more quickly and more profoundly affected by emotions than are cats or other animals, and the results are more far reaching.

Children are often made sick through over-wrought emotions. Many are made nervous through fear. The old ignorant plan of teaching children to fear the dark, the boggy man, the devil, etc., caused much unnecessary sickness. Sudden fear often throws a child into convulsions. Fear and excitement cannot do less than cause nervousness and weaken the child's digestive function.

When fear inhibits secretion and excretion the subject becomes autotoxemic, resistance gives way and he becomes sick. Those who pass through epidemics without coming down with "disease" are not badly toxemic and are devoid of fear. Add fear to the epidemic influence and down goes another victim. There is no necessity for health boards to stir up fear; "indeed, the periodic epidemics of fright emanating from health boards should be recognized as disease-producing ; and the boards should be fined to the extent of the law, and their fright-generators taken from them."

Tilden truly says, "True enlightenment is one of the most potent remedial influences. An enlightenment that teaches man to believe in disease being inevitable is disease-provoking. Fear is a child of ignorance. Intelligence banishes fear: hence intelligence is one of the greatest conservators of nerve-energy."

Worry is a baby fear, impairing secretion and excretion and depressing all the functions of the body. It "spoils" the appetite, depresses digestion, alters the secretions, produces constipation and causes sufficient disturbance of metabolism that sugar appears in the urine. Everytime there is a panic in the stock-market, the stockbrokers rush to their physicians to be "cured" of constipation or a functional glycosuria (sugar in the urine). Worry causes an increase of sugar in the urine in diabetes. It is a frequent cause of indigestion and loss of weight. Apprehension, which is akin to worry and fear, has similar effects to worry.

Grief exerts a most profound, far-reaching and powerful effect upon the body. It instantly takes away appetite and often kills outright. It instantly impairs excretion and secretion and lowers function generally. Sorrow, as in disappointed love, produces a wasted state of the body resembling consumption. Blighted love constitutes one of the most fruitful sources of indisposition.

Violent fits of anger often arrest, alter or impair the functions of the body as quickly as an electric shock. Anger rapidly dissipates nerve energy. Cariolanus says:—

"Anger's my meat; I sup upon myself,

And so shall starve with feeding."

Self-pity has been called mental consumption—it is the dry-rot of the soul. Those whining, complaining individuals who feel that life has not given them a square deal, who feel sorry for themselves, are in a constant state of depression. Such a mental and emotional state depresses every function in the body, impairs digestion and builds pathology. Those without self-control; those who look for entertainment outside of self—those who are immoderate in everything; the unpoised, the selfish, the envious, the egotistical, are wretched. These people find that everything they eat disagrees with them, their bowels do not function properly, their heads ache and their bodies are weak. They are victims of constant introspection and are continually discovering new symptoms, new pains, new worries to add to their miseries, and, since they are always troubling others with their woes, to add to the troubles of others. These people never get well until they are educated out of their self-pity.

Jealousy is a curious combination of fear, worry, anger, self-pity and wounded vanity. It consumes nerve energy at a rapid rate and hardens the features as few things will. When it dethrones reason it is a devastating pestilence. Hatred, envy, and fault-finding are equally wasteful of energy.

Domestic worries, marital infelicities, business cares, professional anxieties, competitive antagonisms, political feuds, friendly rivalries, social aspirations, driving ambitions are only some of the things that are continually wearing out a large number of our race. They have a thousand and one things to stimulate, to enervate, to excite, to depress. Everywhere we go we find them fretting, fighting, fuming and fussing until they absolutely wear themselves down to a mere frazzle.

There are the many heavy blows that paralyze your guard and render you defenseless. Financial losses, fire losses, "acts of God," unjust accusations, domestic infelicities, shattered ambitions, disappointed hopes, brain storms, law suits, quarrels and strife. "These are collisions that wreck and destroy." It has been seriously contended that few men die of old age, for the reason that almost everyone is the victim of disappointment, bodily toil, or of accident. Nervous unrest due to such "psychic shock" is labeled neurosis.

A woman who is tormented with a husband who drinks lives in a state of anxiety; if she is married to a husband who is unfaithful, jealousy, anger and rage are probably added to anxiety and sorrow. The husband who is married to an unfaithful wife finds himself in the same emotional predicament.

Children brought up in the uncertainty and cyclonic atmosphere of marital infidelity and domestic fighting live in a state of anxiety and apprehension. Parents of wayward children are equally anxious and troubled.

Discontent is very enervating. The discontented and unhappy fail to realize that their tomorrows are made up of today's. They waste their energy in the cultivation of discontent and weaken and die prematurely. The undisciplined and unpoised who chafe under restrictions and restraint waste energy rapidly. Radicals, who allow their emotions to dominate their efforts to correct evils, become neurotic and die prematurely. Only the poised radical can escape this. Discontent becomes a "disease," that can be "cured," only by removing the cause. Discontent and insomnia are the penalties we pay for overstimulation, overworked pleasure, premature success and the desire for unearned advancement. Those who seek

effortless achievement, who want to do something and be something without being and doing it, are especially prone to discontent.

There is, of course, a wholesome discontent that all men should have; for it is the soul of ambition. It is the driving force behind ambition. Contentment without ambition is not desirable for it leads to stagnation, inertia, retrogression. The discontent of a purposeless life is physiologically as well as psychologically demoralizing. "There are thousands of sick women who are being doctored and operated upon to cure them of the consequences of objectless lives."

Work performed more for ultimate results than for the love of work and discovery of self, is not productive of poise, but rather its opposite—tension—which ages, bringing hard arteries, cancer, apoplexy, paralysis, and premature death.

There is no evil so potentially bad as gossip for the reason that it is an antidote to poise. Tilden says, "there are people who ruin their lives by rolling off their tongue in foul gossip as sweet morsels." Gossip ruins the health of those who indulge in it, destroys the poise of the friends of those gossiped about and heavily handicaps the subject gossiped about. Gossips—male, female and neuter—age rapidly and develop organic "diseases," while keeping the mind always handicapped. Perhaps everyone has heard of the rattlesnake that made the fatal mistake of biting a gossip in the tongue—it killed the snake, not the gossip.

Religion is a psychic force that must be reckoned with. It may work good or ill. The emotional cyclone through which young (and old) people pass in the process of "conversion" in some of our churches, is enervating in the extreme, and is often enough to prostrate the functions of life. Many cases of illness and many deaths may be traced directly to these experiences.

Religious emotions, often used as a source of pleasurable thrills, are very destructive to the nervous system. In many cases they have terminated in nervous collapse and insanity. Any religion which leads to emotionalism, hysteria, trance, catalepsy, the "jerks," convulsions, and violent and purposeless activity is a mania. St. Paul admonished all Christians to exercise the "spirit of a sound mind."

Tilden says, "a healthy mind is a poised mind, and a poised mind is a spiritual mind." The unpoised mind is unsound. Inasmuch as we are still, and always will be, under the paternalistic care of the formative forces which blazed our way out of the past, there is certainly no occasion for fear of the future.

Many people, particularly women, have a very bad habit of allowing their emotions to run away with them. Indeed, they seem to derive a kind of false pleasure out of the sham emotions which they purposely work up. A sham emotion is an impulse or sensation which is cultivated for its own sake. It is not intended to be translated into action. Emotionalism is, indeed, a variety of intoxication, or, perhaps it is more correctly described as hysteria. Emotions or sensations should normally be translated into action. If they are cultivated for their own sake, with no purpose beyond this, they weaken and destroy both the mind and body. Intense emotions and sentimentalism work in much the same way as liquor and have very much the same evil results.

Immorality results in "disease" as follows: an evil thought causes a depressing reaction and this leads to enervation, with its sequence—toxemia. Thought does not have to be translated into physical action to produce inharmonious reactions, and disintegration of structure (organic change); it is only necessary to harbor the thought or cultivate the desire.

Lying, stealing, gambling, and all forms of dishonor and dishonesty are enervating. Tilden observes that "dishonesty hardens the arteries and favors the development of cancer. Every act that shocks, builds disease by reducing energy." Before conscience becomes hardened there is the stinging lash of remorse and loss of self-respect. "When conscience is worn out, and the mind hardened to reckless indifference, then petty crimes give way to capital offenses."

The nervous tension associated with gambling, playing the stock-market, running a business that is not honest or that keeps one always dodging the law, maintains a state of nervous and mental tension that wastes nerve energy, disturbs secretion and checks elimination. Fear of discovery, a continuous dread of hearing the rattle of the bones of the skeleton in our mental closet, keeps us with a heart-disturbing throb that leads on to organic heart "disease."

"When we thrive," says Dr. Weger, "at the expense of another, or in a manner actually to harm another, thus breaking the law of the Golden Rule, there is a conscience reaction that eventually bodes ill to the transgressor, again according to the laws of action and reaction. 'Thus conscience doth make cowards of us all.' Those who live, so to speak, by their wits, whose sole business in life is sharp practice, running the entire scale of misdemeanor and crime up to bootlegging, burglary and worse, are by scheming thought and lawless deed, turning loose in the system a flood of poisons that never can be compatible with health."

The Bible tells us that "the wicked flee when no one pursues." Why? Fear—fear of one's own conscience, fear of discovery, fear of consequences. Fear is a most potent enervating influence.

Mental exertion uses nerve energy, just as physical exertion does. The present mad pursuit of wealth, the equally mad enjoyment of wealth, the rush for what passes for education, the educational cramming process, which seeks to accomplish the work of eight years in five, the open disregard of the laws of life through all these varied excitements and indulgences, are producing a harvest of suffering and premature death in this country.

The constant stretch of the mental powers, the restless excitement of the passions, the ceaseless excitement that characterizes the present over-stimulated age, play havoc with the nervous system, and, through this, the functions of the body.

The stress and strain of modern life is to surpass and outdo the other fellow—everywhere people overtax their intellectual faculties, until these falter and fail. Everywhere they overtax their emotions, until they actually stagger and collapse, or until the whole human machine snaps apart and breaks asunder.

One of our presidents died a few years ago. The excitement of speech-making and meeting people, and as a post-climax, acute indigestion, had so completely enervated him that there was but one feeble reaction, and, as this was checked by stupid treatment, he passed away.

School is another builder of trouble. Children are confined and mentally taxed, either in studying their lessons or in studying how to avoid study. They are under more or less strain and anxiety. A lot of influences that must come to the school girl or boy, soon lower resistance, and their improper eating provides more handicap than they had in the summer, when their bodies and minds were free. When advised to feed more carefully, parents usually show their ignorance by declaring that their children ate much more in the summer and it did not hurt them. The wise

parent will know that an enervated child cannot digest food—any kind of food—as well as when in possession of full nerve energy.

Let us sum this all up in the following words of Dr. Weger: "Think of all the people you know and of all they do; all their peculiar ways of going on; all their cranky oddities which they must indulge ; all the things they take upon themselves: all their tempers and temperaments; all their hatreds, envies, and jealousies; all their fears, follies, and fanaticisms; all their vanities and superstitions; all their calumnies and revenges; all their licentiousness and lusts; then add to your thought one day's reading of the newspapers; then generalize, or universalize, and you will see what a mighty factor of unhappiness, misfortune, and disease you have to reckon with, and what the play of these factors upon the human body and its health is likely to amount to."

Worry, strain, suspense, anxiety, domestic discord, and many emotional excitants of a destructive nature, exhaust the nervous system and doctors who do not recognize irritability, loss of power to concentrate, muscle and nerve twitching, and a general feeling of unease, as danger signals, are likely to tell their patients that there is nothing wrong with them and attempt to console them by saying nerves never tire.

Self-control is the very core of mental and emotional hygiene and he who has not learned to control his emotions is permitting these to cut short his life. In this connection, by self-control is not meant the ability to hold one's tongue or fist when angry, or to keep from crying when sad. This is repression, not control. A suppressed emotion kills more quickly than one that is allowed to fly. The man who gives vent to his anger in cursing, or the woman who "cries it out," is relieved; she who represses her tears is a powder-keg of pent-up emotion that may explode or collapse, at any time.

By control, is meant poise; the kind of poise that does not get angry; the kind of poise that takes life philosophically, that maintains calm. "If there is one sign of sanity that is worth more than another," says Tilden, " it is that of poise. Well-balanced people reason well and maintain self-composure; their emotions are under their will, and such a disease of mind as fear is unknown." The ability to rise superior to and control the emotions is what we know as poise. If they control the individual, this constitutes lack of poise.

The poised individual is patient. He can calmly wait and is, therefore, master of the situation. Nothing so surely prevents loss of energy as submission, endurance, acquiescence, poise—in a word, patience. Patience supports the will, strengthens the mind, conserves energy and governs the flesh. The evils in the body, as in the world, are killed by enduring them. They grow if fed with frets and fears. Therefore, "let patience have her perfect work."

EXCESSES

All excess is harmful. Excess means over-indulgence in the normal or wholesome things of life. The word excess is not correctly applied when used in reference to tobacco, opium, alcohol, etc., for this would imply that the use of these up to a certain point is normal and wholesome. Excess is more than the needs of the mind and body. It cannot be said that anything over the normal needs of the mind and body for tobacco, alcohol, etc., is excess for the mind and body have no normal needs for these things. Their use in any quantity is simply an unmitigated evil.

The human body is very largely a self-regulating organism. It is so constructed and arranged that if excessive demands are made upon it

during youth and middle age, provisions for supplying these demands are made, so that there seems to be no injury done to the body. No generally recognized sign is given that the demands upon the body's forces are in excess and that its reserve fund is being slowly consumed. The greater the demands made upon the forces of life, apparently the greater the supply. However, no truth is more certain than that expressed by Graham, when he declared that: "An intensive life is not compatible with an **extensive** life."

Health and serviceability demand that an organism shall possess all that is necessary, but no more. Redundancy, beyond a reasonable reserve for emergency, is unwholesome and becomes an impediment to the highest physiological efficiency.

The injurious effects of excesses of all classes of foods are so little understood by physicians and laymen that few are willing to believe that their favorite indulgences cause their discomforts. Daily, the Hygienist is consulted by people who are driven to seek relief and cure; yet are unwilling to discontinue the habit that is responsible for their discomfort; indeed, it is well nigh impossible to convince them that ill can come from their simple pleasures.

Not what we use, but what we utilize constitutes the real asset of nutritive labors. If the digestion of a meal costs the system more in energy than it can derive from the meal itself, the whole act of feeding has been a loss.

Overfeeding is commenced in infancy. Despite the fact that overfeeding and sickness are universal, the undernourished child is a bugbear of about all mothers and most doctors. Helpless infants are stuffed until they leak the excess at every orifice of the body and still their caretakers are not satisfied. Too much pampering and feeding is the reason there is so much more sickness in human babies than in brute babies. The fact is that sickness is expected—indeed, looked for—by everybody, and a child that has no sick record up to five years of age is looked upon as a miracle. The death-rate is very great in childhood and youth; sickness is the rule from birth to maturity. If parents could be assured of dependable health for their children, a load of anxiety would be lifted from their hearts.

Overeating wastes nervous energy, taxes the digestive system, overcrowds nutrition, and, due to the gastro-intestinal decomposition, poisons the body.

Overdrinking is also enervating. People who overeat must also overdrink. The habit of eating and drinking between meals is sure to produce harm. Constant drinking establishes polyuria—frequent urination. It overworks the kidneys and inhibits the normal secretion of fluids into the gastro-intestinal tract, inducing indigestion and constipation.

Imprudent eating in hot weather calls for much drink and induces excessive urination. Watch picnickers load up on a lot of greasy, salty, peppery foods and then attempt to allay the irritation-produced fictitious thirst by frequently drinking water and eating ice-cream. The more ice cream and sweetened drinks they consume, the greater their thirst, until the day is finished in much discomfort. Many crawl protestingly out of bed next morning with a coated tongue, headache, and other evidences of trouble.

Public speakers who are compelled to drink water at frequent intervals during an hour's talk, have eaten thirst-producing foods before the lecture.

If you want good health and desire to be useful in old age; if not dead from bad habits before, you must cultivate abstemious habits.

Overclothing is a common means of weakening the body. Men are more prone to overclothe themselves than women. Present styles in women's clothes are far more sensible than men's. Particularly in winter do men overclothe themselves.

The business of bundling up like an Eskimo begins in infancy. Fond parents weaken the reactive powers of their baby's skin by overclothing it. When the child grows older, his weakened powers of resistance cause him to feel the cold more than he normally should. He therefore keeps up the bad habits. The functional powers of the skin are weakened and it becomes unable to quickly and easily adjust the body to changes in temperature. The normal man or woman will wear the same underwear summer and winter. The outside clothing will be a little heavier for winter.

Parents should know what causes enervation in children. Without such knowledge children cannot be properly cared for. All too often in early life habits are acquired that exact their toll throughout life. In our ignorance we build habits that require the accumulated wisdom of a lifetime to convince us of their injurious influence. Then if they have not destroyed us before we become convinced of their injuriousness, they have so broken our will power that, after a few fruitless efforts at reform, with as many relapses, we finally sink under them.

"If," says Tilden "as children we could be taught that our lives are to be a struggle between self-control and self-indulgence, that control leads to the only true success and happiness possible, and that indulgence leads to self-destruction and failure, and have it impressed upon our minds understandingly that it does not profit us to gain the whole world and lose our souls, we at least need not stumble along through life haphazardly."

A child that is not taught self-control, one who knows no law above the gratification of its own impulses, is likely to grow into maturity with no more regard for the laws of nature than it has for civic, state, or national laws. The young of today having relegated parents and their control to near-oblivion, are inclined to regard the laws of life as officious, meddling, and unnecessary and to treat them with indifference, even with contempt. The theories of cause and cure taught the young in school are equally lawless and unreasoning. They encourage the blind belief that man's sufferings are outside and beyond him; that suffering is his prerogative; that cures are of surreptitious origin, and are beyond the individual except through the good offices of a priest of medicine.

Over-bathing is enervating. Too many people have the idea that unless they are soaking the life out of themselves by frequent bathing, or by staying in the bath for prolonged periods, or by taking too hot or too cold baths, they are not treating their bodies right.

Swimmers, also, overdo their amphibian practices. Remaining for hours in the surf or in fresh water is enervating, and will so greatly impair the action of the skin that its resistance to cold weather is greatly reduced. These enervated subjects crawl into the heaviest underwear at the first approach of cold weather. Those who have bathed properly will be well satisfied with the lightest underwear or no underwear at all, for the hot weather will benefit rather than enervate skin function.

OVER-WORK

Over activity is a form of excess. If we work too much or play too much, we gradually lessen our energy. Overwork is working beyond the compensatory power of the body during the hours allotted to rest and sleep. It means driving oneself beyond the limits set by tire. Ambition, the

desire for fame, for place, power and self and economic necessity drive many to overstep the limits of fatigue and wreck their health in the pursuit of baubles. The individual may not work hard, he may only work long hours.

The man who uses up his nerve energy in business and the general affairs of life, to the extent of having too little left to take care of the food he eats will suffer from indigestion and other functional failures. "People are well so long as their habits are rational and they live within their physiological limitations. As soon as they begin to expend nerve-energy faster than they build it, they are faced in the direction of discomfort, disease and early death."

Thousands strive vainly to keep in the race of life handicapped by an enervated body and mind. This striving further handicaps function. Nothing but health, free from the inhibiting influences of wrong life, will give full efficiency.

Do not build enervation by taxing the organism to its very limit. Lighten the burden with which functions have been weighted down, guide the mind into new channels of thought, and secure sufficient rest and sleep for recuperation.

Children often play too hard and become very nervous, cross, even hysterical. They become too excited and over enthusiastic in their play. When parents observe their children becoming nervous, loud, and boisterous, they should stop them from playing and have them lie down until rested.

Stimulation of any kind is overwork and is an insidious poison. The stimulating habit once established, only the strongest character can succeed in throttling the monster temptation that will come at times when nerve energy is at a low ebb. Stimulating habits prevent almost everyone from achieving more than about sixty per cent. efficiency. Stimulants rob us of nerve energy and dull the nervous system. No one can be a hundred per cent. healthy and continue the use of any kind of stimulants even in the lightest forms. Perhaps this will be pooh-poohed by those who are thoroughly drunk on food and the stimulants that commonly accompany overeating, but let them look to their own state of health.

Overstimulation from any cause, physical or mental, brings on enervation. Too much food of a stimulating character; cold, heat, joy, sorrow, envy, spite, jealousy, lust, acquisitiveness, pride and ambition, all bring on enervation.

SEXUAL ABUSES

Venergy, or continued thought thereon, saps the nervous energies. The enervating influence of neither of these aspects of sex life has received the general recognition which it demands. One of the most outstanding causes of physical and mental enervation is venereal excess. This is the chief cause, the ground work, of impotency. This deficiency receives little attention from doctors and little is done by way of restoring potency. Instead, sex stimulants (aphrodisiacs) are used, a quackish manner of treating patients who need information, not damnation.

Sexual unrest, sexual starvation, sexual excesses and abuses are great nerve strains. It is neither healthy nor normal to excite an appetite continually without gratifying it. Continually dwelling on sexual subjects (mental erotism) and sexual dalliance often produce more damage than actual indulgence. He who desires moderation in his sex life should avoid exposing himself to continued excitement by too great intimacy with the opposite sex and other sources of sexual excitement.

NERVE LEAKS

Excessive talking, chronic coughing, nervous habits, as continual movement of some part of the body, are all enervating influences. The first two are particularly reprehensible. Many people make and keep themselves sick by incessant talking.

"My feet hurt me, I feel sick all over"—ill-fitting shoes, painful feet, pains in the back, physical pain from shock, injuries, surgical operations, pathological processes, loss of blood, impingements, impairments and malpositions affecting the sympathetic system, and physical irritation, all make heavy demands upon nerve energy. Osteopathy and Chiropractic have been largely responsible for the recognition of the importance of the enervating influence of malpositions; but they have resorted to electricity, manipulations, needless "adjustments" and other stimulating measures, as correctives, and have often produced more enervation by their treatments than was produced by the malpositions.

If there is a leak in a dam and it is not repaired, it continues to grow larger until the existence of the dam is threatened. If there is a leak in the powers of the body and this is not corrected, its powers grow less and less each day until the stability and integrity of the body are threatened. If a man's life-blood is running away he makes an effort to stop the leak. If his nerve force is being leaked away day by day he should also make an effort to stop this leak.

DIETARY ABUSES

Digestive strain arises from eating food at wrong times, eating too often, eating in excessive quantity, insufficient mastication, eating food of poor quality, and eating foods in wrong combinations.

Gluttony is one of our greatest dietetic errors. The thoughtless believe that food and energy are equivalent. When exhausted, or nearly so, all that they consider necessary is to take food, more food, and still more food. Calories galore—this is the need; and, presto, change, the human boiler is filled to the guards; its maximum pressure is attained. But experience presents a different story, and general weakness is seen to be, not an expression of a lack of nutriment, not a result of failure to eat enough, but most frequently and in reality, a symptom that function is laboring under the handicap of too much food and too frequent feeding.

Eating when tired, when enervated, when excited, angry, depressed, or worried, eating when mentally and physically active, eating when feverish or in pain, eating when not hungry—these all tax digestion and enervate the body. The digestive tax produced by wrong combinations was fully shown in Volume II of this series.

Stimulating foods—all rich or concentrated foods are very stimulating—and all irritants—spices, condiments, salt, vinegar, etc.—tax, not only digestion, but the whole body. Habitually eating "strong" foods like onions, garlic, leeks, chives, radishes, etc., enervates the digestive system. Excess in eating; eating meat two and three times a day; eating starchy food two and three times a day, especially after thirty-five years of age; sugar in all forms; fancy cooking, overstimulate and produce enervation.

Parents should know what causes enervation in children, and know that an enervated child cannot digest food—any kind of food—as well as when not enervated. A child, when very tired, should not be allowed to eat

a hearty meal. If possible, he should be sent to bed supperless, or given fruit juice only.

POISON HABITS

"Substances which Nature never intended for the food of man have come to form a principle part of our diet; caustic spices torture our digestive organs; we ransack every clime for noxious weeds and intoxicating fluids; from twenty to thirty five per cent. of our bread stuffs are yearly wasted on the distillation of life-consuming fire; vegetable poisons, inorganic poisons, and all kinds of indigestible compounds enslave our appetite," says Oswald,—**Physical Education**, p. 21.

We are a nation of drug addicts. There are few who are not addicted to the habitual use of some drug. Coffee and tea addicts, chocolate and cocoa addicts, alcohol addicts, tobacco addicts, aspirin addicts, morphine addicts, coca-cola addicts. Where is it all to end? Why are we so addicted to these poison habits? What do we hope to gain from habitually poisoning ourselves? Who is responsible for our faith in the beneficence of poisons?

These substances all, from condiments to nicotine, act as irritants (stimulants) and draw upon the body's reserve fund, which is not completely replenished and, as the use of "stimulating" agents continues, physiological bankruptcy inevitably ensues. As enervation grows greater from the use of any stimulant, larger and more frequent doses are required to give the same reaction—"thrill"—, hence the progressive tendency of all poison habits. At first we use but small quantities of salt or pepper; later we use these substances in large amounts. At the beginning we use one cup of weak coffee, later, several cups of strong coffee.

TOBACCO—nicotine: In time of stress, embarrassment, weariness, etc., there is only one logical thing for any man or woman to do—light a cigarette. Take a poison and handicap yourself.

Prussic acid is the deadliest poison known to science; nicotine approaches it in poisonousness, and often "acts" as rapidly. Eleven milligrams (about one-sixth of a drop) of nicotine will kill a cat or a rabbit. From one-half to two drops placed on the tongue of a dog kills almost instantly; a drop placed on the eye of a sparrow or a white rabbit kills at once. Eight drops will kill a good stout horse in four minutes. The amount required to kill a man ranges from sixty to one hundred and twenty milligrams, (one to two drops), depending on the age and condition of the individual.

One ordinary cigar contains enough nicotine to kill two full-grown men if extracted and injected internally. Only a very small amount of the nicotine of a cigarette or cigar enters the body with each smoke or chew, too little to kill, else would nobody live to smoke or chew more than once.

Much nicotine is burned up in smoking, but not all. Tobacco smoke always contains nicotine—how much depends on the original nicotine content of the tobacco (different tobacco leaves vary greatly in their nicotine content, ranging from two per cent. to eight per cent., by weight), and how much of the nicotine is destroyed by burning. The drier the tobacco, the more nicotine is destroyed by burning.

Not all the nicotine contained in tobacco smoke is taken into the body, but some is, and the greater the area of the mucous membrane coming in contact with the smoke, the more nicotine is absorbed. Just as the chewer cannot help swallowing some of the juice of the tobacco, so the smoker inevitably inhales some of the fumes, even when he does not deliberately do so. Indeed, non smokers, in a smoke-filled room, are

forced to inhale the irritating and annoying fumes and are injured by them. Many have the vulgar habit of smoking in the house. The walls, curtains, rugs, carpets, bedding, closets, etc., become saturated with tobacco poisoning and those who live in the house, the wife, mother, or children, are forced to breathe day and night, air laden with tobacco fumes. Their health suffers as a result.

A man smoking ten cigarettes on end, will certainly absorb twenty to thirty milligrams of nicotine—enough to produce marked symptoms of poisoning, even in the habitual smoker, though much less than a lethal dose.

The use of poisons does not fortify against their effects. Tolerance does not mean immunity. When nicotine reaches the nerve-cells it always produces its effects upon them. "No. length of practice," says Oswald, "will ever save the poison-slave from the penalties of his sin against Nature. Each full indulgence is followed by a full measure of woeful retributions, while a half-indulgence results in half-depression on the verge of world-weary despondency, or fails to satisfy the lingering thirst after a larger dose of the same stimulant."

Denicotinized tobacco is like decaffeinated coffee—it is not denicotinized. Analyses made by the Connecticut Agricultural Experiment Station chemists showed ordinary tobacco products give a percentage of nicotine varying from 2.89, the highest, to 1.06, the lowest, while the so-called denicotinized tobacco products contained a nicotine percentage varying from 2.51, the highest, to 0.67, the lowest. Some of the "denicotinized" tobaccos actually contain more nicotine than some of the ordinary tobaccos on the market. How words deceive!

Those who smoke tobaccos with a reduced nicotine content merely smoke more often to receive the "desired" effect. The same is true of those who employ the "strainer" now in use. The nicotine addict is not satisfied without his accustomed dose.

The effects of nicotine are first upon the nervous system, and through this, upon all the organs and processes of the body. Its first effect is stimulation (excitement), followed, immediately, by depression. Nicotine differs from cocaine, heroin, morphine, and other strong drugs, in that it affects every nerve in the body, while these drugs affect the central nervous system only. Nicotine affects, not only the brain and spinal cord, but the autonomic nervous system and hence, depresses all the vital functions.

The commonest effect of nicotine is upon the digestive system. Careful X-ray observations made on both smokers, and non-smokers, show that nicotine at once causes the muscles of the alimentary canal to cease working; that within fifteen minutes after one smokes a cigar the normal automatic movements of the stomach cease, and these movements are not resumed until about three minutes after smoking has ceased. There is an immediately increased flow of fluid into the stomach, followed by depressed secretion. Hyperacidity is a common trouble with tobacco users—they call it "heart burn." Contrary to the advertising of a certain tobacco company, smoking depresses and does not aid digestion. Indeed, under certain conditions, nicotine absorption results in serious gastric "disease"—stomach and duodenal ulcers, gastritis, dyspepsia, loss of appetite and intestinal catarrh, diarrhea, constipation.

All athletes and trainers and most physicians know that the heart of even the moderate smoker is less efficient in periods of strain. It increases the pulse rate from five to ten beats a minute and in the man who is continually smoking this rate becomes permanent. Depressed circulation

and respiration, degeneration of the heart muscle, tobacco angina pectoris, extra systole (extra beat of the heart), palpitation of the heart, arrhythmia, and "heart block," are among the conditions tobacco helps to produce.

Upon the arteries, nicotine works much damage. Arterio-sclerosis, liver hemorrhages, atheroma of the aorta, aneurism of the aorta, increased blood pressure, and apoplexy are among its effects on the blood-vascular system.

Upon the liver falls the burden of detoxifying nicotine and many liver troubles have been attributed to this poison such as, elementary glycosuria of the liver, and fatty and sclerotic changes in the liver. That nicotine interferes with the functions of the liver is certain.

Nicotine is carried to the kidneys for elimination and the tissues of these organs are damaged. Bright's "disease" and kidney degeneration are among its effects.

Nicotine's effects upon the ductless glands result in endocrine gland affections, genital gland affections, a tendency towards goitre, and an aggravation of the diabetic tendency.

Upon the respiratory organs, especially of the smoker, such affections as ronchi (irritation) of the lungs, chronic bronchitis, asthmatic paroxysms, and a tendency to tuberculosis results.

Pronounced anemia is one of its effects on the blood. Locally, there is produced a predisposition to mucous plaques, smoker's sore throat, gingivitis and cancer of the lip, tongue, cheeks, throat. Acne is a frequent effect on the skin.

Coming, finally, to its effects on the central nervous system, where it "acts" chiefly as a sedative (depressant) it lowers mental efficiency, blunts the sensibility of the nerves of taste and smell, produces amblyopia—a dimness of vision, even loss of sight—, color-blindness, amaurosis (optic atrophy), tobacco "deafness," neurasthenia, and tobacco epilepsy.

Premature senility is one of the effects of tobacco using. It stunts growth in the young and unsteadies the nerves. Tobacco causes the limbs to shake, the legs to grow weak, and a blunting of the moral sensibilities. Smoking especially builds selfishness and a disregard for the rights and welfare of others. The smoker does not hesitate to annoy and poison others with the fumes of his cigar, cigarette, or pipe.

The old as well as the young are injured by tobacco. Many physicians advise their patients that "moderate smoking and drinking will do no harm." Such physicians always neglect to supply their patients with a valid standard of moderation. Because of the false teachings of medicine, physicians and laymen alike, are inclined to think that their many small habits have nothing to do with their sicknesses. When told that they must give up tea, coffee, tobacco, alcoholics, and other enervating habits, they point to others who practice these habits and who are older than they; and reason that these things cannot be responsible for their ills.

Anything is a handicap that uses up nerve energy and if physicians will stop their own smoking long enough to figure out the causes of the irritable heart, and hard arteries in their patients, they will realize that living in violation of law produces a succession of scars, which, by their accumulative effects, result in physical discomforts and illnesses of various types and degrees. They will discern that when tissue endurance and patient nature give way under the strain, one law breaker will die of cancer, another of heart "disease," another of hardened arteries, etc.

ALCOHOL: Alcohol is a strong poison and its use in any form is inimical to the human body, as indeed, it is to every organized thing in existence. It is a product of the decay of organic matter occasioned by

bacterial action. Only a small percentage of it is required to arrest the action of the bacteria themselves. It is for this reason that it is employed as a preservative.

Whether ardent spirits, malt liquors, wines, cider or other alcoholic drinks are used, the alcohol they contain is poisonous. In small doses it acts as a "stimulant," in larger doses its effects are those of a depressant. It is highly irritating to every organ and tissue of the body and there is not one of them that is immune to its destructive influence. It coagulates the protoplasm of the cells of the body, just as it coagulates, or cooks, the white of an egg. This coagulation impairs and destroys the cells. . . .

The normal cells are then replaced by a substitute of connective tissue cells forming what is called "scar-tissue." This may occur in the brain and spinal cord resulting in paresis; paralysis, insanity and other nervous "disease"; in the liver producing sclerosis and as-cites; in the heart and arteries producing hardening and other troubles in these; or it may occur in the lungs, kidneys, muscles or any other organ of the body. The functioning powers of these organs are gradually destroyed and the individual's resistance to other pathogenic influences is lowered. The death rate and case rate in pneumonia is much higher in alcohol addicts than among abstainers.

"Moderate" drinkers are not immune to these effects. They receive their full share of them. In fact, the habitual "moderate" drinker receives more injury from alcohol than the occasional drinker who gets drunk when he does drink. It is used as a "stimulant" to digestion, but finally wrecks digestion.

Alcoholic drinks are very popular, although their evil effects are well known. Even the milder alcoholic drinks are very damaging. The cry for light wines and beers was based on a delusion.

Laboratory experiments reveal, that beer containing only 2.75 per cent. of alcohol, will make the hand less steady, the control of voluntary muscles slower and less accurate, and increases the heart beat. The amount of loss in these laboratory tests varied directly with the amount of alcohol consumed. In the more complex processes (learning and adding), the loss lasted no more than three hours after the drinking. The losses in muscular power lasted much longer, even when small amounts of the beer were taken.

By actual measurements it has been definitely and scientifically established that a person who has had "one or two little drinks" is from one-fifth to two-fifths of a second slower in reacting to a signal than when he or she is sober. Such a person is a definite menace to life when driving a car on the city's street or on the country highway. There is no means of knowing how many accidents are avoided only because the pedestrian or the other driver is sober and alert.

The mildly intoxicated period following the use of alcohol, during which the drinker feels himself keener, wittier, more graceful, stronger and able to think faster, is a more or less transient, mild insanity. It decreases and does not increase efficiency—mental or physical.

All of the latest tests with alcohol, even when given in small amounts, much less than is required to produce the slightest sensation of drunkenness, have demonstrated that a marked degree of lessened efficiency in every organ of the body follows. For from two to four hours after very moderate doses of alcohol, almost all who take it are affected with a general nervous and muscular disorganization. Sight and the movements of the hands are particularly affected. Eyes' and hands refuse

to work together accurately. The eyes see objects where they are not and the hands get the message twisted.

Alcohol always produces these effects. It never produces the opposite effects. It never improves muscular and nervous coordination. There is, then, something more than just the danger of drunkenness to be considered in the matter. Alcohol, in view of its invariably depressing effects, cannot be considered as ever beneficial.

COFFEE—caffeine: Coffee contains, besides caffeine, such harmful things as pyridine, caffeol, tannic acid, and aromatic oils. Pyridine is a poison developed by roasting the coffee.

Coffee decreases one's efficiency. It hides, but does not relieve fatigue. Fatigue is produced quicker when coffee is used than when it is not used. Coffee weakens the mind's power of concentration and unsettles the nervous system. There is an inevitable depression in the coffee drinker, if he does not get his accustomed cup. Coffee excites and whips up the heart and increases blood pressure.

Coffee, says Tilden, is "a table beverage that has no excuse for its existence, except that the average human being abhors clean water, that mental vacuums do exist and can be turned to profit."

The caffeine of coffee is a stimulant (excitant) and all stimulants draw upon the body's reserves. Decaffeinated coffee is not decaffeinated and is not advisable even if it were. There are other poisons in coffee besides the caffeine. Kellogg says that there are nearly a dozen other of these coffee poisons.

TEA—theine: Theine, contained in tea, is a poisonous substance similar to the caffeine of coffee. Caffeine and theine are similar in their effects upon the body, producing "an increased metabolism or energy production (expenditure) ; an increased rate of respiration, a considerable diuresis (urination), and muscular and nervous stimulation" (irritation). The nervous and muscular irritation lead to over activity and fatigue, to nervous instability or hyper-irritability and to loss of sleep. The use of these substances leads to exhaustion through overexcitation.

Underweight, probably due to nervous and digestive impairment, is repeatedly seen, in health surveys, to be more common in coffee and tea drinkers than in those who do not employ these poisons.

CHOCOLATE—Theobromine: Chocolate and cocoa, due to their alkaloids, which act as slow poisons to the body, are harmful to the liver and stomach. They are mere excitants and supply no nutritive needs of the body. Theobromine, in chocolate, and cocoa, is chemically related to caffeine and produces the same "physiological" effects when taken. It is a more powerful diuretic (occasions more vigorous action of the kidneys) and has less effect on the central nervous system, but produces death in smaller doses than caffeine. Animal experiments have shown that theine, caffeine and theobromine produce results identical in kind, except that theobromine is fatal in smaller doses.

Coffee, tea, cocoa and chocolate possess no food value, while the unaltered flavors of every one of them is obnoxious to every normal taste. Their bitter, nauseous or insipid tastes necessitate the addition of sugar or other substances before they can be used by the undepraved taste. Neither of them have the slightest excuse for existence as beverages. They act primarily as "stimulants" and secondarily as depressants, or sedatives. Like tobacco, opium, and alcohol they are habit forming, and they are habit forming to exactly the degree in which they are "stimulating." And they are "stimulating" in the degree to which they are poisonous and unfitted for the real needs of the body.

COLD DRINKS: The cold drink habit is like all other habits—it grows on what it feeds. The soft drink factories run full blast in every state in the Union. There are thousands of these factories turning out drinks that are little less deadly than alcoholic drinks.

These "soft drinks" all contain mineral-free sugar, coal tar dyes, mineral acids and artificial flavors in addition to the "regular" poisons that are put into many of them. Billions of bottles of injurious imitations of fruit juices and still more billions of glasses of the same, or worse "belly-washes" made possible by coal tar products, are sold every year, to the drink mad public. The stuff can be made very cheap and sold at a big profit.

"Ginger Ale," made largely of an infusion of capsicum; "Grapeade," that contains no substance from the grape; "Orangeade," without an atom of orange juice in it; "Strawberry drink" without the strawberry; "Cherry—" that was never a cherry, and other "artificially colored and flavored drinks" are sold in floodlike proportions, because, to use Mr. Harter's words, "we are a bunch of silly children to whom red circus lemonade has a lure against which mother's lemon squeezer cannot compete." "Selling booze is unlawful and selling water is unprofitable, and we are awfully thirsty and awfully easy and selling soft drinks is a soft snap and we are a lot of soft-brained sap-headed suckers."

There are no health drinks among these soft drinks. These drinks are all frauds and cheats. The chemical imitations of fruit juices contain none of the virtues of the real fruit juices. They have no food value and do not really taste like the real juice. There is nothing for the intelligent person to do except to avoid the whole lot of them and stick to water and real fruit juices. Few know that the coloring and flavoring substances used in "soft-drinks" are coal tar products and are enemies of health. If this knowledge were more general, there would be less of these substances consumed.

Other soft-drinks, which make no pretense of being fruit drinks, contain such drugs as caffeine, bromid and acentanilid. In a drink of Bromo-seltzer, one gets about twenty-four grains of bromid, ten grains of acetanilid and three grains of caffeine. An ordinary glass or bottle of coca-cola, the "drink that refreshes," contains about the same amount of caffeine as a cup of strong coffee. Its so-called refreshing effect is irritation—vital resistance. There are a number of caffeine containing cold-drinks.

DRUGS: Drugs enervate and suppress. There are many very popular drug habits. Thousands daily take a purgative or a laxative to induce bowel action. Many thousands more employ drugs to aid digestion, or to brace up their nerves, or to tone up their system, or purify their blood. Many use patent medicines, others use proprietary remedies or their physicians' prescriptions. The patent medicines are almost, if not quite, as bad as those prescribed by the physician and should be avoided along with the rest.

There never was a drug or drug "remedy" that had any business in the human body. Speaking generally, drugs either destroy more or less of the tissues of the body or they occasion a needless and wasteful expenditure of its vital energies. Most of them do both these things. Their effects upon the system are not altered, because they are prescribed by a physician. It makes no difference, once the drug is in the system, who prescribed it; the effects are the same.

I shall pass over the opium, morphine, heroin and such debasing drug habits—not because they are unimportant, but because no one doubts their destructive offices—and shall pass to more common drug habits that are

supposed by many to be beneficial. Among these is the use of headache remedies.

The habit of taking headache "remedies" is becoming a national pastime. The average person, apparently, suffers from frequent headaches, and, judging by the readiness with which they resort to the "remedies," they fear a few minutes of slight pain more than the deadly drugs they introduce into their system.

They do not realize what a terrible price they pay for this short respite from pain and for the restless stupor, miscalled sleep, which they secure through hypnotic or narcotic drugs. Deadening sensation does not cure "disease" ; pain is never cured by deadening the nerves. Cause is never corrected in such manner. The reader should know that there is no cure outside of correction of cause.

Every dose of such drugs lessens nerve force and thereby impairs the various functions of the body. When nerve force is lessened there is always and necessarily a checking of elimination resulting in a retention within the body of part of its waste products. And these produce "disease" and death. Every headache "remedy" interferes with elimination, and thus perpetuates the condition for which it is given. They are also habit forming, and many of them have a very deleterious influence upon the heart and other organs.

Anything that "relieves" pain without correcting its cause does so by diminishing the power of the nerves to feel. It is the part of wisdom to find out what is causing the trouble and correct this.

Tilden says: "The internal use of aconite and belladonna, as practiced in many homes as household remedies, forces many children into the use of glasses, and increases the diseases of the nervous system and blood-vessels and heart."

Yeast is an indirect cause of overstimulation; hence, a cause of enervation and its sequence, auto-toxemia.

It is the curse of all stimulants (irritants) that they enable one to work beyond his normal strength. This is, they enable him to keep working long after nature has called for rest. They do this, not by adding to the powers of the body, but by calling out the power held in reserve. They act in the same way a spur does on a tired horse. Slowly, but surely, the reserve powers of the body are consumed under the influence of "stimulants" and physical bankruptcy follows. Coffee, tea, coca-cola, cocoa and chocolate, because of their universal use, are great offenders in this respect. They produce enervation and sleeplessness in proportion to their use. Those who use them become coffee and tea or cocoa inebriates. They are addicts as truly as the opium user. The habitual user of tea or coffee is tired, listless, irritable and suffers with headache and other discomforts when deprived of his habitual cup. Nervous "diseases" result from the employment of such nervines.

Give a "stimulant" to a man of full-resistance and he reacts to it with increased activity and an increased feeling of well-being. When the period of increased activity ends there sets in, due to the excessive expenditure of energy and substance, a period of depression. Rest soon restores full health. All "stimulation" is followed by a period of depression equal in duration and intensity to the period of "stimulation." Keep up this "stimulation" by habitual repetition and renewal of nerve energy fags. A permanent depression—a profound enervation—which forms the foundation for the development of any "disease" of the nosology, follows. There is a slowing down of the functions of the body. The processes of nutrition and elimination fail to meet physiological needs.

"Stimulants" stand at the head of the many causes of excessive expenditure of nervous energy. The increased feeling of strength which follows their use is due to the expenditure of power which they occasion and not to any power which they add. We are conscious of power only in its expenditure. A pure or uncompensated "stimulant" is any agent or influence that occasions or induces an increase in the activities of the body or any of its organs without supplying any real need of the body. All such "stimulants" should be avoided.

The farther away from nature we stray the longer and harder is the road back. "Resist the beginnings, crush danger in the bud," is an ancient rule of wisdom which we all do well to observe. The coffee, tobacco, liquor, soft-drink and drug industries will perish when the people learn that toxemia and enervation go hand in hand; hence the enormous expenditures by the industries to convince us of the beneficence and healthfulness of their poisons and slops.

The doctor who tells a patient that he may smoke moderately, or drink temperately, or take tea or coffee in moderation is saying to such a patient: "It is all right to damage yourself a little, but don't damage yourself as much as you might." It should be noticed that no valid standard of moderation is ever supplied the user.

We tend to forget our early experiences with vices and abuses. We forget the time when tea was bitter, and alcohol a real "fire water," when tobacco produced nausea and vomiting. Our woes are not the penalty of our persistent blindness, but of our first open-eyed transgression. Nature's warnings, like her punishments, are proportional to the magnitude of each offense against her laws. Injurious substances are repulsive to our taste and are reacted against with violence; incipient exhaustion warns us by a feeling of weariness, every strain on our organism that threatens us with rupture or dislocation announces the danger with an unmistakable appeal (pain) to our sensorium.

How, then, can we say that any pathological condition is insidious, that it comes upon us unawares? How can we believe that Nature has failed to provide alarm-signals against such dangers; how reconcile with the immutable laws of life, her reported failure to warn against approaching dissolution? The truth is that none of her protests are more persistent or more pathetic than those she directs against habits that are fraught with such pernicious consequences to health and life.

TOXINS

It is necessary to include in our tabulation, the enervating influence, not merely of toxic substances introduced into the body as such, but of those toxins that are generated in the body, in the intestine, in abscesses, etc.

Enervation results from the continuous effort put forth by the body in overcoming toxemia from cellular waste, septic processes anywhere in the body, fermentation and putrefaction in the gastro-intestinal tract, chemical and bacterial poisons by way of the mouth, lungs, mucous membranes, or by inoculation or injection, by tea, coffee, chocolate, tobacco, alcohol, drugs, etc. The most continuous expenditure of nerve-energy, and in that sense the greatest, is the body's effort to prevent the poisons from completely overwhelming it. In view of the huge drafts made, the body, in most cases can do little more than keep even, until a time comes when resistance is completely lost, all reserve nerve energy is exhausted, and the individual is made conscious of trouble. This means that toxemia has risen

above the level where it can be eliminated or neutralized, and it overflows. This is what we call a crisis—biogony.

In like manner, compensation involves a strain upon the body's nerve energy. The continuous effort to compensate for the deficiency of a damaged organ, a leaking heart, for instance, means an unceasing drain of nerve energy. This drain will not make itself felt so long as the individual's voluntary habits are good, that is, so long as he lives within his compensating capacity, but quickly becomes apparent if he practices enervating habits.

TREATMENT

All the various so-called "schools of healing" employ means of stimulating and inhibiting function in treating the sick body. For ages "medicine men" have assumed to dictate bodily processes, instead of recognizing the conservative and reparative activities inaugurated by the organism when given an opportunity. Indeed, the fundamental error of most "healing systems" lies in the effort to force the organism to act in accordance with the doctor's conception of how it ought to act; with the net result, of still reducing the store of nerve energy upon which any possible recovery depends.

Were medical understanding of vitality and resistance not less than that of any other department of physiology and of "morbid function," the whole trend of therapeutics would be different.

Stimulation increases the rate of cell and tissue disintegration beyond the power of the organism to repair and renew. Instead of benefiting the sick, it tends to increase the enervation and organic impairment. The greater the cell and tissue deterioration, the less the functioning power possessed by an organ or part. Only rest of the organ or organism will permit repair or renewal.

Inhibiting (depressing) measures are no less wasteful of energy and destructive of tissue than stimulating procedures. The weakening of segmental function by local stimulation and inhibition cripples symbiotic support and hastens decline.

When food poisoning, drugs, chloroform, and a "successful operation" have produced so much enervation that he cannot control his nerves, or that his kidneys cease to function, or that his liver fails, the patient dies, not of "disease," but of treatment.

Physician, nurse and patient should know how to conserve the patient's energy and build up enough to get him back to where he is ideally adjusted to the laws of life. Lowering energy by drugs, or any method that enervates, is not curative. Teaching fear, in any manner, lowers energy and builds pathology. To restore health, and to retain it, mind and body must be correctly cared for. Nerve-destroying habits, "cures," and frenzied haste are fast sapping our nervous energies.

DEFICIENCIES

All pathology arises from departures from bionomic ideals. Whatever is actually prejudicial to the general health becomes a factor in the production of all pathology, from a cold to cancer. The deficiencies and excesses of which the whole human race is unconsciously guilty may be properly regarded as the basic or remote cause of pathology.

Food deficiencies are most talked of, but since we have considered these elsewhere, we will do little more than mention them here.

Indolence, or lack of exercise—work—weakens both body and mind. Exercise is as necessary as proper bathing, eating and clothing, to physical vigor, strength and development.

Lack of sunshine weakens the whole organism. We rob our bodies of the sun's benefit by living indoors and by clothing them to exclude the sun. Dark clothing excludes the beneficial rays of the sun from the body and thus weakens, not only the skin, but the body as a whole. Sunlight is an absolutely essential factor-element in normal nutrition, as much so for the animal as for the plant. Man is, by nature, a nude animal and the nearer he approaches this ideal the more healthful will he become. Clothing should be light and porous in texture and made of light colors or of white.

INSUFFICIENT REST AND SLEEP

Mental, physical, sensory and emotional activities, in fact, anything requiring action, use up nerve energy, but when indulged within normal resistance, rest and sleep, restore expenditure. When we persist in spending more nerve energy than rest restores, we become enervated. Activities carried beyond nature's power to compensate during the hours usually allotted to sleep and rest and relaxation wear out the nervous system.

The several capacities of the various organs of the body are not defined to a minute fraction, for nature has made such grand provisions for the safety of the organism as allow and endure considerable latitude.

A normal man or woman is one whose digestion, secretions and excretions are balanced; one who eats within his bodily needs, whose secretions are normal in quality and quantity for carrying on the work of the body, and whose elimination removes from the body all the waste products. Such a body possesses a wide range between the minimum and maximum of these and other functions, before encroaching on the laws set by nature which declare "Thus far shalt thou go and no further, without paying the penalty."

Within wide limits nature has provided ample freedom for ignorance and indulgence. But the body is not absolutely fool-proof and "human stupidity and incorrigibility exceed even the wisest calculations of the gods." The average limits of the functional powers cannot be habitually and persistently overstepped without resulting in a corresponding weakening not alone of the overused function, but of the whole body.

What the average person calls rest is no more than a change from one form of enervating activity to another. The unpoised who never relax, but hurry and joy-ride through life run into indigestion, toxemia, hard arteries, premature senility and an early terrestrial exit. Only those who learn to relax completely, physically and mentally, really rest.

Dr. Weger says: "Speed mania has the modern person. From morning until evening, and again until the early hours of the morning, it is one mad rush, overanxious and overeager to outdo their friends and their foes, until they at last lose entirely, not only the balance of their minds, but the absolute control of their bodies. Thousands perish from year to year in the mad rush—the feverish and impatient and unnecessary excitement of love, of pleasure, of business, and of the social whirl."

"These" he says, "are the ones who are wrecks at forty, and in their graves at fifty; for they overtax their strength by assuming fearful responsibilities, and by taking long chances, filled with direful fears and dreadful anxieties. Many of them fancy that they must be here, there or

everywhere; for, by an exaggeration of their self-importance, they imagine that the world's work cannot get along without them."

In a broad sense, loss of sleep, "tired nature's sweet restorer," almost her only restorer, typifies all other enervating influences. During sleep conscious activities—mental, emotional, sensory, physical—are suspended and the production of metabolic waste is reduced to a minimum. Usually the sleeping person is taking in no poisons from the outside.

During sleep the body is busy appropriating nourishment and eliminating waste matter, recharging her nervous batteries and storing up energy for the morrow. Habitually losing sleep is indeed "burning the candle at both ends." "After sleep the mind is quickened, and the elusive thoughts that refused audience to the tired mind, come flocking in droves to do the bidding of the refreshed mind."

Sleepiness is as natural as hunger; indeed it is a form of hunger—a craving for rest by tired nerves. Insomnia means overworked nerves—too nervous to sleep.

CLIMATE

Exposure to heat and cold, exposure to heat and humidity and to meteorological influences of either a stimulating or depressing nature, call for the expenditure of nerve energy in resisting them. They are, therefore, enervating influences. Rarely are they sufficient, alone, to prostrate the vital functions, but when added to the existing enervation, they are frequently sufficient, by their added check upon elimination, to bring on a mild or severe crisis.

The dampness and lack of sunshine that favor fungus growth is unfavorable for the highest expression of human life. It depresses the body's functions, checks elimination, damages the food supply, and lowers resistance to other influences. The sunshine and warmth that cause corn to grow, forms, also, the best medium for growth of the body and its repairs. People "catch" cold as often from an increase as from a decrease in temperature; in dry as often as in wet weather. Over-exposure to sunshine is a common cause of enervation today. Dr. Tilden says: "I do not believe in sun-baths. Some of the worst enervated women that I have had are those who have taken sun-baths until they have a rind equal to a Mexican's—pronouncedly enervated; a condition that requires a year or two to overcome."

It is not good judgement to reject sunbaths because their over use produces harm. The same logic would reject food, water, rest, exercise, bathing and all the good things of life. But that excessive sunbathing may produce a profound enervation is very true. If the "perpetual sunshine" so glibly talked about by the Chamber's of Commerce of certain cities, were a fact, it would only add one more cause to our already voluminous stock of nerve-destroying influences.

SOCIAL AND ECONOMIC CAUSES

Among the potent causes of the physical defectiveness and suffering we see around us are poverty, ignorance, over-work, overcrowding and the evil effects of certain trades.

The farmer is muscle-bound and stooped from his labor, but this does not account for his rheumatism, or dyspepsia, or catarrh. Poverty accounts for much suffering; but when we see half-starved savages better developed

than well-paid cashiers, and poor peasant women more vigorous than the idle wives of the rich, we know that poverty is not enough. Over-crowding is certainly a vicious evil, but when we find healthy, vigorous specimens in the slums and puny, undeveloped farmer-folk, we are sure that overcrowding is only a secondary cause.

The painter gets lead poisoning from his work and the stone cutter injures his lungs, but not all of them do so. Even so, this does not account for their asthma, hay fever and undeveloped chins.

Factory workers often work in dust and darkness, or in poorly ventilated places. Fur workers and workers in many other trades, such as dye workers, mirror and thermometer workers, etc., work with poisons and absorb more or less of these. A certain percentage of such workers suffer with poisoning, others are said not to be "allergic" to these poisons.

The enervated and toxemic succumb to these forms of poisoning, others are sufficiently resistant to throw off the minute quantities of poison daily absorbed. Enervation and toxemia produce the condition known as allergy.

Ignorance explains a lot— but we must be careful what kind of ignorance we blame for these defects. A learned professor who is an ugly asthmatic; the learned doctor who weighs over two hundred pounds and has poor health; the petted children of the wealthy upon whom every care is lavished from birth, but who are "ill to look at and worse to marry"— these must be the results of a special kind of ignorance.

Under present conditions it is quite beyond the financial ability of thousands of families in many sections of our country to provide a combination salad of lettuce, tomatoes, and celery daily for the hungry little mouths of their children. And there are plenty of homes that know not the luxury of a bath room, or even bathing facilities aside from the kitchen sink.

When one considers the large area of a slum district of any large city, it is impossible for him not to see the chance for improvement, even under present stern economic conditions. There is overcrowding, lack of sunshine, absence of modern facilities for bathing, etc., but these do not make inescapable a life that would shame a savage. The poverty that compels people to live in the slums seems also to deprive them of the urge to improve.

The social and economic ills of society cannot be individually corrected. Until society evolves sufficient intelligence to correct them, and they may all be corrected, the individual must be proof against them—by good habits he must maintain a high state of resistance. For, alone, they are seldom sufficient to prostrate a normal man or woman. It is the combination of bad socio-economic features and bad personal habits that produce enervation, toxemia and the "disease" peculiar to the trade or occupation, or condition of life. Socio-economic causes of "disease" are complicating elements added to the pre-existing toxemia.

PERVERSIONS

Perversions represent profound enervation and are seen in the sensual who have so exhausted their power that the ordinary or normal things of life have ceased to hold anything for them. In sex they represent impotency.

When, through over indulgence, a man has become so impotent that hours are spent in intercourse in achieving orgasm, or if he cannot achieve orgasm in normal coition at all, he seeks for new and more novel forms of

gratification. As his sensual indulgence continues more and more irritations are required to give gratification.

One may become so jaded that pain in a slight degree is exciting. Jennings tells of pulling a man's tooth and the man experienced pleasure and not pain from the operation. He explained that the nerves were so near dead that the operation was able to excite them only enough to produce a pleasurable sensation. In the sexual sphere pain is often sought by women and by roués, as a means of increasing their pleasures. Masochists require pain to enable them to achieve orgasm. Similar to this is sadism that can achieve orgasm only by inflicting pain upon another.

The masturbator whose nervous system is so low that he can no longer achieve orgasm by any amount of masturbatory effort, frequently resorts to burning or cutting his penis to secure the desired sensation. All such perversions are due to sexual enervation. But the tyrant desire—established habit—calls loudly for gratification.

We get used to things by repetition and this both removes the pain from hurt and the novelty from joy. This causes us to search for new and more novel forms of excitement and gratification. Bitter foods give pleasure to the jaded appetite because the disagreeable element is just enough to excite pleasurable sensations in the palsied gastro-intestinal tract. The more jaded one is, that is, the more used to excitement he is, the greater the excitement needed to produce the desired feelings and sensations.

The gourmand who can enjoy his food only when it is highly seasoned; the addict who feels well only when under the influence of his favorite drug—these are all profoundly enervated. In the cases of sexual and gustatory perversions, there is sexual and gustatory enervation added to general enervation.

The pervert—one in whom an established habit (neurosis, even psychosis)—demands repeatedly to experience the desired thrill or sense pleasure, is not only profoundly enervated, but each repetition of his perverted practice further enervates; hence the progressive downward tendency of perversion; hence the ever growing demand for newer, stronger, more frequent excitement.

Bad habits are only gradually assumed and the natural consequences of these require time to reach maturity.

SUMMARY

There are no accidents in pathology and biogony any more than crops are accidents when the soil is well tilled and seeded. Only lack of understanding can declare illness to be an accident. The foundation for man's ills is self-laid by wrong habits of living. Overeating, improper eating, excessive venery, lascivious thoughts, no exercise, avarice, lack of self control, and lack of poise build and accumulate toxins in his body.

Almost all of man's illnesses originate within himself and result from reduced energy from unwise expenditures until he is no longer able to meet outside influences with equal resistance. Tilden has it that instead of sickness being "a dispensation of divine wrath, it is a dispensation of damned ignorance."

Bad habits of mind and body are the most universal causes of pathology. Almost every one in civilized life has his daily dozen of bad habits that are killing him on his feet. There is no person who has only one bad habit. The average smoker, takes a cocktail now and then, eats too much, drinks tea and coffee, many of them are quite sensual, and they

suffer much and die early. Habits, like birds, flock with their kind; or, as Darwin puts it: "Habits easily become associated with other habits." One bad habit easily leads to another.

The food and reproductive urges and the desire for wealth have mankind so enthralled that ideal health is practically non-existent. The belief in cures is a most potent ally of gluttony and venery; for, those who believe that cures can be made without removing causes, cannot be educated out of their bad habits. Few individuals—ever ask why they "cannot eat their cake and keep it." Long ago Pythagoras said: "Since man's appetite has no ears you cannot argue with it."

Modern biology, having renounced good and evil, and destroyed all values, has enthroned irresponsibility and refuses to recognize the office of bad habits in producing pathology. But there is no evidence that our preachers and priests know anything at all about law and order. These are commonly as gluttonous and sensuous as the herd and close [their eyes to the fact that when law and order are riot broken there can be no "disease." Spiritual and mental healers should know that they are not "in tune with the Infinite" so long as they are regularly transgressing the laws of life. The "healing" professions have a vested interest in suffering and do not want to know the truth.

Thus we find ourselves without a true standard of health and fitness and without a knowledge of the basis of health. Health and its requirements have been sadly neglected outside the Hygienic school.

Man should know that, if he overworks, overenjoys, overeats and is careless in giving his body proper attention, he cannot be well. For the simple truth is that no one is healthy who practices even one bad habit. He should know that all stimulants exhaust nerve energy and that he has but a limited amount of energy to expend. If he does everything to excess, he becomes enervated. This means that his health standard is low, and from this point on he is liable to be made sick by any and all unusual influences.

The man of full nerve force—possessed of full resistance—will, apparently make a success of overeating, smoking, drinking and overindulging, until these have enervated him; then he will be able to do it no longer. Then, if he goes to a "qualified" physician—one who knows that his troubles are due to the unfortunate picking up of germs and not to his style of living—he will be told to continue the very habits which have broken him down. He should smoke "good" cigars moderately; he should "eat plenty of good nourishing food to keep up his strength." The serum, the drug, the operation will cancel his debts against law and order.

There are no iron constitutions, no copper lined stomachs. A strong constitution will stand a lot of abuses before their effects finally make themselves apparent, but the strongest constitution cannot be abused with impunity. Dr. Page expresses it thus: " 'Nothing hurts me ■—I eat everything.' (Next Year) ; 'Nothing agrees with my stomach—I can't eat anything.' Thus the dyspeptic's ranks are kept full with recruits from those who don't want any advice about diet," or about living.

Almost every invalid, semi-invalid and has-been-perfect-physically man or woman now living, once said: "Nothing hurts me—I eat everything." All those who will recruit the great army of invalids as the present ones die off, are, today, following this same delusive idea. They are able to digest pig-iron and are fools enough to try it.

Every day the doctor listens to this lament. "Doctor, I cannot do the things I once did. Once I could digest nails, now I have to eat baby foods; once I could go all day and night without fatigue, but now I tire in a few minutes or hours. I cannot indulge as I once did without suffering." They

thought they had cast iron constitutions and copper-lined stomachs; they found they were made of flesh, blood and bones. **They tried to see how much they could get away with instead of trying to live in the highest sense. They only got away with their health, strength, usefulness and life.**

Once they were healthy, now they are sick. Present health is no guarantee of future health, is no proof of the healthfulness of the mode of living. Protracted apparent impunity tempts "sinners" to believe in the innocence of their habits. But they may be sure their "sins" will find them out.

In spite of our worst habits—our greatest endeavors to break life's laws—the subtle powers of life are beating back pathogenic and lethal influences every second of time. For years the infinite patience of nature labors every night to repair the waste and undo the mischief of every day, and before morning the wasted organs again report ready for duty. But by habitually working beyond the recuperative capacity of the body, or by keeping the body lashed with stimulation, or by habitual failure to secure sufficient rest and sleep, the energy of the body is depleted and exhausted.

As the constant dropping of water wears away even the hardest stone, so do faulty habits, observed or not, weaken the powers of life, undermine the general health, and lay the foundation for the development of the most extensive and the most difficult to remove pathology. The causes of pathology are unobserved and neglected, the pathological conditions are so minute in their beginnings and so insidious, though certain, in their progressive development, that it is only by understanding the aggregate power of these causes that we begin to appreciate the necessity of correcting them instead of merely attempting to remove their effects, while these causes are suffered to continue in unabated force.

Only those who can see in wrong living the cause for man's discomforts and misery, and in the correction of his mode of life the proper remedy for these ills, are in line for a rational solution of the problems of health and illness. Drugs, serums, vaccines and operations do not strike at the roots of pathology; they fail to repair the general health, fail to restore integrity. There is but one cure for illness—correct, or quit, the habits that produce it.

It is not the sudden and transient, but the prolonged and cumulative, the habitual adverse influences, that produce and sustain chronic pathology. It is the slow and insidious causes that mainly impair health. All of us tend to shun those things that cause immediate and repeated suffering.

Integrity of behavior is as essential as integrity of structure if maximal physiological efficiency is to be maintained. It is essential to know that unless energy is conserved function lags. In time all abuses bring on enervation and not only lower physical efficiency, but greatly handicap the mind, and veil the eyes of duty, and drive manhood down and out. Full efficiency cannot be hoped for so long as a man has any habit that lowers his vital powers. Sickness and death before old age, mean lowered efficiency from excessive expenditure—from bad habits. Few adults there are who are not forced to pay for earlier indiscretions.

Habits fasten themselves upon us slowly and insidiously. To smoke one cigarette or take one drink of alcohol or one cup of coffee does not constitute the tobacco, alcohol or coffee habit. Eating one huge meal does not constitute gluttony. One masturbation does not constitute auto-eroticism. If these are practiced until they become an established habit—addiction—changes occur in the nervous system resulting in a neurosis—

habit neurosis—that grows upon the habit that produced it. Once a practice becomes ingrained in the nervous system it continues to cry for expression. The individual now finds that his habits are master, he is slave.

Man is a fashion-following animal. In his ignorance, he tends to acquire the habits of his family, friends and community. Dr. Weger says: "He is early set adrift on the calm surface of a sea of sameness of thought, similarity of taste and habit, and identical experience. Is it any wonder that there is a lack of early realization of individuality, or of individual responsibility? Or is it surprising that in many many cases this forced and unnatural growth in conformity to a uniform standard is the beginning of broken health? "

The cause of pathology may be appropriately compared to a mighty river fed by many tributaries. The mighty river of cause is our manner of living and its many tributaries are our many and varied unphysiological and unwholesome habits and practices—our food deficiencies and dietary excesses, our indulgencies and excesses, our poison habits, our lack of emotional poise and our various faults of omission.

Every so-called "disease", however simple it may appear, is the complex effect of many antecedents; is the summation of a legion of correlated factor-elements. It is obviously wrong to single out one of the correlates and attribute to it all the responsibility for the pathology present. Everything is important.

We cannot understand pathology except as viewed against the background of toxemia and the nature of living which developed it. For the real beginnings of pathology we must go to the beginnings of toxemia—■ to enervation and its causes. The evolution of pathology is only a larger generalization of facts and permits us to survey pathology by a larger sweep of time and space.

Holding this view, we can have no patience with any plan of care which amounts merely to an effort to drain the river ("cure" the "disease") by destroying only one of its tributaries (causal elements) ; or, which is still worse, attempts to dry up the river by relieving it of some of the debris that floats on its surface, or by throwing more water into it from another source. Tilden correctly says that "a multiple causation must be met by an opposing treatment co-equal in elemental constituents." Preventive measures, also, that seek to immunize one against a multiplicity of causes by opposing them with a unitary entity, must of necessity prove disappointing.

The Conditions of Recovery

Chapter XIV

The word "cure" has two diametrically opposite meanings. It is an equivocal and an unwary orthopath is liable to harm himself by its homonymy. It should be discarded by the Hygienist altogether, or otherwise he should state clearly the meaning he is using it with. Orthopathically, cure implies a reinstatement of health in a sick organism and involves three distinct processes—namely (1) cure is a physiological process and involves the normal and "abnormal" actions (biogenies) of the body in throwing off the causes of pathology and repairing damages; (2) cure is the removal of cause, that is, the removal and correction of all enervating influences; (3) cure is the restoration of a positive, vigorous condition of the whole body and is brought about by the causes of health. Cure is not a fetish, to be given with the idea that, in spite of law and order, health will be restored. There is no cure outside of evolution under favorable environment. We cannot cure; we cannot usurp one of nature's prerogatives. There can be no real or lasting cure except that produced and maintained in a physiological manner, through the observance of the laws of wholesome living.

Cure may properly be said to be the natural and spontaneous return to normal condition and function after the purposes of "abnormal" function have been accomplished. The return to normal function, after the occasion for "abnormal" function is removed, does not require to be aided or forced. It is as natural as the return of water to its natural channel after the obstructions have been removed from the channel.

The disposition of natural forces may safely be left to natural law. The conduct of the forces of life under all circumstances and conditions of life, always and of necessity will be lawful and orderly. The forces of life can no more violate the laws of life than the force of gravity can violate the laws of gravity, or than the forces of chemistry can violate the laws of matter and chemistry. Every action and operation of the living body in health or in "disease" is, and must be, in strictest harmony with the laws of life. Were it otherwise, did chaos and disorder reign in the vital or organic realm, life, health and "disease" would be as uncertain and fortuitous as the medical professions all conceive them to be.

There could be no science of life (biology), or science of function physiology, or science of cause (aetiology), or science of "disease" (pathology). Where chaos and uncertainty reign science is impossible. When the medical professions learn that law and order reign in the living realm, the search for "cures" will cease and a study of causes will begin. It is probably too much to expect this to occur in the lifetime of the present generation.

Therapeutically, cure is the application of remedies for the removal of "disease." "Diseases" are inimical entities—evil spirits, imps, germs, etc.—created by the theological god to prey on unchristianized souls and unvaccinated children. The so-called fallacy of entitative "diseases" hangs on in the lay and professional mind and continues to form a delusional foundation for a belief in cure and cures.

Therapeutic methods are all of the same nature,—that is, they are all methods of driving nature with a whip of scorpions, on the idea that the recuperative power of the body does not know how to free the body of the

pathoferic matter that is back of the "disease." God's great scheme of human healthiness and endurance is regarded as a failure, and practitioners of all schools are agreed that the great thing to be done, in all cases of "disease," is to "arouse the prostrated vital energies as quickly as possible." Hence the never ceasing search for powerful "remedies" with which to combat "disease."

Life and its variable phenomena, rather than therapeutic methods and their uses, should furnish the proper field of our inquiry. From such a study we acquire a knowledge of how nature acts under different circumstances. We will then know what life ordinarily does, and how it will act under constraint and compulsion, and what are the **proper conditions for its ascendancy over more material, crude and chemical forces.**

No theory of cause and cure that is out of joint with universal law and order can hope to last. A theory of cause and cure that is full of uncertainty and that gives rise to the wildest speculations concerning causation and that results in the ever-changing treatment that we observe in the practice of medicine; and that gives rise to so many new schools and cults, with contradictory theories and remedies that are poles apart, each with its following, and each claiming cures to its credit, cannot be based on truth.

The sick seek to be cured. The term cure not only implies a reinstatement of health in an organism that is suffering from "disease," but, in its common acceptation, it also has reference to the means whereby this is accomplished. Ordinarily cures are supposed to be wrought by some external aid. As has been said: "The man is doctored as he is booted and coated; and physiced, as he is fed, in the confident assurance that he is fitted and burnished for new service in either case." The sick would scarcely be said to be cured, however perfect the recovery, without the aid of some therapeutic measure. Hence, cure has reference to an external rather than to an internal resource. It is the operation or the effect of something external. The term, then, will convey different ideas to different persons, depending on their understanding of what the act intrinsically consists in.

Living things only are the subject of these effects, and it is to the different estimates, relatively, that are attached to the vital or recuperative power, and the part that treatment plays, that serves as a basis of the different views of this subject. Heteropaths consider "disease" as a destructive principle, or even an entity, that will inevitably consummate its work unless it is met by some neutralizing or counteracting agent. These consider vitality as little more than an onlooker at the show, until it is either vanquished or accepts the victory wrought in its behalf. Others reluctantly award some credit to the vital force, when stimulated or goaded by measures capable of drawing out its actions defensively. There are but few of us who place no dependence on any other means of recuperation, save those that are all efficient in continuing vital changes in the healthy state.

Shall the sick continue to believe that God or Nature has staked the chances of their recovery upon the accident of their acquaintance with Dr. Quack's Quinine Bitters, or Dr. Ad Justem's bone popping, or Dr. Meta Psychic's affirmations and denials? Shall we go on trying to conjure cures out of everything?

The very principles upon which most of the theories that constitute the "science" of the various schools are based were never established. They are, and always were, false, and consequently, the superstructures that have been erected upon them are the baseless fabric of visions,

transient in their existence, passing away upon the introduction of new doctrines and hypotheses, like the dew before the rising sun. Method after method has arisen, flourished, fallen and been forgotten in rapid and melancholy succession, until the whole field is strewn with the disjointed materials and one may search among the chaos of rubbish for ages without finding one well established fact.

Over 135 years ago, Dr. Benjamin Rush said : "The physician who can cure one disease by a knowledge of its principles may cure all; for their causes are the same." Look at the confusing medley of conflicting theories and practices of medicine today. One "disease" is treated with drugs, "another" with the knife, "another" with serums, still "another" with radium or the X-ray, and "another" with diet. A true principle of "cure" should apply to all "disease." Many methods, based on many principles, must be false. The intelligent man who desires consistency in his thinking, and a parallelism between his thinking and his doing, simply cannot endure the contradictions which medical theory and practice make inevitable.

Many have often felt impelled to apologize for the instability of the theories and practices of the physicians. Their practice has been very rich in theory but poor, very poor, in the practical application. Indeed, the tinsel-glitter of fine-spun theory, and of favorite hypothesis which prevail in their ranks, so dazzles, flatters, and charms human vanity and folly, that, so far from contributing to the certain and speedy cure of "disease," it has continuously proved a bane and a disgrace to man. In despair of making their practice a science, they have agreed to convert it into a trade.

The living organism is self-evolving, depending upon a few simple conditions; is self-maintaining and self-repairing, depending upon these same conditions. Its normal condition is one of abounding health; impaired health follows upon a disturbance of the conditions of life. How reasonable, then, the spontaneous return to health when the disturbing conditions are removed.

Graham correctly reasoned that "the essential elements of health are the healthy conditions and function of the organs of the body; and these elements are preserved by a strict conformity to the laws of constitution and relation established in our nature, and they are destroyed or impaired by every infraction of these laws. And such are the sympathies of the system, that not only are the organs immediately acted on by disturbing and morbid causes themselves affected, and their function deranged and diseased by such causes, but other organs also, sympathizing with those immediately acted on by these causes, partake of their irritations, and by these sympathetic irritations, are often made themselves the seats of local disease; and when disease is thus once induced, even slight habitual disturbances and irritations from dietetic errors and other causes are sufficient to keep it up for many years, till it terminates perhaps in death.

"We see, also, that no physician, nor any other human being in the universe, can come to us when we are diseased, and by any exercise of skill or the application of any remedy, directly and immediately impart to us any health, or remove from us any disease.***

"All that nature asks, or can receive, from human skill, in such a condition, therefore, is the removal of disturbing causes; and she will, of her own accord, as naturally as a stone falls to the earth, return to health, unless the vital constitution has received an irreparable injury.—**Science of Human Life**, p 424-5.

The usual practice is to try by some "remedy" or "cure" or "therapeutic" method or device, to force the organism to act normally in

spite of the disturbing conditions, and without correcting these. Organs and functions are stimulated or inhibited, as, in the opinion of the doctor, they should be, and little or no attention is given to finding and correcting the conditions that have impaired the life functions. The stimulating or inhibiting method employed may be chemical, mechanical, thermal, electrical or mental; the results are the same in kind.

Just as you can't sober a man by letting him drink, or rest a fatigued man with work, so you cannot treat a man into health while the pathoferic conditions or influences remain uncorrected. After these are corrected the so-called therapeutics are not needed; at no time are they useful. The organism can make use of those natural elements and influences that are used daily in producing and maintaining it in health and no other. The amount of food or rest or exercise or water or air or sunshine, etc., needed may vary from time to time, depending on the general condition or work of the body but, beyond this there is no difference in the needs of the body. It cures itself.

It is the Hygienic contention that "if a body has vitality enough to live under wrong conditions, it has vitality enough to get well under right conditions." **There is no truth in nature more positive than that the normal condition of man is one of health.** That all the organs and functions of the human body are designed and adapted to produce this result, appears to be a proposition so self-evident that to argue it would seem to be a work of supererogation. Yet man has lived so long in violation of the laws of his being, and as the inevitable consequence, has suffered "disease" so long that he has come to forget, or lose sight of the fact that the natural condition of all organized beings is one of health and not of "disease"; that instead of the sickly, deformed creature he is, with both mind and body dwarfed in conformity to the false conditions under which he lives, he might be and should be a healthy and well developed being, in the enjoyment of all the resulting consequences of such a condition.

Those who have never attempted to present health truth to mankind in general are hardly aware of the prejudices to be combatted, the ignorance to be removed, before mankind will be brought to see that it is far better, from every point of view, to live in a state of health than in a state of "disease"—in a state of happiness than in one of misery and suffering. Upon no subject is agitation more necessary than on this. Line upon line, precept upon precept, and volume upon volume are needed to arouse and convince the suffering millions of the grand truth that health, not "disease," is their birth-right—a birth-right which they continually sell for a mess of indulgence.

Notwithstanding the constant evidence of our senses that nature is capable of, and does maintain the organism in health during its existence, it is very difficult for some to believe that she has any power to restore lost functions, or heal an organic lesion without some artificial spur or aid. Something positive and decided must be done to meet adequately the emergency. The old school physician is never easy unless he is putting something into his patients or abstracting something from them. As Elbert Hubbard wittily remarked, the old school physician believes in cutting out things, lopping off things, rubbing on things, pouring down things, and squirting in things. Operations are performed and medicines given to impress, most powerfully, the vital domain with the idea that there is the most absolute and stringent necessity therefor—while, perhaps, a little discretion would have done more service by letting alone. Nature is

constantly and ceaselessly working for life and health and any interference of a decided character may be hazardous.

Therapeutics is the art of meddling with the functions and operations of an organism, that is struggling to throw off a pathogenic influence, on the absurd idea that the meddler (doctor) knows more about how the organism should act under the condition than the inherent power of the organism itself. Such meddling operations are not always the harmless or helpful things that they are thought to be.

The facts and principles set forth in these volumes naturally suggest a new order of remedial sources; and, since these will differ so radically from the medical measures and appliances in common use, some may be inclined to question their value or perhaps even to condemn them outright. However, natural and more effective remedies for extensive and often fatal pathologies can afford to wait for recognition, certainly as long as those who need them. Eternity is before them and we may be sure that when these remedies are found to be more direct, more appropriate, more rapid and permanent in effect, useful alike in all the multifarious forms of pathology and biogony and when it is recognized that they do not leave behind an aftermath of trouble worse than those they are intended to relieve, these procedures will be universally employed.

The Hygienic System holds that pathology can be remedied only by the employment of such agencies and forces as conform to the laws of life and meet actual needs of the body, and rejects all poisons of all kinds, and refuses to place in its *materia hygienica* anything and everything that tends to produce pathology. It denies that the knowledge and skill of any man can impart a curative power to any agent that is stamped with the power to destroy.

The medical profession having, hitherto, arrogated to itself all knowledge having any important relation to health, saying, in effect, we and we alone, are the conservators of the bodies and health of men, have withheld the little knowledge they possessed from the people. However useful so important a general diffusion of such knowledge as relates to our very existence, as the means of influencing and developing the forces concerned therein, might be considered; yet it was to remain the behoof of the learned dignitaries of this elect and holy profession—too sacred or too occult for the common understanding. Their prescriptions being supposed to be of a character that defies the scrutiny of popular inquiry, demanded a confidence almost unqualified. The public was asked to place the same faith in the physician—who concealed his prescriptions in corruptions of a dead language—as they were supposed to impose in their god. The patient knew enough if he could open his mouth and swallow the prescription without demur or refusal.

No inquiry was instituted to determine whether a person ought or ought not to be sick under given circumstances. That he ought to keep from getting sicker while he is trying to get well was never dreamed of. The enchantment of the magic dose was—**nolens volens**—to charm him into a condition of fresh vigor and manliness; and as recovery in the vast majority of cases succeeds an "attack" of "disease"; and as a remedy, or a supposed remedy, was always given, the inference continued to be drawn that there was a useful connection between them; both physician and patient laboring for ages under a delusion from not understanding fully enough the true relation of such things.

A man hits his finger with a hammer. A painful bruise results. In a few days, without treatment of any kind, the bruise is healed and forgotten. No one but a fool would, after striking his finger, bandage it up in liniment

or ointment or use some form of drugless treatment, and resume striking his finger and expect the finger ever to heal. It can never recover until the mashing is ceased. When this is done it will speedily and quickly heal without treatment.

This simple fact is applicable to all the disorders to which our system is susceptible. Take, for instance, the man who, by gross dietetic habits, or by indulgence in alcohol, or in some other way, has weakened his digestive powers so that he is no longer able to digest his food. He can no more recover from this condition through treatment, drug or drugless, while continuing the abuse, than he can fly. Yet this is the very thing he will attempt to do, if he is an average man, and the healers of all schools encourage him in it. Mr. Average man goes down to the corner drug store, buys a bottle of Dr. Dopem's Syrup Pepsin, shakes it well before taking and goes right on in the same old manner. He does not correct the habits of life that are responsible for his condition. He expects the drugs, or, if he employs some drugless practitioner, the metaphysical formula or the adjustment, to cure him in spite of his pathoferic habits.

He may succeed in palliating his condition for a time, but real cure can never be accomplished until cause is removed. Nature demands that cause be removed first, and then, she can do her own curing. If the individual gives up the abuse of his digestive organs they will recover without treatment. If he persists in his evil practices, no amount of treatment, whatever its nature, can save him from the consequences. All that nature asks, or can receive, from human skill in "disease" conditions, is the removal of disturbing causes, after which, she will of her own accord, as naturally as a cast stone returns to earth, return to health. Repair of tissue, elimination of toxins and recuperation of health are specialties of the vital power working through the organs and functions of a living organism. Given an opportunity, this work is done well. Success often comes in spite of obstructive and destructive treatment.

Jennings says: "From what has been said, the attentive reader will infer that the fundamental principle by which I was governed in practice—a principle directly antipode to the one in common use—was to give free and full scope to the action of the law of the vital economy, irrespective of immediate consequences, no matter how appalling or alarming the developments or symptoms might be; nothing would induce me to interfere with the law and operations of nature, further than to remove opposing obstacles, when such were discovered to be present, and their removal was practicable, and supply wants.

"If a man was in a fit, I would let him lie in a fit until he was brought out of it by due course of law.

"The general result of this 'let-alone' principle, in comparison with those of the perturbing one in common use, in any and all of its multitudinous forms, were such as to convince any sober-minded and common sense man, of the superiority of their claim to soundness, over that of the latter. **Diseases were more uniform and regular in their progress, and shorter in duration; recoveries were proportionately greater in number, and more permanent and enduring in the end. Sudden and remarkable cures were a matter of notoriety,** and the wonder was often expressed how such astonishing results could be compassed by such apparently trivial means. It came to be well known that the weapons which I used were few in number and of small dimensions, but it was conjectured that they made up in power what they lacked in number and size, and especially that their peculiar efficiency consisted in

the skillful direction of them to the very seat and centre of disease."—
Philosophy of Human Life, p. 39-40.

Dr. Trall says: "*** We must never forget that nature is the true physician. The restorative power is inherent in the living organism. **All that the true healing art can do is to supply favorable conditions, remove extraneous materials, and regulate hygienic influences**, and thus place the system as fully as possible under organic law."—

Hydropathic Encyclopedia, Vol. II, p. 6. Again: "All morbid actions are evidences of the remedial efforts of nature to overcome morbid conditions or expel morbid materials. All that any truly philosophical system of medication can do, or should attempt to do, is to place the organism under the best possible circumstances for the favorable operation of these efforts. We may thwart, embarrass, interrupt, or suppress them, as is usually the case with the allopathic practice, or we may direct, modify, intensify, and accelerate them, as is the legitimate province of hydropathic practice."—
Hydropathic Encyclopedia, Vol. II, p. 64.

Remedial efforts are always going on in the organism when it is in any way morbidly affected even where the morbid influence is unknown to the individual and its effects are so slight as to be unrecognized by him. When these morbid influences are greater than the organism can overcome, their effects accumulate until a formidable pathological condition develops. When this stage is reached unusual effort is required to preserve vital integrity. It is then that the efforts of the vital organism are disproportionately manifest in one or more of the eliminating organs, and we call this "disease."

Discussing the "renovating economy," Graham points out that "Pure healthy chyme is produced exclusively by the healthy function of the alimentary canal, and the alimentary canal can perform this function healthfully only while itself is in a healthy and undisturbed condition. Pure healthy chyle can only be produced by the healthy function of the lacteals. Pure healthy blood can only be produced by the healthy function of the lacteals, lungs, and other organs concerned in hæmatisation, or the formation of blood. Perfectly healthy bile can only be produced by the healthy function of the liver; and so on, of all the other fluids and humors of the whole system. Now then, suppose the chyme, or chyle, or blood or bile or any other fluid or humor of the body to be unhealthy and impure; is it possible for any physician, or any other human being in the universe, to apply such a remedy as will of its own intrinsic virtues, directly and immediately impart health and purity to any of these substances? Most certainly not. There is no possible way in nature of producing these effects, but by the healthy function of the organs constituted for that purpose. If the bile is unhealthy, no medicine in the universe can make the bile healthy; and while the function of the liver is perfectly healthy, the bile cannot be unhealthy. If the blood is impure, no medicine in the universe can, by its own intrinsic virtues, directly and immediately impart purity to it. There is no possible way in nature by which it can be purified, but by the healthy function of the appropriate organs of the body.

"If, then, by any means the blood becomes impure, the healthy functions of the appropriate organs will very soon purify it. But whatever may be the quality and potency of the medicines used to purify it, so long as the functions of these appropriate organs are unhealthy, the blood will and must remain impure; and this is true of all the fluids and humors of the system."—**Science of Human Life**, p. 424.

Pathology is not only due in the first place to impairing causes, but it is perpetuated by the continuance of such causes. When these causes have

brought about a change of structure in the body; this, while it remains, will, in the absence of pathogenic causes, keep up the impaired action to a greater or less extent; but we may set it down as a rule, that in chronic "diseases," where degenerative changes have not advanced too far for vital redemption, the impaired action will not long continue after the complete removal of the primary cause. Hence, chronic "disease" is in almost every instance, perpetuated from day to day, from year to year, by the continued action of the impairing influence. Chronic "disease" represents chronic provocation.

The Hygienic plan has been from the beginning, to (1) Remove the cause of pathology; and (2) Build health with the causes of health. We recognize health as being as much an effect of causes, as is pathology, or "disease." The causes of pathology may, for convenience, be divided into two general groups, namely; (1) Immediate causes—enervation and toxemia; and (2) Remote causes—all enervating influences of whatever character. Obviously, since the first or immediate cause depends upon the second or remote causes, the correction or removal of the two groups must proceed together. However, for convenience, in study it is necessary to break these up into separate procedures. In this I shall follow the outline prepared by Dr. Robert Walter, in **Exact Science of Health**, as follows:

1. **"The removal of the occasions of the disease."** Dr. Walter correctly observed that vital power is the cause of "disease"; cause being defined as the power by which a thing is, while agents and conditions that are usually called causes, he called occasions or conditions of "disease." It should be obvious to all that if we persist in supplying the conditions of "disease," the "disease" will most surely persist, even though its form may be changed or the symptoms suppressed, by treatment.

By virtue of the living organism's inherent power of self-repair and self-maintenance, all the healing that is ever done is accomplished when the causes of the damage are corrected or removed.

A rational system of care cannot be based on haphazard and guesswork. Effects are impossible, even inconceivable in the absence of the causes upon which they depend. Pathology exists potentially in its sources, rather than in its symptoms. The means of "cure" in vogue have no possible relation to the cause of pathology. One of the outstanding blunders of the therapeutics of all "schools of cure" is that of attempting to cure without giving a thought to the removal of cause.

Whatever occurs presupposes the existence of preceding forces and conditions which determine the course of subsequent events. Everything that uses up nerve energy produces enervation and serious deficiencies arise out of the resulting deterioration of function; the faulty elimination produces toxemia, which is the fundamental and universal cause of all pathology. The many different so-called "diseases" represent merely different effects of the same cause operating through different anatomical structures, as well as functional channels.

The difference between good health and impaired health is the difference between a healthy and a morbid circle of affinities, based upon a good and bad metabolism respectively. There seems to be neither beginning, nor middle, nor end in the series of causes, so that it is often impossible to determine the true beginning of a vicious circle. The chain of causation is too intricate to ever be completely unraveled in any particular case; and the power of the ensemble of antecedent factors is too stupendous to be controlled by mere treatment.

However, this need not bewilder or confuse us; for, it all sums up in toxemia. All of this confusion clears away when toxemia is understood ;

order is brought out of chaos and certainty takes the place of uncertainty. Until a universal cause for pathology is universally accepted we shall have a multiplicity of cures in keeping with a multiplicity of causes. All theories of cure must come to one cause and this will destroy the bewildering conglomeration of therapeutic measures now advocated by the various "schools of healing."

The admirable Hygienist, Dr. Oswald, wrote: "Diseases plead for **desistance**, rather than for **assistance**, and the discovery of the cause is the discovery of the remedy. For there is a strong upward and healthward tendency in the constitution of every living organism. Nature's revenge is but an enforced condition of peace. Pain, discomfort, and even the premature loss of organic vigor, are the attendant symptoms of a reconstructive process, and their permanence is a presumptive proof that, in spite of such admonitions, that process is a struggle against a permanent obstacle or against a constantly predicated frustration of its efforts."—**Nature's Household Remedies**, p. 15.

Pain is not a plea for pain killers, but for rest and desistance. Discomfort does not call for sedatives or tonics, but for desistance. Nausea and vomiting are not pleas for anti-emetics, demulcents and digestives, but for abstinence from food. Loss of appetite is not a call for tonics and digestives, but a "closed for repairs" sign hung out by the body.

If you roast your shins too near a glowing fire the toasting nerves cry out for a lower temperature and not for liniments or pain killers. Desist! Desist! This is the cry of nature. She does not need your puny "aid." She only asks that you cease your foolish interference. Physicians of all schools insist that nature cures and that they only "aid nature." Some of them have some rather curious and damaging ways of aiding her, however. Too often they assist her out altogether and the patient succumbs to the "aid."

Pain is not a cry for aid, but for desistance. If you tread on tacks, the resulting pain is not a call for liniments and salves but for the removal of the tacks. Keep off the tacks, the forces of the body will do the rest. Pain in the stomach following a meal is not a call for pepsin or alka-seltzer, but for rest—for abstinence from food. Nature but cries out for you to cease abusing your stomach. The natural forces of repair and recuperation will take care of the stomach when you cease to abuse it. Indeed these forces are continuously at work in an effort to counteract and overcome the effects of the abuse you heap upon your stomach or any other part or parts of your body. No doctor and no drug can do this work, but Nature can if you cease the abuse.

Any attempt to "cure a disease" without removing the pathoferic influence is rank folly. Take, for instance, the prevailing methods by which it is sought to purify the blood. Some method is employed to whip up the activities of the eliminating organs. It is like the attempt to dip a fountain dry without cutting off the water supply. One dips and dips until exhausted only to find that as much water exists in the fountain as before. Likewise, when the eliminating organs are made to work overtime by some drug or drugless method, and the source of the impurities is not cut off, these organs are soon exhausted and the blood stream is as foul as before. Such methods may whip up the eliminating and other organs and produce a temporary semblance of health, but the exhaustion following such treatment soon permits the victim to become worse than before.

Breaking the removal of occasions up into two subdivisions we must:—

(a) **Correct all enervating practices and influences.** This is a necessity both in primary and secondary "diseases," although nature herself corrects as many of these as relate to the individual himself, in the primary "diseases." Tilden says: "There is but one rational treatment for the entire chain of morbid phenomena, ranging from the first cold to Tuberculosis, to Bright's disease, to Cancer, to Diabetes, to Rheumatoid arthritis, to Ataxia, to Apoplexy—to any pathological ending; namely, correct the manner of living and stop all enervating habits of mind and body. Normal elimination soon gets rid of Toxemia, and crises quickly disappear. Then those with functional derangements promptly return to health; all organic change, if there is not too much destruction of tissue, is gradually restored to normal, and health returns in full."

To get well it is necessary to stop doing the things that produce illness. All have what they admit are bad habits, but few are able to catalogue the many minor transgressions that go to make up their entire pathology-building complex. An analysis and summing-up of these factors is necessary and constitutes the first step in "diagnosis."

Let us notice these a bit further. Why should enervating practices and influences be corrected? Because these are the remote causes of the trouble. These have brought on the enervation responsible for the lowering of organic function. So long as these are continued the enervation lasts, and elimination and drainage will be faulty. Recovery, real lasting recovery, is impossible under such conditions.

How are such habits and influences corrected? By stopping them. Suppose the patient is addicted to the use of stimulants; correct such a habit by withholding the stimulants. Suppose he is being forced to expend his nervous energy resisting cold. He is chilled. Correct such influence by supplying him with warmth. If it is an acute "disease" the patient will be forced to remain in bed, he cannot be spending his nights in revelry, but the chronic sufferer may be doing this very thing. It must be stopped. Anything and everything that uses up nerve energy is a handicap. So-called "diseases" should be ignored; errors of life should be corrected.

Those under the thralldom of one or more enervating habits must rise above their enervated state. Unless the life that brought on the ill health is changed, any so-called cure that may occur will amount merely to a longer or shorter respite from symptoms, but in no sense can the individual pronounce himself healthy. He will be liable to go down again under almost any unusual strain.

"Cures that cure," says Tilden, "in spite of wrong living are short-lived, and require chloroform to put their victims out of their misery and the misery of their friends. Ulcer, pain, hemorrhage, and cancer cachexia often bring to an end a life that would have been willing to go the chloroform route months before."

Because a man gets out of bed and back into the routine of life's duties and responsibilities, is no evidence that the cause of his suffering has been removed. No pathology is ever ended so long as an enervating habit is practiced. Tobacco, coffee, tea, alcohol, wrong food, anger, envy, hate, passion, lack of poise, and all other nerve stimulants, or irritants, break down man's vital energy and help to kill. Any stimulant uses up nerve energy. It is not possible to get well so long as you continue to enervate yourself by stimulants.

Even were a "cure" found that would eradicate a so-called "disease," it would still leave a state of impaired health. There is no respite from law and order; there is no therapy that can cure without removing cause; only the foolish are willing to pay and pay for foolish palliation. Secretions and

excretions can return to normal only when health is restored by correcting the habits of life. The "infectious diseases" cannot be cured without removing their cause—getting rid of intestinal putrescence.

(b) Stop the absorption of any and all poisons from without.

Pathology is due to poisons and so long as these are entering the body from any source they will be added to the poisons already present and thus add to and complicate the "disease." Drugs, serums and vaccines are equal offenders, in this respect, with other poisons of whatever nature. These add to the toxemia, further poisoning the body and building complications. Toxemia is the condition immediately responsible for the "disease." This is the condition the body is seeking to throw off, eliminate. This can be accomplished much sooner, much easier, if we stop adding to the toxins already in the system.

How is this done? By stopping their intake. Suppose the patient is in the habit of absorbing alcoholic drinks, or opium, or is using drugs of some nature for his trouble. Stop their use immediately. Perhaps there is a pent up wound. Clean it out and supply proper drainage. Or there is gastrointestinal putrefaction. This is a common and also the most abundant source of toxic absorption. In fact, every case of "disease" with which we deal, if not due to accident, has this as a contributory cause.

Immediate steps should be taken to cleanse the alimentary canal. All food but water should be stopped. Refer to Vol. III on fasting.

There is a fundamental difference between a system of practice based on the removal of effects and one dealing with primary causes. There can be no effect without a cause. Treatment directed toward the removal of an effect falls short of the ideal. The correctness of a system which by simplicity and effectiveness, outshines all others cannot be doubted.

In the final analysis there is but one cure, namely: **Remove the cause.** When we find what mars the cells and organs of the body, we should cut it out and not the organs. As Tilden says: "We cannot 'battle against disease,' but we can battle against cause. If the heart leaks we cannot stop a leak, but we can stop the use of tobacco, or any other overstimulation which has caused the leak. We cannot stop anemia by giving iron, but we can stop inordinate eating, which leads to intestinal decomposition, with hemal infection and inability to assimilate the tissue salts. Or, if it has been caused by grouch, we may induce the patient to give up the grouch."

Any profession that teaches people to continue practicing health-destroying habits and to look for cures, is certainly unmoral if not immoral. The very foundations of such a system are rotten. Minds capable of logical reasoning will not encourage humanity to practice enervating habits, such as over eating, smoking, and drinking, under the plea that we can't make or mar ourselves, because we are what we are through the "immutable law of heredity"—a law that has no existence. The highest welfare of the individual and that of the race are always identical.

It is through the accumulation of small injuries that constitutions are impaired or broken down long before they should break. Any or all hurtful influences impair or ruin digestion, assimilation, nutrition, and elimination. The Greek goddess, Nemesis, still keeps her eternal watch in the Universe and allows no offense to go unchastized. This should show up the futility of all the feeble gestures that are made, while the mode of living is left untouched.

Neglect of etiological facts and principles causes remedial prescriptions to degenerate into weak apologies for artificial local support that is never in reality supplied; and to a still feebler pandering to the

sensibilities and irritable emotional activities of the patient. The physician avows his theory of the process of cure by his selection of remedies.

When once we recognize the damaging effects of precedent physiological abuse and neglect, we begin to realize the pressing need for the restoration of physiological integrity. It is only by understanding the aggregate power of these causes that we become impressed with the necessity of beginning at their origin to remove them, rather than attempt to neutralize effects, while causes continue in unabated force.

Whatever its form or variety, no affection can exist without these precedent conditions and the real remedy consists in the removal of these causative factors. A drunken man may be "sobered" up by a heroic dose of arsenic. The mal-exorcised demon returns with seven accomplices. "The physic-inn's mind should be **cause conscious**, and to **remove cause**, not to palliate effects, should be his function."

Tilden says: "Knowing cause, man is supplied with the remedy, namely, remove the cause and the effect (disease) passes; where it does not, it is because the organ stressed—or the part of the body subject to a crisis of Toxemia—has been broken down beyond the possibility of a return to the normal. Such contingencies we hope will be made impossible by our teachings." Again: "Why should a so-called disease be (supposed to be) cured when the cause is unknown, and, being unknown, remains to repeat crises until the organ stressed takes an organic change? It is when organic change takes place that instruments of precision discover cause!"

The human body possesses amazing recuperative powers and a large margin of safety and adaptability. Palliation, in conjunction with nature's continuous effort to return to the normal, often gives respite from discomfort, and this is mistaken for cure. In reality, pathology-building runs on, until a last crisis arrives, which all unexpectedly sweeps the patient away. To illustrate: A cancerous breast is removed; a so-called cure follows; but unfortunately the "disease returns." The truth is that "it" did not go away. Only the local manifestation was removed. The constitutional perversion was not even palliated. The X-ray treatment that usually follows is a sorry subterfuge; for how can a local irritation correct nutrition?

Pathology has no natural tendency to disappear, but, on the contrary, becomes worse and worse as time passes unless its causes are corrected or removed. As the constant dropping of water wears away the rock, so the slow and insidious causes wear away health and life.

A soap-box lecturer was once entertaining a crowd on Broadway, in New York City. He told the following story: "The superintendent of an institution for the feeble-minded sent an inmate into the basement to mop up the water from a faucet that accidentally had been left running. Later in the day the man was found mopping with the water still running full blast. 'You darned idiot, why don't you turn off the faucet,' shouted the superintendent. The simpleton grinned and replied: 'Nobody's paying me to turn 'er off. I'm gettin' two bits an hour to mop 'er up.' "

When the roar that greeted this jibe at the medical profession had subsided, the speaker continued: "The land is flooded with sickness which flows from ignorance of nature's laws. Proper instruction would shut off disease at its source, but if doctors turned off the tap they would put themselves out of a job."

Nobody pays the medical profession to "turn 'er off," they get "two bits an hour to mop 'er up." Tilden says: "A rational healing system cannot be based on haphazard and guesswork. The physician who is capable of treating disease according to a normal, rational plan will know what has

caused the disease and just how it can be got rid of, and how it can be avoided. If he has success, his treatment must be exact—his patients must follow instructions; not half-way follow them for two or three days, and then neglect them for a few days."

When people are made sick from self-poisoning brought on from enervation, the medical professions prescribe more stimulation, with the idea that jaded nerves can be restored by jading them more. The common-sense procedure, when pathology exists, is to stop all enervating habits and restore nerve-energy by rest. This will restore normal functioning of all the organs; toxin will be eliminated and health will return in all cases where organic change is not so great as to make restoration impossible. Even in these incurable cases, life may be made comfortable and may be prolonged by this same procedure. When this common-sense, comprehensive system is generally accepted and practiced, we shall cease building chronic, organic "diseases."

"We have to work hard to catch disease." "To develop disease we must do everything that is disagreeable. We must eat the things that we do not like, and eat too much of the things we do like. We must form habits that are repugnant to our natural senses. Tobacco is distasteful. All kinds of drugs, including alcohol, coffee and tea, are distasteful to the natural palate. We indulge appetite and passion to such a degree that discomfort is experienced. We overwork our emotions until we are unhappy. We practice selfishness, dishonesty, and disloyalty until suicide offers the only escape."

If you have any symptoms and discomforts, there is something wrong. You do not know how to live. You are enervated and toxemic, and have much intestinal indigestion. Pain and weakness are the coins with which we pay for our "pleasures." No spice but hunger, no stimulant but exercise—this rule will prove productive of health.

Tilden says: "It is no part of the office of a physician to treat with a view of curing those who are sick; for such treating means palliation. How is it possible to **treat** wrong life? What can a physician do for a bad habit, except to show the evil of it, and how to live to get rid of the effect? Surely, after this, the patient must cure himself. Curing, then is a matter for those who are sick to attend to. Indeed, there is something to the old saw which says: 'A man is a fool or his own physician a forty.' Certainly, when he resorts to amulets, charms, prayers, doctors, dope, or anything except correcting the habits of body and mind that cause his disease, he has a fool for a doctor."

No individual will give up a bad practice in which he finds pleasure unless he is convinced that he is being cheated out of more than his pleasure comes to. So long as a man is not convinced that tobacco injures him, he will use it. He may say he is convinced of its injuriousness, but he is deceiving himself. People must be taught how to live and taught how to correct the errors of life.

It is a mistake to think that because unhappy effects and consequences do not follow transgressions as suddenly as a thunderclap follows a stroke of lightning, your bad habits will not "find you out." We need most of all to know how to form our habits in conformity with the grand ends of nature.

How frequently do we see people so overwhelmed by pathology-producing habits that they go down and out, in spite of resolutions that are supreme while they last. They lack sufficient native or inborn power to make a sustained effort of sufficient duration. These people need and must

have the restraining help of their caretakers, rather than a miscellaneous assortment of methods and systems of treating their symptoms.

The headaches suffered by the coffee user when deprived of coffee; the pains suffered by the drug addict when deprived of his drug; the unsteadiness of his nerves suffered by the tobacco user when deprived of his tobacco; the depression suffered by the stimulant user when deprived of his stimulant—these are not evidences of the beneficial influences of these substances but are evidences of their deleterious character. Outraged nerves and other tissues are simply coming out from under their influence and making their true condition known. Let the habitual rum drinker abandon his rum, and the parts of his body that have suffered most by the long continued excitement begin to cry out and make known their actual state. Greater or less suffering and discomfort which are regarded by superficial and ignorant observers as indications of an adverse change, immediately result, but the sequel is a happy issue.

Or, perhaps he attempts to "taper off" on his stimulant habit. He gradually reduces the amount of the drug taken. This does not decrease the suffering he will have to undergo in overcoming the habit—it but prolongs it. Instead of suffering for a week, he suffers for a month, or longer, and then, probably fails in his effort to free himself from the grip of the poison.

Tapering off is like cutting off a dog's tail an inch at a time until it is the desired length—or desired shortness. Cut off the tail and wait for this to heal, then cut it again and so on until you have cut it all you desire. This is the way tapering off works. It is best to cut out the stimulant at once. Pay the price all at once and have it over with.

The proffered opportunity to repair the injured and damaged' parts is immediately seized upon and the work of restoration begins at once. But due to the very general **apparent** detriment experienced in the initial stages of the restorative process, consequent upon the sudden cessation of the habitual excitement, this all important and beneficial process is commonly thought of as a "pulling down," or destructive, rather than a building up, or constructive, operation. People are warned not to break off their bad habits suddenly, but to "taper off" gradually. This latter plan both prolongs and increases the actual suffering that one must go through in the renovating work. One does not gain, but loses by the "tapering off" process, for the bad habit is continually interfering with the work of repair that may be begun when the amount of habitual injury is decreased. What is more, the "tapering off" process seldom enables one to succeed in breaking off from a bad habit for each repetition tends to keep the habit alive.

Tilden says: "The idea that disease can be cured is absurd. It is as reasonable to believe that a remedy can be given to overcome the effects of a knockdown blow over the head. It is as reasonable to believe that a remedy can be given to cure the tire following work or exercise or to cure the effects of inebriety while drinking is continued, or that a serum can be used to restore potency to those practicing sensuality."

Religious people who have more faith in their God and prayer than in cutting out their bad habits, usually have nothing in the line of health or intelligence to recommend either their God or their prayer to us. Nonetheless, there are ebbs and tides in the vicissitudes of vital vigor, and the self-regulating powers of the body may rally in a manner to overcome both the "disease" and the drug so that abiding faith may at least reward the patron of a prayer agent.

In treating Osteopathic and Chiropractic maladjustments and malalignments I have noticed that all discomfort disappears when toxemia

is removed. As Tilden expresses it. "When toxemia—chronic intoxication—from any cause, is corrected, there is little left for the various schools to dispute about regarding causation."

What about germs? If enervation permits germs to gain a foothold and complicate toxemia, it is but logical to assume that the first step to recovery is to get rid of toxemia and the precedent enervation. With toxemia removed there is no longer fertile soil for germ propagation and the "secondary infection" ceases to exist because of lack of its most necessary food—toxin saturated tissues of low resistance.

Cure requires the restoration of resistance, not the killing of germs, for germs are omnipresent. Nobody can get well while he continues to break down resistance. True health and fitness are complex results of fidelity to the greater aims of nature. It is by no means enough to "look well" and "feel well." Physiological bankruptcy is not always apparent on the surface.

Dr. Weger says: "When enervation is pronounced, it is not an easy matter to throw off the bacterial scavengers of unhealthy tissue. The progress of recovery, from mixed infections, then, is in the same ratio as the degree of enervation. Great enervation means slow recovery from either acute or chronic ill-health. A robust constitution will shake itself free from the shackles of disease; while a depleted constitution drags its way slowly over the tortuous path with an effort, in extreme cases, that tries the endurance of the body to the breaking point of despair. Death represents a body that has succumbed to the ravages of the battle between inherent resistance and overpowering causes."

In her Notes on Nursing (p. 9), Florence Nightingale gives evidence of orthopathic leanings and reveals that she was frequently called upon to answer the objections of those who could not give up their faith in "cures," and who insisted on **doing something** in "disease." She says: "Another and the commonest exclamation which will be instantly made is—would you do nothing, then, in cholera, fever, etc.?—So deep-rooted and universal is the conviction that to give medicine is to be doing something or rather everything; to give air, warmth, cleanliness, etc., is to do nothing."

The Hygienic practice is commonly referred to, even today, as the do-nothing treatment. We have expanded it into "doing-nothing-intelligently" for the reason that it requires more skill and intelligence to "do nothing" in the Hygienic sense than to "do something" in the medical sense. Hygiene is a let-alone plan insofar as "disease" and the symptoms of "disease" are concerned. It gives every attention to hygiene. This is its "aids to nature." So far as possible, it removes all pathoferic influences. It does not try to remove "disease" nor the symptoms of "disease." Miss Nightingale replied to the above objections: "in these and many other similar diseases the exact value of particular remedies is by no means ascertained, while there is universal experience as to the extreme importance of careful nursing (hygiene) in determining the issue of disease." Tilden says: "A wise letting-alone is the most scientific treatment that can be given in any so-called disease. All desperate pathologies are built by drugs, officious meddling, disease-producing suggestions and bad nursing in a toxemic subject."

Nature does not employ food, water, sunshine, warmth, exercise, rest, as cures. She employs these in "disease" in the same way and for the same purposes that she uses them in health. These are elements in nutrition, are necessities of life, in both health and un-health, and are in no sense therapeutic agents.

2 **"The supplying of the conditions of health."** In other words, supply any element or condition required by nature for the comfort of the patient, or that is needed by the vital forces in the work of cure. The elements of an unbounded success are wrapped up in the Hygienic principle of health by healthful living, and hygienic measures are entitled to be applied in the care of the sick just as surely as to the maintenance or even the recovery of health. If health is to be restored, the conditions of health must be supplied.

Health by healthful living is the only correct practice and applies to the sick as truly as to the well. It is the true plan of regaining as well as of maintaining health. A mode of living, not a plan of treatment, is the road to health. Both the power and the instinct of repair are inherent in the living organism and these will restore all lesions and heal all "diseases," provided only that the conditions of health are supplied.

We shall cultivate health and recognize that health is a positive creation. True remedial care supplements the vital efforts by supplying the needed hygienic conditions, and thus renders them more complete and perfect. This can be done only by agents and conditions, the innate qualities of which supply the current demands of the vital powers.

The vigor of renewal observed in the human body should cause all of us to trust its power of renewal, even though the prospect may not look so good. The wonderful recuperative power of the human body astonishes and delights all who observe it. Observe the ample provisions that are made in the construction of the body for effecting and maintaining the functions of the organism, every organ possessing a reserve of functional power over and above the normal daily demands, its many powers of adjustment and compensation, and we cannot help but feel that full trust may be placed in the renewal powers of the body. Unfortunately, the modern mind is moribund and refuses the ministrations of nature. The usual path of life leads by way of scientific quackery and surgery to an early grave.

The hygienist has no office save that of supplying the needed hygienic factors to facilitate the success of the restorative efforts of the body. He must be a diligent student of nature and her faithful servant—inquiring into her needs, supplying her wants and endeavoring to understand and conform to her laws. The moment he forsakes this line of conduct and attempts to cure "disease," he becomes the enemy and not the friend of the sick.

After pointing out that the elements of nutrition—warmth, moisture, food, exercise, etc.—are the requirements of health, growth and maintenance, Dr. Densmore says: "This is a universal law in organic life, as applicable to a grass plot or a tree as to the organism of an animal. If a grass-plot has sunshine, warmth, moisture, and fertility, (or food), there is health and growth. If food or moisture or warmth be taken away, there is sickness; and if continued, there is death. No medicine is needed to secure a restoration of health and vigor to the plant that has thus been made ill; all that is necessary is to supply any or all of the lacking elements of nutrition—light, warmth, moisture, or food.

"It is a universal law of organic life, be it vegetable or animal, that all tendencies are toward health. It is as natural to be well as it is to be born.

"Note the grass-plot before instanced. It may be ever so brown from the summer sun and drought, or scarcity of fertility; if disorganization be not already set in, if there yet be life, all that is needed to restore the beautiful green color and vigorous growth to the grass is to supply it with whatever elements of nutrition it has been deprived of—sunshine, warmth,

rain, or fertility—and it at once begins to mend; in a few weeks green blades have taken the place of seared ones, and in a short time there is often no trace of the previous lack of vigor.

"As for the grass-plot, it is quite universally known that growth and vigor always follow upon a supply of the necessary conditions—sunshine, warmth, moisture, and food. If from the outset the plant has had these necessities, unvarying vigor results; if the gardener perceives a failing color in the plant, or any other sign of disease, he knows that some of the necessary conditions of grass life are lacking. If this inquiry be extended to an examination of the more complex forms of life, it will be found that the same law obtains. The fishes of the sea, the birds of the air, and the wild animals of the woods are quite usually found in perfect health and vigor. When the fisherman or hunter finds an exception to this rule, he knows at once that some of the normal conditions of animal life has been wanting; there has been a lack (in the absence of poison or injury from violence) of food, or water, or light, or warmth.

"It will be seen after the most searching scrutiny from whatever point of view, **that a tendency toward an abounding health and vigor is inseparable from life;** and, moreover, whenever and wherever the normal conditions of healthy life have been interfered with, and weakness, lassitude, or any of the symptoms of ill-health appear, **as soon as the conditions natural to the organism are restored, a movement toward health is always sure to follow.**

"The law of cure may be defined as the un failing tendency on the part of the living organism toward health; and since disease; as above defined, is but the expression and result of a disturbance of the conditions natural to life, the only useful office of the physician is to restore those conditions; and there will be seen to follow, as a result of the law of cure, the disappearance of disease and the establishment of Health."—**How Nature Cures**, pp. 4, 5, 6, 7, 8.

How different from this is the usual practice! The physician is the creature of his education, and his treatment is sure not only not to follow Hygienic methods, but to rely upon drugs; for, he feels called upon to interfere with the workings of nature. He builds more and more complications as his treatment continues. The impropriety of calling such a harmful force into the sick-room should be plainly evident.

If you imagine, from the above, that you can so live as to produce trouble, and can, then, undergo a fast and a general upbuilding program, and, after recovery, be as you were before, you are mistaken. No disturbance of the normal course of the functions and no alterations of the structures of the body can pass away and leave things just as they were. A permanent damage is done; a "scar" is left behind that, while perhaps not immediately appreciable, is there to tell against you in the long run.

Resistance can be built up in every one to a greater or less extent, but probably never again to the point of original strength. For practical purposes, and granting a moderate degree of vigilance, every patient who has been relieved by Hygienic methods can increase his reserve of vitality to a point amply sufficient to meet the emergencies of a normal and active life. It will be wise to take account of stock frequently, and be ready to repeat from time to time, if necessary, the "rest cure," which gave nature her precious opportunity to rejuvenate him.

We stay "cured" until we build "disease" all over again. There is no permanent "cure" of any so-called "disease" and there is no so-called "disease" from which man suffers that will not stop when cause is removed. Stop smoking and heart weakness subsides; resume habitual

smoking and heart weakness returns. This "kindergarten babel" is necessary because even educated people do not appear to know that, everything being equal, like causes produce like effects. The sober man becomes drunk again if he returns to drink; the "cured" man becomes sick again if he returns to a "disease"-producing mode of living.

The age-long quest for cures has been carried on from the point of view of "disease," not health. What will cure "disease," not upon what does health depend, has been the question in the minds of the searchers and researchers. The significance of the principle that "the whole needeth not a physician" has been missed. Nature aims at integrity—wholeness—and the real Hygienist has inscribed on his banner—Integrity versus Patchwork. It is possible to attain such a high degree of health as to prevent us from being made ill by causes so slight as those suggested. On the other hand; a perfectly healthy person may easily become unhealthy through wrong living.

I am not interested so much in teaching you how to repair yourself after wrong eating and bad living habits have damaged you, as I am in teaching you how to live and eat to avoid the damages.

Health is above all a matter of nutritive, vital and psychical hygiene, and cannot be acquired through unwise treatments which limit themselves to the destruction of microbes or to the chemical (drug), mechanical, thermal, electrical and emotional overexcitation of certain organic functions and processes. There is always the temptation for the practitioner to rely upon his "remedies" and neglect the benefits of healthful circumstances.

We must put our physiological house in order, not by myriads of local treatments as physicians, with a financial interest in our suffering, are bent upon doing, but by duly adjusting ourselves to the ordered harmony of Nature upon which every organ and function in our body depends. We cannot expect Nature to alter herself and accommodate herself to our morbid appetances and selfish ends. Our real object is to bring self-knowledge to the people and teach them to guide themselves. The patient cannot learn these if he is taught the current conceptions of sickness (microbes, exposure, etc.) and the current conceptions of cure obtained through a purely symptomatic fight with the exclusive assistance of drugs, serums, and knives.

The Hygienist is bound to preserve, with the utmost care, the vital powers of his patient; to provide every condition favorable to recovery, and to avoid every measure in practice which has proven to be deleterious or dangerous to the organism. For, under no circumstance and at no stage of any so-called "disease," is there need to make use of any means which tend to injure either immediately or remotely, the permanent health of the sick person.

Any acts or measures which have a tendency to cripple the organic powers, or which lessen the strength of any organ, at a time when it is struggling vigorously to overcome pathogen and repair damages must necessarily lessen the chances of recovery. To relieve pain, certainly no agent or practice should be employed that tends to deprive the nerves of the power to produce it—to feel. Not the pain, but its occasion should be removed. It is equally as rational to administer opium to relieve the pain in a corn and leave the ill-fitting shoe on the foot, as it is to give it to relieve pain elsewhere in the body and not remove the exciting cause.

Remedial Hygiene has but one legitimate object; namely, the restoration of the sick body to a state of health, by the use of such means as will improve the general vigor of life. It should be our business to

understand the natural resources of a healthy life and an abundant vitality, and to make use of the most appropriate and most powerful agencies as the simplest and most effective means of restoring and renewing health, strength and youth.

Tilden expresses it thus: "The office of the physician or healer is to understand the functions of the mind and body, to know their capacity, and to be able to recognize when the capacity is overworked; and then to know how to advise to bring back a return to the normal. It is within man's capacity to interpret the wants and needs of his body and mind—the cosmic urge, if you please. The law of his being is in unison with, if indeed it is not a part of, universal law."

The highest development of health demands an ensemble of cooperating conditions. A superior constitutional vigor correlated with good living habits means the acme of health and strength. The body must depend, not alone upon the integrity of its parts, but also upon integrity of behavior.

The hygienic processes herein developed have their sole basis in physiology and anatomy. They supply the internal needs of and set in motion a self-regenerating machine and are the things ordinarily employed to insure the continuance of health and life. The application of hygiene will slowly, but surely, coax and build that tottering nutrition back into health's morning.

The true remedies are those only the constant tendency of which is to restore the healthy state. Only in proportion as it cooperates with the forces of life, on whose efforts bodily restoration is dependent, is any plan of care beneficial. Agents that excite or depress nervous activity; narcotics that deprive the nerves of the power to tell us, by aching, of trouble; cathartics that lash tired, overworked bowels into vigorous and exhausting action—these are not remedies. The true anodyne is not the drug that all but stops nervous activity, but the process that removes the reason for the pain. So-called drug anodynes are, in reality, odynes.

Our methods are in strong contrast to those methods which rely on the dubious relations existing between the living organism and a multitude of substances exerting chemical and mechanical force—

relations always obscure and affording much ground for conflicting and widely different opinions. Under prevailing methods recovery of health is effectually blocked by the incongruity existing between a therapeutic system based on suppression of symptoms for petty ends and the real needs of the sick organism.

Food builds nerves; tonics destroy them. Rest is nature's greatest healing influence; stimulation is a disintegrating influence. For instance, we get fever by breaking down resistance with stimulants. Only the processes of nature (working with natural agents and forces) can resupply or rebuild lost or diminished nerve energy and nervous structure.

A proper regulation of the environment, eliminating all impairing influences, necessarily contributes to the prevention of toxemia and greatly facilitates recovery.

Those who want to rebuild and renew their bodies when the old frame has, for years past, been accumulating toxins, rather than attempt to patch up the body, will prefer the natural to the artificial remedies. The renewal of life, renewal of tissue, renewal of the body, depends upon the removal of enervation and toxemia and the proper supply of the natural renewers of the body.

We have never adequately realized how consistent and utterly trustworthy nature is; hence we have been prone to rely upon false

remedies and to worship at the fanes of false gods. "If you cooperate with Nature you will find that the natural forces are infinite which tend to strengthen, restore and upbuild. Array yourself against these forces and disorder, discomfort, disease and death will follow."

3. "**The accumulation or recuperation of the vital or healing power.**" This can only be accomplished by giving the organism an opportunity to recuperate its vitality. No matter what the definition of vitality; when vitolytic effects are in excess of the ability of the vitosynthetic process to restore or replace, and when this is continuous, day after day, vitosynthesis lags behind; a condition of the tissues and organs results that will require a considerable period of freedom from vitolytic activities to recover. This means rest in any language.

Jennings wrote: "The great object to be steadily aimed at in all cases of sickness, is to favor the renovating process which is in constant progression within. **Rest, quiet**, is the great remedy. Let there be no unnecessary expenditure of vital funds, either through mental exercise, or any undue exercise of the bodily functions. When there is a disposition to sleep, let it be indulged. And as there is no medicine to be given by the hour, sleep may be protracted to any length, unless it is laborious, then a slight jog, or a little change of position, or a swallow of water, will start it in its regular train again."—**Tree of Life**, p. 187.

Two factors are concerned:—(a) Correction of all influences that occasion the waste of power; (b) Supplying the body and mind with rest, relaxation and sleep in order to recuperate. This is accomplished by all of the following :

(1) By stopping the habits and indulgencies that increase function (stimulating habits).

(2) By ceasing physical effort.

(3) By ceasing mental effort.

(4) By reducing physiological effort. Physiological effort is reduced by correcting those habits that stimulate function, by stopping mental and physical effort and by either stopping the food intake entirely or by at least reducing it to a minimum.

The most important and most essential factor in the preservation and restoration of good health is an abundance of vital or healing power. A knowledge of the means or conditions of the conservation, accumulation and recuperation of this power is, therefore, of more importance than any other thing discussed in this book. There is a broad sense in which the whole subject of health and "disease" is involved in this knowledge, and in which the conservation and recuperation of vitality is the "all-inclusive condition of good health and the very first step in the direction of hygiene."

Rightly did Dr. Walter say: "Even causes or occasions of disease fail to produce disease as long as the power of health is abundant. For which reason we easily persuade ourselves that bad habits are not so bad after all. If tobacco may be used for sixty years and we still survive, it must be a very slow poison. If one may keep himself soaked in alcohol for the greater part of a century and still live, it cannot be as bad as it is painted. The answer is that we had such an inheritance of vitality, or what is called constitution, that we could continue for long years to waste our substance and still have enough for moderate use."—**Life's Great Law**, p. 191.

The processes of cure are the processes of health. Repair is a necessity of living existence. It is always in process in every living thing. The power of repair is the same power whether in **health** or "**disease.**" The object of repair is also the same in these two states of the body. The

essential difference between health and "disease" is the extent of the repairs requiring to be made. Health, if one possesses it, is easily maintained by healthful living. If it has been impaired it is to be restored, repaired, in the same way and by the same agencies that maintain health. Special conditions require special applications as dictated by normal, undepraved instinct, but the condition called "disease" never calls for processes of treatment that will produce "disease" in a well man. The employment of means that make well men sick in an effort to make sick men well is not only unreasonable and based upon delusions, but is damaging and deadly. Recuperation is best secured by:

1. Physical rest: best obtained through relaxation in bed. Complete relaxation is not possible if there is pain, worry, noise, unpleasant surroundings, an overactive imagination and a craving for stimulation.

2. Mental rest: Obtainable only by stopping all emotional unrest and curtailing mental (and sensory) activities which, by intensity of application and concentration use up nerve energy in a wasteful manner.

3. Sensory rest: Secured by quiet and by not taxing the eyes and other senses.

4. Physiological rest: Most effectively brought about by (a) abstinence from food for a limited time; or, (b), the next best procedure, a limited diet requiring the least possible physiological expenditure.

To reduce the food intake is to materially rest every other organ and function in the body. Man needs food with which to build his body, but the power to build is of greater importance. Reduced nutrition in spite of the habitual consumption of large quantities of food is an ever-present fact in our existence. Increased nutrition following upon a reduction of food is becoming equally as common as people learn the facts of life. Rest of the organs of the body, through reducing the food consumed, recuperates power and improves nutrition.

In this plan of rest we approach most closely nature's own practices during the period of man's **passivity in sleep**. Here the cardinal principles of cure—**nature cure**—are observed by putting the patient to bed and prohibiting mental stress, emotional excitement, and muscular exhaustion, and by withholding food. If we are to imitate nature during her periods of regeneration during sleep, these things must be eliminated; for at these times the body has none of them.

Rest is the remedy; nothing but rest can cure enervation.

Physiological rest is the most important remedy in treating all "diseases." Since all "diseases" are based on enervation, rest, physical, physiological and mental, is the most potent of all remedies. The sicker an organism is, the greater is the need for rest. The weaker is the patient, the greater is the need for **doing nothing**. These conclusions are opposed to the prevailing practice of stimulation. The weaker a patient grows under the prevailing practices, the more he is stimulated, and the more he is stimulated, the weaker he grows.

Dr. Walter well observed: "As therefore activity expends and exhausts, while passivity recuperates and preserves, and the power of life being the all important consideration, it follows that the recovery of health, preservation of life, and the cure of disease, takes place and must be calculated **directly as the amount of the power and inversely as the degree of its activity**. The inactivity of sleep, not the strength of stimulation, is the great representative process of recuperation and health, and all treatments that should be successful with the enfeebled and chronically ailing, no less than with the acutely sick, must operate as sleep

does. It must reduce activity and increase power, instead of increasing activity and reducing power, as is the plan everywhere in vogue."

Any mode of living that is not based upon the conservation of the body's powers, rather than their dissipation, must sooner or later lead to weakness, "disease" and premature death. It matters not whether your energies are wasted by thrills and excitement, or by drugs and mechanical stimulants, sexual excesses, worry, anger, tenseness, loss of sleep, and dissipations and excesses of various kinds, the ultimate results are all the same.

Any method of caring for the sick that does not aim at conserving the patient's powers must result in much needless suffering and many premature deaths. Work exhausts, whether it is work of one organ or of the whole body—rest is the condition of recuperation. Rest for each organ is as important as rest for the whole organism. Whether it be calomel for the liver, salts for the bowels, digitalis for the heart, or whiskey or hot and cold baths and tonics for the general system, whatever arouses or increases vital activity, and particularly vital resistance, exhausts the patient's powers and hinders or prevents recovery. Promoting increased action in the present necessitates reduced action in the future. The future reduction must necessarily be commensurate with the present increase—"**action and reaction are equal but opposite.**"

We are influenced too much by appearances. We must learn to distinguish between processes of expenditure and processes of recuperation. Prevailing modes of medical practice produce the "diseases" they seek to cure and exhaust the powers they seek to sustain because men are content to be guided by appearances. A more enlightened age will look back upon the practices of the present schools of healing (killing) with greater horror than that with which we now look back upon the practices of a thousand or two thousand years ago.

A tired man may feel strong in the presence of danger. He may forget his fatigue under excitement. A cold plunge or a hot shower may exhilarate him for a moment. A cup of coffee or a dose of some drug may "increase" his strength. A few snappy exercises may "pep him up." But these things do not recuperate power or repair tissue. Actually they exhaust power and destroy tissue. Dr. Walter says: "An evil indulgence, instead of obviously depleting our powers, produces, on the contrary, an increased consciousness of power, often a pleasing exhilaration, due to the vital resistance which it arouses, thus giving an appearance of vigor at the very time and by the means that it is exhausting the power and providing for a reduction of vigor."

The more injurious a habit, agent or indulgence is, the more dangerous and the more delusive it is. "Opium and alcohol, in comparison with tea and coffee, are the illustrations." The first named two are much more delusive than the latter, because they are correspondingly more deadly. Energy which is manifest only through work, through expenditure, makes its manifestations correspond to its expenditures. Tonics, stimulants, food, work, excitement, etc., call out and make manifest, the powers of the body and thus appear to give us the very power which they cause to be expended. Recovery of health must, therefore, come through opposite practices, that is, practices that conserve and do not deplete the powers of life.

Dr. Weger says: "Any practice to be strictly in accordance with the Theory of Toxemia must be broad enough in its scope to embrace the entire field of habit and conduct, especially habits that break down vital resistance. Hence, **enervation** must be considered as of equal importance

with **toxemia** before a proper and successful system of treatment can be outlined or put into effect. Many forms of treatment directed toward the removal of toxins are in themselves enervating. Bearing this in mind, one must choose that which conserves or restores vital energy. **Nerve energy can only be regained through rest.** Herein lies the secret of health restoration."

If enervation is to be overcome and normal function re-established, recuperation is essential. Recuperation occurs only during rest. There is a sense in which a change is rest but it is not true rest. A man may change from one form of activity to another and keep this up continuously without stopping until he "rests" himself into exhaustion. True rest is secured only by reducing function and by stopping temporarily all function that can be stopped without harm.

It does not matter whether enervation and impaired or suspended secretion and excretion are due to shock or to long continued abuses of the body; it does not matter whether enervation develops quickly or slowly, rest—mental, physical and physiological—is the means of recuperation and of restoration of normal function. **Rest and replenishment of power is the first step in the curative work;** as Dr. Jennings declares: "In the lowest depths of adynamic disease, when the last glimpse of life seems fading quite away, there still lingers, lives and reigns the 'law of cure' which will secure a restoration to health, if, under existing circumstances, such an event is possible. Rest and replenishment of power is the first step in the ascending pathological transit; removal of useless matter by the decomposing function, with its activity and force increased by resting, constitutes the second step, and the third consists in a repair of breaches by the accretion of new, well wrought material. These three steps form the first grand division in the ascending pathological transition, the removal of **structural** derangement, or **cure of organic disease.** The next grand step in the ascending pathological work consists in the re-establishment of regular or natural **functional** action."—**Philosophy of Human Life**, p. 102.

After emphasizing that the tendency of the movements of life in "disease," "all and singular, is to save life, as far as that may be in danger," he says: "The first object aimed at in this treatment (Hygienic), is to shut down all unnecessary waste-gates; to place the system as far as possible, under circumstances in which there shall be no unnecessary expenditure of power, in order that the departments of labor that are now deficient in force, may receive an accession to their strength."—**Philosophy of Human Life**, p. 169.

The resting invalid is the recuperating invalid. Invalids do not recover so long as they are being stimulated and worked. They only recover after they have given up hope of recovery and abandoned all efforts at cure. Seizing the opportunity nature begins silently and gradually to recuperate the expended power and repair the damaged structure. Silently and unconsciously the power accumulates. It may be then, that some miracle monger comes along with a catchy little metaphysical ditty or a persuasive personality and, having persuaded the patient of his marvelous and unusual powers, begins his experiments with her. She responds. She feels her strength "returning." Hope and expectancy are renewed. Greater efforts are made and health is soon hers. Why? Because the power of health once in her, it is an easy thing to call it out. The power of response is her own power—power gradually, silently and unconsciously stored up through rest and resignation. **She began to get well as soon as she ceased to try**

to get well. All the essentials of recovery must be completed before the miracle monger comes along, else he fails.

Dr. B. Frank Walters says, "When the nervous system is tired out by life's varying and multiple activities, there is no method of restoration that supercedes rest, and no method that so quickly and effectively induces elimination of toxemia. **One cannot take an overdose of rest.**"

Rest and sleep conserve energy and permit recuperation. Work—mental, emotional, physical and physiological—expends energy. Tonics and stimulants increase function causing an increased expenditure of energy.

It is said that to compel a man to maintain the erect position, even during sleep, produces the most painful death that the genius of torture can devise. It rapidly exhausts. It completely exhausts the heart which must continue to pump the blood against gravity. The recumbent position, in which the blood circulates pretty nearly on a level, is, therefore, a wonderful relief to the over-burdened heart. This relief was thought by Dr. Walter to be the most valuable part of sleep. It was largely to secure this relief that he sent his patients to bed to rest.

Of course the withdrawal of stimulation and the cessation of physical activity and control of the passions and emotions afford the heart as well as the rest of the body an opportunity for rest. But there is another means of resting the heart and the other organs of the body which was much insisted upon by Walter.

The heart is the great central organ of circulation. The blood moves in a circle, returning to the heart and being pumped out again. The more food one consumes the greater is the work of the heart and other organs of the body. The less food consumed the less the heart must work. By reducing the amount of food consumed, or by fasting, the heart is given a rest. Heart-failure often follows a hearty meal.

Dr. Walter said: "Fifty years ago the term 'heart-failure' was unknown; bleeding and purging had been so constantly relieving the blood of its nutritive materials, and relieving the heart of its burdens that death seldom occurred from failure of the heart's action; today the term is a common one, due, as the reader will surely see, to the theory that food is nutrition, and, therefore, the blood must be loaded and the heart burdened with material which the tissues cannot appropriate. Stuffing and stimulating patients during the progress of acute diseases, even of those who are in good health, beyond their power to appropriate the food, is, we believe, the chief reason for the heart-failures of today."—**Life's Great Law**, pp. 204-5.

"After an organ has been lashed by overstimulation," says Dr. Tilden, until its nutrition is perverted and organic change has taken place, it may come back to normal if all stimulating influences are removed and sufficient rest—physical, mental and physiological—is given. If nutrition is very greatly impaired, and the organ is broken down to the extent of adding infection to toxemia, even a million-dollar remedy may not cure."—**Philosophy of Health**, p. 399, Nov. 1922. When over eating, sensual excesses, drug habits, emotional over-irritations, treatments and operations have lashed the organism into impotency; when the lash of stimulation has produced so much enervation that one is no longer able to control his nerves, his limbs are weak and wobbly, the mind dull, special senses failing and the sexual powers gone, all the doctors of the various schools of healing have to offer is more stimulation and more operations.

The organs of the body function as a unit, the stronger ones increasing their work to compensate for any failure in the weaker ones.

Each organ possesses the ability to do extra work so that compensations are constantly taking place in the body. The weaker organs are allowed to give down only when the stronger ones are no longer able to furnish adequate compensation. Enervation lowers functional efficiency in both the strong and the weak organs.

Those who resort to stimulating methods fail to take into consideration the fact that there is fatigue of the nervous system—enervation. They stimulate the vital activities of their patients with little or no consideration for the after effects. Such treatment is like whipping a tired and overworked horse; makes him work harder but exhausts him sooner.

The more excellent way is to carefully husband the vital forces. The greater and more profound the impairment of a function, the more profound the "disease," and the more serious the danger connected with the part performing that function and with the parts performing collateral functions. Hence, the greater the need for conservation of nerve-energy.

Contrasting the "rest-cure" with the tonic practice so long in vogue, Dr. Robert Walter, says "The Rest Care is the only scientific cure known to our day." He further says: "The 'Rest-Cure' is not simply the proper cure for disease in its varied forms, but for all the ills that afflict humanity. Only power in abundant measure can produce vigorous health or enable one to do successful work; incompetence, disease, and especially chronic diseases, are due to depleted vital resources, which depletion is very apt to be increased, rather than diminished, by the methods in vogue of sustaining one's powers. 'He that would save his life shall lose it.' It is always a dire misfortune for any one to feel his want of power, and to commence to supplement or sustain it under present-day methods. The overworked, 'run-down,' well-nigh exhausted portion of the community is a large one, each individual being analogous to a locomotive, whose steam-pressure is greatly reduced. It is not steam that drives the steam-engine, but the intensity of the force in the steam. Exhausted vitality, like exhaust-steam, can do little work. And yet too many are trying to carry forward life's work upon partially exhausted vital resources, always trying to make up for deficiency of power by the use of stimulants and other forcing processes.

"The folly of all this is well illustrated by the folly of the engineer who would do his work with steam at fifty pounds pressure when he should have one hundred pounds. An engine with fifty pounds pressure can do some work, at sixty pounds it may do the work of forty horses, at eighty the work of fifty horses, while at one hundred pounds it is a sixty-horse-power engine. Just so the ability which one possesses for work is determined chiefly by the intensity of his powers. Half-dead men are altogether too common, waiting unconsciously for some disease-germ to gather them in. For the principles we are advocating show that contagious and epidemic diseases result from depleted powers of the patient more than from any other consideration. It is a remarkable fact that epidemics rarely increase the total death-rate of a community, if we extend our statistics over a sufficient length of time. A contagious disease is only a form of taking off. Highly vitalized men don't die, even if they should contract the disease, which they rarely do; it is the enfeebled, depleted, poisoned ones that succumb to infection. If they had not died of LaGrippe, smallpox, or other such ailment, they would surely have fallen a victim of pneumonia, typhoid, or the like.

"The question before us, therefore, is not simply how to regain or maintain health, and not alone how to preserve life, but how to live well,

feel well, enjoy life, do efficient work, and be entirely free from the habits and indulgences which so frequently enslave men. To this end we recall that it is nature that cures, as she does everything else in the natural world; in this matter of cure we are called upon to deal with an important department of natural existence, known as the vital. This department, like each of the others, is presided over by its own inherent force, controlled in its operations by its own great law, which force under control of its law performs all the functions of its department and produces all its phenomena. **Vitality, called also vital force, produces, repairs, heals; the rapidity and certainty of its work correspond chiefly to the amount of power; all processes should be employed to recuperate the patient's powers, and nothing done to deplete them.** Though temporary relief may be secured by depletion, as by purging and blood-letting, because the power of the disease is the patient's vital power, so that reducing the one always reduces the other, all physicians of all schools now agree that such practice is destructive to the patient's best interests. No one now believes it to be wise practice to cure disease by destroying health, no matter how persistently he may ignorantly continue the method.

"The opposite theory of cure is the one now everywhere advocated. Sustain the patient's strength, is the cry everywhere heard. Support the vitality and the patient will surely rally. **The theory we hold to be true beyond all peradventure; it is the application of the theory that is erroneous.** If the real is the opposite of the apparent; if we are deluded by appearances which are generally the opposites of the realities; if substances administered to give strength to the patient appear to do so only by taking away his strength, who cannot see how utterly destructive and fallacious a practice based upon observation must be. If disease, instead of being an enemy, is really nature's effort at cure, who fails to perceive ample justification for the alarming increase of nervous diseases in our time, as the result of the use of the tonics and nervines so generally employed. Something does not come out of nothing; no effect exists except from an adequate cause; the facts of today prove either a failure of the theory that nature cures, or a failure of its methods of application. The latter error is the true one. Because of a theory of vital force and its source, which is equally opposed to the facts, men proceed to produce the diseases they imagine they are curing, and to exhaust the power they are trying to sustain. The consequence is the more one is cured the more he needs to be cured; and the more he is sustained the greater his need to be sustained; or, to put it in concrete form, the more whiskey or other stimulant or tonic we administer to the patient, the more he needs it; the more we sustain him by the methods of the schools, the weaker and worse he gets. We turn our attention to the accumulation of vital power as the true means by which obstructions shall be overcome, disease rendered unnecessary, and good health be restored. The methods of recuperation that we shall advocate are all based upon the theory that life is an inheritance and not a product. If life could be manufactured there would at least be some excuse for exciting into action the organs which are supposed to manufacture it, but having absolutely disproved the transformation theories, and shown that life comes only from life, we are shut up to the alternative of securing recuperation of power through cessation of its use. We cannot recuperate by increasing its use. Recuperation must come through rest and sleep, and the necessity for these in every living thing is the best proof that it cannot be obtained in any other way. If we could manufacture vitality for horse or man, what need of sleep and rest half the time; if hay and oats could take the place of sleep, the horseless age would still be far away.

"The word recuperate, which means recover, is a term chiefly employed in connection with living things, or at least with such things as spontaneously recover their powers. We may recuperate our health or strength; an orchard or a farm may recuperate, and of late years the term has been applied to electricity, as in the recuperation of a battery. But no matter in what connection it is employed the leading idea is rest. Under the Mosaic law the necessity for rest in order to recuperate was everywhere recognized. Even the land had its Sabbath. Man and horse and ox are expected to recuperate every night, in addition to the rest of every seventh day. The battery also recuperates when we cease its use; but no matter in what department we use the term, the leading, if not sole idea, is recovery through rest. We do not recuperate a steam-engine, a wagon, or a plow; we repair these: we recuperate only those things which have within them the power of recovery when we cease to use and expend the power. The battery recovers its powers by cessation of work; the orchard and farm recuperate so as to produce a harvest after a season of rest; man and horse are always reproducing, and therefore, recovering their powers. It is properly said also that the spendthrift recuperates his fortune when he ceases to spend it. But this is a true use of the term only when his fortune is an inheritance. If he is a self-made man, his fortune being the product of his own labor, we would not think of him recuperating his fortune by rest; we would speak of him as making his fortune by greater activity and vigor. Just so with the vital organism; we may recuperate its powers because they are an inheritance which we receive as an income, that may be squandered by ceaseless activity, riotous living, or accumulated to great abundance by rest and waiting. But if it be true that man, manufactures his vital powers, then recuperation is an entirely improper word to use in connection with this increase. If tonics and stimulants and food and drink and air make for us vitality, then accumulation of power must come through increased work, as during the day, while sleep and rest would prove to be not only useless but destructive. If power could be manufactured out of food or drink or medicine, what excuse would there be for holidays and sabbath days as well as for nightly rest. Where is the necessity for rotation of crops on the farm if fertilizer will answer all purposes. Why not heavy fruit crops every year if feeding the soil can take the place of rest. Once let it be shown that vital power can be manufactured, and rest is at once proved an unnecessary indulgence. If increased work can produce vitality for any one, sleep becomes a reckless waste; if we can give strength to an invalid by the use of a drug, we ought to be consistent and repudiate sleep as a contribution to senseless fashion.

"But men are seldom consistent. They seek to give strength from without at the very time they admit the importance for the invalid of rest and sleep. Recuperation means the hoarding of power through its non-use; a statement which, if true, shows the absurdity of the attempt to give power by its increased use through increased activity. Both these plans cannot be true. We recuperate through rest or we manufacture power through active work; but we never have done, and never can do, both at the same time. There is a dilemma here, and we may take either horn we please; no one can ride two horses at the same time when these are going in opposite directions.

"The primal thought of the system we advocate, therefore, is rest—rest of body and of mind, of muscle and of nerve, of heart and lungs, liver and kidneys, stomach and bowels. This system might thus be called Scientific Rest-Cure. It is Rest-cure because it inculcates and promotes rest as the **sine qua non** to recovered health, and it is scientific because it

is a logical development, not from supposed facts, but from established first principles, to the elaboration of which development future chapters are devoted."—**Life's Great Law**, pp. 192 to 198.

Rest lacks color and dramatics; physicians and patients prefer spectacular forms of treatment that stimulate the imagination. Patients protest against having to rest. They prefer their accustomed stimulations and activities. However, rest secures recovery after repeated failure of the stimulating method.

It is very unfair to judge ■ of the gravity of a condition by the readiness with which health is restored. Such a patient quite probably would have remained, like thousands of others, an invalid, for an indefinite time, had he been treated by the usual stereotyped processes.

But it is the height of folly to urge the importance of rest upon a patient, perhaps send him to bed, and then administer tonics and stimulants which promote activity and prevent rest. It is the practice in medical rest-resorts to give the patients drug stimulants or hot and cold baths, massage, electrical stimulation and the like. Such patients do not rest—they are exhausted. "Whether it be calomel for the liver, digitalis for the heart, or whiskey for the general system—whether it be cold baths or hot baths, electricity or anything else, whatever arouses vital activity, and especially vital resistance, is exhausting to the patient's power, and is preventive of recovery not promotive of it," wrote Dr. Walter,—**Life's Great Law**, p. 201.

A "rest-cure" is not the ultimate cure. What is the advantage of a rest to restore you to normal vigor if you are only going to return to the former dissipating mode of living and again exhaust your vital fund? Unless you learn how to live properly, and then live what you have learned, you will be forced to go back occasionally for another "rest-cure." Rest is only a means of recuperation. It cannot be expected to make you disease-proof.

A few years ago the good Queen Victoria died. One day the bulletins announced: "The queen is sinking. She is unable to take nourishment. Her medical attendants declare that she can live but a few hours."

Next morning: "The queen has rallied and is able to take nourishment. The doctors declare that there is a chance for her recovery, barring complications."

A few hours later: "The queen is sinking. The rally of this morning was followed by a sinking spell, and she is again unable to take nourishment. Heart tonics given hypodermic-ally keep what little life there is from ebbing away. Only the superhuman skill of the doctors prevents death from claiming the great woman as its bride."

"Superhuman skill of the doctors!" Did the reader, in his wildest moments, ever dream that physicians possess superhuman skill? They kept death from claiming the great woman as its bride. Such colossal conceit! A school boy can see that they killed her. They built the complications that prevented her recovery. They did it keeping her life from ebbing away by hypodermic injections of poisons.

Next morning: "During the night the doctors watched at the bedside of the distinguished patient, watching with bated breath the ebb and flow of the declining energies. Once or twice the family was aroused to view the grand queen and mother of the greatest empire on earth, while there was still a little life left in her body. All effort at keeping life in the aged queen was abandoned at midnight."

After these fellows with the superhuman skill abandoned their efforts at "keeping life in the aged queen" she should have died without further ado. But she didn't. A little later the bulletin announced: "Most

extraordinary, the unexpected happened! The queen rallied, and at this cabling is taking nourishment. The doctors, fear, however, on account of the queen's great age and the weakness of her heart, that the rally will only be temporary. Sir John Blatherskite, an eminent heart specialist, was called in consultation, and favors strychnine for the heart. This heart tonic will be given in the place of digitalis, which has served long and well."

Any intelligent layman could have read these bulletins and seen that the queen rallied every time feeding and drugging were discontinued, and relapsed every time these were resumed. Except for the "superhuman skill" of the great specialists, and their "superhuman efforts" to "keep what little life there is from ebbing away," if they had not been so skillful in "keeping life in the body"; if they had not stimulated her life away and then announced that she was "sinking" ; if, when she revived, they had not resumed their "scientific" efforts to "sustain" her heart, the queen may have recovered. Their skill was all exercised in combatting every effort of the body to restore health.

Dr. Jennings relates a very similar case to that of the Queen: "A number of years since, I attended a young lady in Oberlin, sick with a typhoid affection, to whom I gave simple hygienic treatment while she was under my care. She ran down pretty low, with temporary suspension of the mental function; was taken from under my charge and put under the care of another physician. Active medication soon demonstrated by a general improvement of symptoms that there was still a good stock of restorative energy at, or that should have been left at the disposal of the vital economy for renovating purposes. After a few days, however, the symptoms declined, and on Saturday the case was given over as hopeless; and the medicine withheld, as there seemed to be no support for treatment—no favorable response was received from medicine. Through Sunday there was but little change. On Monday there was an encouraging revival of symptoms, and medicine was resumed. On Thursday the young lady died."—**Tree of Life**, p. 172

Certain superficial and not well founded objections to the "rest-cure" have been offered by Physical Culturists, who regard exercise as the panacea for all ills and as the creator of human energy. These objections demand a brief notice at this point.

First, there are the psychological objections. People are said often not to realize that they are seriously sick until they are ordered to go to bed and their ailments are materially aggravated by being ordered to bed. Going to bed is also said to be "giving up" and acknowledging that your ailment has gotten the best of you. It is declared that one should not "give up" but that he must mentally "struggle against" his ailment.

Both of these objections are puerile and very wide of the mark. No patient is frightened or made worse or caused to worry over his troubles by going to bed if the reasons for going to bed are explained to him. If the patient is told "you are a very sick man, you go to bed at once," he may be made worse by such advice but only a fool would give advice in this manner.

An "aggravation" of symptoms does not always mean that the patient is getting worse. It more often means that he is getting better. He who lacks an understanding of the nature of "disease" will naturally think that the "aggravation" of symptoms means that the patient is growing worse.

An ailment is not something to struggle against. It is not something to fight. This objection to the "rest-cure" is based on the primitive idea that "disease" is an unseen dragon tearing at the vitals of the patient. "Disease" is something to cooperate with. "Giving up" to it simply means allowing it

to carry forward its work more freely. Two objections brought forward have not the slightest relation to going-to-bed **per se**. One of these is that three square meals a day in bed would result seriously. It is true that the patient in bed has no need for such food, but it is equally true that many patients who cannot eat one square meal a day while active, without suffering, may consume three square meals a day in bed without discomfort. However, so far as we are aware, only medical men and milk diet enthusiasts ever advocate gorging a bed patient. The next of these objections is that people are afraid of a draft and menacing symptoms are sometimes induced by poor ventilation. This is an objection to poor ventilation. I know of no Hygienist who ever advocated keeping patients in poorly ventilated rooms. Dr. Walter had his patients lay on cots out doors. Aside from this, the fear of drafts is much more easily overcome in bed than in a chair. Any man who has had experience with patients knows this. Indeed, people who keep their windows closed through the day, in winter, sleep with their windows open at night.

It is objected that one should be guided by his instincts and should not go to bed until he desires to. It is claimed that when we ignore our instincts we must pay the associated penalties. This objection is offered by those who advocate exercising even when one is disinclined to; and who advocate drinking so many glasses of water a day and ignoring one's instinct of thirst. It is advocated by those who advocate mixing a little intelligence with one's eating, by those who would put the same patient on a fast without waiting for instinct to demand a fast and who insist that the demands of appetite that persist during the first two to four days of a fast be ignored; who give cold baths when there is a dread of these; who seek means of forcing sleep when nature does not give sleep voluntarily. The inconsistency of such advice and such practices must be readily apparent.

To demand instinctive living on the one hand and reject it on the other is simply ridiculous. The argument that one should be guided by his instinct would be good if those instincts were normal. But if they are not normal, knowledge and intelligence may rightly be called upon to help them out. People who keep their bodies lashed with stimulation do not know when they feel like going to bed. Withdraw their stimulants and notice the "let-down," the languor and lassitude that reveal the true condition of their system and their need for recuperation.

It is next objected that the ordinary daily activities "materially stimulate the functions of the body." When one goes to bed he is deprived of this mechanical stimulation. Metabolism is less active. Elimination is retarded. The circulation is slowed down. It is insisted that poisons are driven out of the body more rapidly if one is active.

If these objections possess any validity the proper way to treat a sick man is to make him run at top speed until he is well. If this mechanical stimulation is not an exhausting thing, then the longer he runs the stronger he should become. If the activity purifies the blood, by stimulating elimination, then the more active one is and the longer he is active the purer his blood should become. Instead of a marathon runner dropping within sight of his goal because of the fatigue poisons that accumulate in his body, he should be fresher at the end of the race than at its beginning. We can recognize the basis of fact that exists in the above superficial objections to rest without endorsing the extremes to which the objections themselves would logically lead.

The success of the work of the vital force is **inversely to the degree of its activity**. Men go to bed at night tired and worn out from a day of active toil. A night of rest recuperates and restores them. The "rest-cure" is

only a prolongation of this same normal period in bed in order that the patient may recuperate from a more profound enervation and be restored from a more injured state of his or her tissues.

It is objected, also, that if a healthy man, a strong man, is confined to bed for a few days he will lose part of his strength and if he remains there for several weeks he will be unable to walk. All of this objection arises out of the fallacy that "strength comes as the result of exercising the muscles," It mistakes the muscular machine that is built up when exercise is indulged in, for the power back of the machine. Large, well-trained muscles are better able to manifest power, providing there is power to be manifest, but in doing so they expend the power. Exercise does not give us power—it expends power. It consumes energy, tears down tissue and, if continued long enough, produces exhaustion. If exercise were the source of strength, then the more we exercise the stronger should we become. It should recuperate us and not exhaust us. But the reverse is true; exercise exhausts and we must go to bed for recuperation.

The farmer who turns his well-fed horses out on the pasture after the crops are laid-by, knows well that the rest and grass diet will weaken (soften) his horses and that when he again puts them to work they will not be able to do as much work as before going to the pasture. Their formerly hard muscles will have become soft and flabby. Their tough shoulders will have become tender. But the farmer knows, also, that after a few days of work, his horses are stronger and can do more work than before he sent them out to rest. They are all the better for the rest. He also knows that he cannot work them indefinitely. He would soon kill his horses.

I know a strong man, a weight lifter, who is a careful liver. He spent the summer of 1921 in a summer cottage on a lake in Ohio. The summer was spent in the water. He stuffed himself with milk. He was over two years getting to the point where he could lift as much weight as before he went to the lake. He took plenty of exercise and little rest. The results speak for themselves. He maintained the condition of his muscles, but depleted his nervous energies.

One writer, who calls the conclusion that going to bed conserves one's energy for the work of "disease" the "silliest conclusion that has ever been promulgated," fully recognizes the value of that form of rest that is secured by fasting and insists that a prolonged rest of this kind improves and does not weaken digestion. The contradiction is apparent.

The strong man confined to bed does grow muscularly weaker. His muscles become soft and flabby. He is unable to lift as much weight or run as fast and as far. But muscular strength is not the thing we use in overcoming the causes of "disease." The kidneys need nervous energy, not muscular strength if they are to increase their functions. Nothing increases elimination like rest—not even exercise. Exercise does increase elimination temporarily, but at the same time it creates more waste to be eliminated, while, in the reaction, elimination is decreased.

It is admitted that if one is "so weak and depleted that he desires to remain in bed" he should do so. This admission is fatal to the above objections. If strength comes from exercise, the weak and depleted should exercise vigorously and often. If going to bed really weakens one, I mean, if it really subtracts from one's fund of vital power, then the weak and depleted would commit suicide by going to bed.

All these objections are further offset by the fact that we do not, except in cases where exercise would aggravate the condition, permit the chronic sufferer to lie in bed without taking some exercise. The human body does not require to be physically active, at work, play or exercise,

twelve hours a day in order to maintain structural and functional integrity. Those who attempt to discredit the "rest-cure" should first take the trouble to acquaint themselves with it, for patients get well through rest, and recoveries are more satisfactory than through the methods advocated by physical culturists.

In previous chapters it has been clearly shown that the living organism, in "disease," reduces activity in some of its' organs in order that the power ordinarily expended through these channels may be utilized where its need is more urgent. This is not merely true of acute or primary "disease," but of chronic or secondary "disease" as well. The chronic sufferer is tired, dull, listless, feeble, lacks energy and "pep"; his appetite is frequently lacking. He does not awake refreshed after a night of sleep. Very little physical or mental effort is required to exhaust him. He gives every evidence of the need of rest and when he secures this he begins to improve.

By resting he recuperates. By resting he enables the body to utilize the energy, usually expended in mental and physical work, but which is conserved through rest, in the work of elimination and repair. Functions which have been lashed to impotency by overstimulation are slowly restored to normal. Structures that have been damaged by overstimulation or by toxins are slowly repaired. Energies that are at low ebb are recuperated. Muscles that grow weaker, while at rest, become stronger than before rest, after they are judiciously exercised, because there is more power back of them. Development is the outgrowth of power within. If the power of development is lacking no development will occur. Recuperation of power is the prime requisite of development. The invalid cannot develop health if he lacks power to do so. He must recuperate his powers.

4. Time, is the next great requisite in all "diseases." This is demanded by the physicians of all schools. Some have claimed they could cure instantly or almost instantly and we shall discuss these claims here.

Dr. Richard C. Cabot asks: "If nature, assisted by the proper mental and emotional moods, is capable of curing an ulcer in three or four weeks, why isn't it possible for the same force to heal a similar ulcer in a few minutes, when the curative processes have been speeded up abnormally by the subject's passing through an intense religious experience?"

To put this question a little differently. If nature, assisted by warmth and moisture, is capable of hatching a chicken in three weeks, why isn't it possible for the same force to hatch a similar chicken in a few minutes when the evolutionary processes have been speeded up abnormally by passing through an intense stimulating experience?

Dr. Cabot's question is absurd. It assumes that instantaneous healing is a possibility and wholly ignores all the facts of pathology and tissue regeneration now known. Cure is an evolution in reverse and no more takes place instantaneously than a chicken can be hatched instantaneously.

I am well aware that many apparently instantaneous cures of long standing chronic conditions have occurred. Emil Coue registered a few such when he exploited American credulity a few years ago. Daddy Flynn did the same thing before he died. Many others have done likewise. Most of these apparent cures are not cures at all, and only last a few days or a few hours.

In those that were permanent, there was, back of them weeks, months and years during which the silent creative processes of the organism had been doing their curative work. The really essential work of cure had been accomplished before the miracle monger came along. Dr. Tilden well declared: **A Stuffed Club**, June, 1913, "Disease is an evolution; it is not

an infection; it is not a subtle entity that gains entrance into a healthy body and destroys health and life. *** Disease in its development obeys the same laws that govern gestation, growth, education, crystallization, ossification, fossilization, etc."

Health is subject to and controlled by the same laws. Health must be evolved; as Dr. Dewey well said: "Cure is an evolution in reverse." The evolution of health requires time. "Disease" is a development—cure must be a development. As well expect to cure "disease" instantaneously, or even in a few days, as to expect to hatch chickens in a few minutes.

A common mistake is to regard "disease" as cured and health restored when the symptoms have ceased. In reality the patient is in just the same condition he was in just prior to their appearance. It is still a long way back to full health. There is much road that must again be traversed before one arrives at the health which he enjoyed before he began the evolution of his sufferings. Man regards the appearance of symptoms as the beginning of "disease" and their disappearance as its end; and each new appearance of symptoms of "disease" as a new "disease," instead of merely new incidents in one general and continuous condition. So long as these mistaken notions of "disease" are entertained he will be the prey of fakery and exploiters who will profit off his ignorance.

Time is an indispensable element in all cures. If the necessary time has not elapsed before the employment of the "cure," it must elapse during the "cure." This is because nature does her work slowly not rapidly— instantaneously. Forces that have been slowly gathered may be suddenly loosed and rend a mountain but no sudden losing of forces could grow and mature a tree. In the animal organism forces that have been slowly and silently accumulating for years may be suddenly loosed, either spontaneously or in response to some external influence, but time is assuredly required for their accumulation.

No remedial effort, however vigorous and powerful, is capable of producing an instantaneous cure. Take a look at the condition of the average sick body and you can readily see that such is impossible. There is more or less vital and nervous depletion, with a consequent functional impairment of all the organs of the body; the blood and tissues are saturated with toxins; there is more or less destruction of tissue in all parts of the body, more in some parts than others; some parts of the body are engorged, congested, inflamed, while other parts are anemic; perhaps in some parts there are deposits, while some organs are more impaired than others; secretion and excretion are greatly impaired, perhaps in some instances almost wholly suspended; digestion is impaired; there is constipation or diarrhea, and a sluggish circulation. In many cases there is some form of degeneration of one or more organs, or the degeneration is more or less general; there may be degeneration of some of the nerves, or a sclerosis in the spine; hardening (sclerosis) of the arteries and liver, perhaps, even, the formation of scar tissue in the brain.

If chronic toxemia has so deeply affected the constitution, how can we expect to restore so many damaged organs and impaired functions to sound health in a short time? If a destructive cause has long operated, even though counterbalanced by strong resistance, can the damages be repaired quickly? Indeed, can we ever hope to completely repair all of them?

It is not possible for this condition to be overcome instantly. It requires time for the body to heal a broken bone or a flesh wound and no one would pretend that his method could bring about an instantaneous healing of these. Just so it requires time to clean out such a condition as we have described above and return to normal and usually it requires more

time to do so than to heal a broken bone or a flesh wound. No organism can cleanse itself of its morbid matter instantaneously, nor can it repair its damaged tissues or regenerate its atrophied and degenerated parts instantly. Hypertrophied parts cannot be instantly reduced to their normal size. Normal secretion and excretion are not instantly re-established nor is recuperation of vital force accomplished instantly.

It does not matter what the conditions are, time is a required element. Those mind cures, faith cures, etc., that appear to be instantaneous and that are permanent, can occur only in those cases where the actual work of cure has already been accomplished. The really essential part of the cure is accomplished before the "healer" comes along. Cases that are "cured" temporarily are cases in which nature has not completed her work of cure; while the cases that the healer fails on, are cases where the work of cure has not advanced very far, or perhaps, they are cases in which the destruction of vital parts has advanced too far for vital redemption—in which the functioning tissue has been replaced by connective or other tissue. Instantaneous cures, are only apparently so. The process of recovery from the effects of years of wrong living, is no instantaneous process, but a gradual evolution back to normal health. And truly it is **"influenced favorably or adversely by every circumstance and habit of life,"** as Dr. Trall has so admirably shown in the following quotation :

"I may here, perhaps, make a remark, en passant, of some practical importance. It is with all schools of medicine as it is with each individual practitioner of the healing art—the less faith they have in medicine, the more they have in Hygiene; hence those who prescribe little or no medicine, are invariably and necessarily more attentive to Hygienic conditions—to good nursing—which always was, and ever will be all that is really good, useful, or curative in medication. Such physicians are more careful to supply the vital organism with whatever of air, light, temperature, food, water, exercise, or rest, etc.. it needs in its struggle for health, and to remove all vitiating influences—all poisons, impurities, miasma, or disturbing influences of any kind. And this is Hygienic Medication; this is the True Healing Art. Nor God nor Nature has provided any other; nor can the Supreme Architect permit any other without reversing all the laws of the universe, and annulling everyone of His attributes, as I expect to make clear in due time."—**True Healing Art.**

Results of Suppression of Biogony

Chapter XV

By suppression is meant thwarting, subduing, inhibiting, suspending, repressing, and destroying the automatic or spontaneous efforts of the body to defend itself from injury, repair damages and eliminate offending agents. In previous chapters, the methods employed to suppress inflammation, fever, coughing, pain, etc., have been discussed and their evils noted. It is intended here to consider these matters in a more general way.

Efforts at suppression grew logically out of the false views of the nature of "disease" which mankind has entertained for ages. The fundamental error of the many schools of physic has been that of viewing irritation, inflammation, fever, pain, diarrhea, coughing, and other physiological actions as evils in themselves. The doctrine that these modes of vital manifestation, these peculiar forms of organic behavior, constitute the "orders of disease," forms the false foundation in principle underlying all systems of medicine. Upon this false foundation they erected their systems of practice—that the practice of medicine should destroy irritation, inflammation, fever, etc.

This false principle leads to the belief that every symptom is noxious and, as such, must be stamped out with relentless determination. The illness must be stayed, the temperature must be lowered, pain subdued, coughing made to cease, diarrhea checked, and the patient must be made to eat despite lack of desire for food.

So long as these symptoms, singly or in the aggregate are regarded as "disease," anything that destroys or suspends the power of the body to manifest them, will be considered curative. If these functional modifications are regarded as evil, "remedial" efforts will, accordingly, be directed towards suppressing these symptoms. For example, if fever, a vital manifestation or adjustment, is mistaken for the evil (the "disease"), then lowering of temperature will be made the chief object of the "therapeutics of fevers." If the fever actually constitutes the evil, then its reduction should constitute cure.

Exaltation of function, as seen in biogony, represents an effort of the body to eliminate pathogen and repair damages. In this respect it is desirable and beneficial under certain conditions. Such exaltation of function indicates a wrong somewhere and this wrong should be searched for and removed without depressing or lessening the sum of the vital energy. To believe that it is necessary to check the fever, stop the cough, relieve the headache, "dry up" the expectorations, stop the sweating, etc., by means of drugs and injections, is to disregard the role of the natural defenses. We simply oppose our treatment to spontaneous cure and suppress a bearable inconvenience only to have it superceded by a worse trouble.

It is an established law of the animal economy that, when any part of it is subjected to irritants, poisons, or injury by whatever means, so that it is depressed, or "over-excited," the "action" from other parts accumulates at the point of injury or "excitement," to defend it against injury, or to repair it. The whole organism rushes to its support and this support is commonly mistaken for evil.

This accumulation or concentration (mobilization) of defensive forces may be forcibly withdrawn by irritating a counter part—counter irritation—and thus "disease produced by local irritation may be cured by counter irritation." This forcible drawing off of the curative forces is a form of suppression.

The right of the body to control its own affairs in "disease" has been denied by the members of all schools of healing, in all the ages, and every effort has been made to force the body to act as the physician thought best. In this respect the sick body has been regarded as an ill-mannered child that must be whipped or forced into good manners or good health. And this is what we mean by suppressing "disease."

Jennings says: "The symbols of distress will not exceed the reality, that is, the real danger or difficulty that existed in this case in a latent form, back of all the symptoms, was fully commensurate with the aggregate of phenomena that will be manifested in the whole progress of development; for it would require at least as much attractive force to change the current of vital action, as it would to continue it in its natural or usual channel. The symptoms then, or the deviations from the natural condition in function and structure, are the spontaneous and necessary result of an embarrassed state of the vital funds, and the latter can only be improved, and the former restored by the regular administration of the vital economy, with but little aid directly from the hand of art. ***and it would be unwise, if it were practicable, to compel a return of that sooner or faster than it will return by due course of law, after the object for which it was withdrawn is accomplished; for it is now doing more good where it is, than it could do if it were immediately remanded back to its old position. *** Large bleedings, a free use of cold water and other powerful perturbating or annoying means might probably bring decided and temporary relief to this woman; not by 'helping nature' in any wise, but by compelling her to desist from her present purpose, and send home detached forces against the ruthless hand of art."—**Philosophy of Human Life**, pp. 164 and 165.

Is not this principle of diverting the energies of life from one "field of battle" to another field, to defend the body against another foe, the principle upon which medicine always worked. Indeed, did not Galen's "**law of antipathies**"—(*coiltraria contrariis curantur*), and Hanhнемann's "**law of similars**" (*similia similibus curantur*), or the cure of one "disease" by producing **another—opposite or similar**, "disease," really recognize the fact that they subdued one "disease" by producing "another." This idea that one "disease" can be made to antagonize, neutralize or supersede "another" was called a "law of the animal economy."

Trall declared, that it is really no law at all, but: "It is the **resistance** that the vital powers make to morbidic agents, which pathologists have misnamed a law of the animal economy. Two diseased actions, or diseases in two different parts of the body, or obstructing or offending materials in two or more parts or organs, will manifest different phenomena from what are observed when one part or organ only is affected, because vital resistance is then distributed to several points instead of being concentrated at one.

"If a person is laboring under a fever, that commotion of the organism which we denominate the **febrile paroxysm** is the manifestation of the vital struggle to defend the organic domain against some morbidic cause, or to expel some injurious matter. If the vital powers are making the principal effort to the surface, the introduction of a cathartic dose of epsom

salts would divert some part of the vital effort to the bowels to meet, defend against, and expel the new enemy which is committing its ravages there, and thus purgation would result, while the depurating or remedial effort to the skin would be materially diminished. The seat of war would be changed or the battle-field divided, but so far from being a 'friend in need' the saline purgation, by drawing off and wasting a portion of the vital power would only prove a 'foe indeed.' "—**Hydropathic Encyclopedia**, Vol. II, pp. 12-13.

The above fully explains and makes clear what Jennings meant when he declared that "curative" measures, if they are to draw off all the vital powers from a local seat of "disease," must at least be equal in "attractive force" (that is, equally as injurious) as the cause of the struggle. Drugs or other measures, by dividing the body's forces, by calling for a supply of blood and energy to be sent to other parts of the body, easily and quickly diminish the symptoms of the "disease," yet they do so, not by any influence they exert upon the cause of the original defense, but because, by their own injuriousness, they call for part of the body's army of defense to be sent against them. This both prolongs the "disease," weakens the patient, and, perhaps, results in death.

Dr. Felix L. Oswald says, upon this same point: "Drugs can rarely do more than change the form of the disease, or postpone its crisis. Mercurial salve, which conscientious physicians have almost ceased to regard as a lesser evil of an alterative, was once a favorite prescription for all kinds of cutaneous diseases; it cleansed the skin by driving the ulcers from the surface to the interior of the body. A drastic purge counteracts constipation—for a day or two—by inducing a still less desirable state of dysentery. Combined with venesection the same 'remedy' will suppress the symptoms of various inflammatory affections by compelling the exhausted system to postpone the crisis of the disease; in other words, by interrupting a curative process.—**Nature's Household Remedies**, pp. 14-15.

He continues this thought: "opiates stop a flux only by paralyzing the bowels—i.e., turning their morbid activity into a morbid inactivity ; the symptoms of pneumonia can be suppressed by bleeding the patient till the exhausted system has to postpone the crisis of the disease. This process, the breaking up of a sickness, in the language of the old-school allopathists, is therefore in reality only an interrupting of it, a temporary interruption of the symptoms. We might as well try to cure the sleepiness of a weary child by pinching its eyelids, or the hunger of a whinnying dog by compressing his throat. *** It is not only the safer but also the shorter way to avoid drugs, reform our habits, and, for the rest, let Nature have her course; for, properly speaking, disease itself is a reconstructive process, the expulsive effort, whose interruption compels Nature to do double work; to resume her operations against the ailment after expelling a worse enemy—the drug". If a drugged patient recovers the true explanation is that his constitution was strong enough to overcome both the disease and the druggist."—**Physical Education**.

Sylvester Graham explained, suppression in the following words, "It is true, however, as we have seen that by the continued application of such remedies, the original symptoms for which they were applied may, upon the principle of counter irritation, be removed and other symptoms be established, which will disappear when the remedies are abandoned; and thus, in some instances, health may be restored; in other instances, the old symptoms will return after a short time, and probably in a more aggravated form, and in other instances, new symptoms, and perhaps of a much more serious character, may be permanently established, while the patient

himself, and very often his physician also, will never suspect that the new symptoms have been produced by the very remedies by which the old symptoms were removed."—**Science of Human Life**, p. 424.

Medical men regard each "disease" as separate and distinct from every other. Diseases are said to be specific, having a specific cause and requiring specific treatment. Thus pneumonia is separate and distinct from typhoid, their causes are different and thus they must be treated differently. But medical men do not have specific treatments for these so-called specific "diseases." Quinine for malaria, arsenic for syphilis and antitoxin for diphtheria, are about the only claimed specifics and (here does not exist unanimity of opinion about these, while, even in treating these diseases with their supposed specifics, other measures are employed with which to attack symptoms. In few words, medical measures are always symptomatic treatment and never specific.

Let me first explain this last statement and then give an example or two. About the first thing a physician does when called to see a patient is to give a physic. If fever is present, quinine or antipyryn or some other coal-tar drug is given to reduce the temperature. If the patient is in a state of "collapse" or "semi-collapse," heart stimulants—strychnine, digitalis, aromatic spirits of ammonia, caffeine, nitroglycerine, strophanthus, camphor, etc.,—are administered. When the heart fails to respond to one of these, another is substituted. If there is severe pain, opium or its derivatives—heroin, morphine, codea,—or some of the coal-tar products is given. If he is sleepless an opiate, a bromid or chloral is administered. The opiates and bromids are used to stupefy and paralyze the brain and nerves.

If the temperature is above normal, antipyretics forcibly reduce it; if it is below normal it is forced up. If there is pain this is deadened with morphine or other anodyne. Coughing is checked with cough "remedies," tonics are given to stimulate an appetite, when this is lacking, and food is forced upon the body. Night sweats and foot sweats are suppressed; a "feeble" heart is **sustained** with stimulants until it is exhausted. Vomiting and diarrhea are checked. Constipation is broken up. Glands are stimulated or inhibited as the physician thinks should be done. Skin eruptions are suppressed. Stimulants force increased action in those organs presenting reduced action, thus preventing energy conservation. Depressants check the activities of accelerated organs, thus defeating the efforts at cure. Thus we might go on indefinitely with our recital and we would find the physicians of all schools busily engaged in trying to produce a forced state resembling that of health; in trying to force the body to act normally in spite of the presence of causes that require a different course of action.

A sick man has pain, fever, a rapid heart, diarrhea, etc. The doctor "relieves" the pain, reduces the temperature, slows up the heart action and checks the diarrhea. How? With drugs that force these conditions. What is, then, the true condition of his patient? Who knows? His present state is a forced semblance of healthy function. But cause has not been corrected. This is a dear bought "relief." It is paid for with increased and prolonged suffering, invalidism and premature death.

Think of fever—when cause is removed the temperature will again become normal. Does the physician bother with its cause? He does not. He administers an antipyretic, which reduces the temperature by reducing heart action and paralyzing vital functions. Fever is treated as though it is its own cause or as though the functions of the body have rebelled against vital law and have become anarchistic. This is often continued until the heart is greatly weakened and then the physician resorts to heart stimulants, which are often employed until they completely exhaust the

heart and produce death. If there is restlessness and mental distress there is a cause for these and they will cease as soon as cause is removed. But the physician does not attempt to find and correct cause. He administers a bromid or other nerve and brain paralyzing drug and thus clubs the brain and nerves into insensibility and stupor. The restlessness and distress are temporarily suppressed but appear again as soon as the body has eliminated the drug. Another does is then given and this process is kept up until permanent damage is done to the nervous system. The same is true of pain. The nerves of sensation are sandbagged into insensibility by an opiate or a coal-tar product. The cause of the pain, the condition that gives rise to it, still exists; all the drug does is to paralyze the nerves, and weaken the functions of the body, thus effectually interfering with every curative process that is going on.

Nature is compelled to resume her original struggle with diminished chances of success, shorn of just as much strength as she had to expend in combatting the additional enemy. She may even be compelled to shift her attack.

Jennings wrote: "A man came to me with his left hand badly inflamed and swollen, apparently on the border of suppuration. I prescribed a warm, soft poultice. Two or three days subsequently he called again with his right hand inflamed and swollen, and told me that the swelling had gone from the left hand into the right hand. The left hand had recovered its natural condition, and the right hand was less fortunate, it passed through a tedious suppurative process to its former state."—**Tree of Life.**

Trall says, "The effect of drug-curing or drug-killing, as the case may be—I mean drug medication—is to lock up, as it were, the causes of the disease within the system, and to induce chronic and worse diseases. The causes should be expelled, not retained. The remedial struggle—the disease—should be aided, regulated, directed, so that it may successfully accomplish its work of purification, not subdued nor thwarted with poisons which create new remedial efforts (drug diseases), and thus embarrass and complicate the vital struggle."—**True Healing Art.**

Observe that in reducing temperature, "relieving" pain, allaying restlessness and delirium, etc., the drugs used all accomplish their effects by reducing the functions of the body—that is by paralyzing the nerves. In doing this, they impair every function in the body. Take opium—it produces constipation (impaired bowel function), reduces secretion and excretion (impaired glandular function), etc.

By suppressing the healing efforts of nature, medicine builds complications and sequelea, and kills the sick. In general, the effects of suppression are:

- (1) To lengthen the course and severity of the biogony and build complications.
- (2) To lock up the poisons in the system and these, with the drug poisons added, produce chronic 'incurable' "diseases."
- (3) To kill the patient.

Suppression is a devastating practice regardless of the methods by which it is accomplished. As an illuminating example, a medical author says of complications in measles: "While the average case of measles runs a favorable course, the danger of the disease lies almost entirely in its complications. These are to be expected when the rash suddenly fades and the disease goes into the system, to use a popular expression. A fading of the rash is often coincident with the development of a complication.

Persistent fever after the disappearance of the rash is also highly suspicious."

It is evident that the suppression of the effort at elimination through the skin (the measles rash) results in the rise of "complications," or efforts to eliminate the causes of the "disease" through other channels. The most common "seat" of these "complications" is the respiratory tract. Inflammation in the bronchial tubes (bronchitis) and of the lungs (pneumonia) and of the pleura (pleurisy) result. The pleurisy is often accompanied with fever and night sweats. Other mucous surfaces, as the nose, eyes, eustachian tubes, ears and the glands as well may become involved in this latter effort at elimination. All these "complications" and sequelæ are the direct result of suppression and never develop in untreated cases.

The taking of drugs in repeated small doses is like the repeated use of coffee, tea, tobacco, alcohol, opium, etc. That is, their effects are cumulative. They are slowly, and with difficulty, eliminated from the system and are a most fruitful cause of chronic "disease." In fact, chronic "diseases" increase in direct ratio to the increase of suppressive drugs and serums. The more efficient physicians become in suppressing acute "disease," the faster chronic "disease" multiplies. Suppressive methods build the very troubles they appear to cure.

An aged woman suffered with high blood pressure. Under excitement and when suffering with gas the pressure would rise still higher, resulting in severe headache and blood-shot eyes. Then the nose would bleed and relieve her. A boy of nine had the same trouble following the wrecking of his body by vaccination. His physician seared the lining of his nose and prevented it from bleeding. One eye then began to act as a safety valve. It would bleed and relieve the pressure. But this destroyed the sight of that eye.

A "crisis"—biogony—is forced elimination, and it is followed by another and later by another, while all the time toxemia is building more pathology and old age. The phenomena called "disease" represent nature throwing off toxins, and, strange as it may appear, the prerogative of scientific doctors is to choke, obstruct, or stop it entirely, thus building more pathology. For, suppressing symptoms builds more trouble, always.

Drugs that depress the nervous system and thus check secretion, excretion, heart action, etc., prevent the healthy purification of the body and cause a retention of the toxic agents within the body and make the condition of the patient worse than ever. The temporary "relief" from symptoms secured by the substitution of the sedation of narcotics for the "irritation" of the nerves, by which the organism is preserved from destruction, is a dear bought "relief."

While it is always desirable that the functional modifications called "disease" cease and, while the subsequent normal performance of these functions evinces a return to health, no effort to force these functions to simulate their healthy action, so long as conditions exist which make the modifications necessary, is desirable. All biogony, wherever located, when reduced to its final analysis, is the consequence of harmful influences, and attention should be given to the removal of these, after which, the biogony will cease.

Too often patients recovering from a drug-treated biogony, with aching bones, stiffened joints, trembling nerves, rotting teeth, wrecked digestion, damaged kidneys, or heart, or some difficulty that will perhaps cling to them for the remainder of their lives, are informed that such sequelæ are the legitimate offspring of their maladies, whereas these

troubles are due to drugs and suppression. Thousands of wretched sufferers with wrecked constitutions are now dragging out a miserable existence, under the mistaken belief that their sufferings are unavoidable results of the previous sickness.

Nature, unobstructed and unwarped by interference, never leaves such ruin behind. She cures properly, or not at all. Such damaged and wrecked constitutions do not result where the poisoning system is not employed. Among barbarous people, where physicians are unknown outside of the shaman with his incantations and old crones with their herb teas, these wrecks do not occur. Such things are reserved for civilized people with their "scientific medicine."

Medical literature is full of discussions of the successive stages of "disease," the complications of "disease," sequelæ of "disease," secondary "disease," etc., but it is lacking in any adequate discussion of the remote effects of its vaunted remedies; the direct and immediate effects of which are but a part and the least important part of their effects. It will not be disputed that the supposed remedial effects of drugs are immediately bound up with their power to produce and maintain abnormal conditions. These effects are supposed to be transient and to cease when the drug is eliminated from the system.

However, we refer here to the consequences of the continued and prolonged use of drugs. The cumulative effects of drugs, even when administered in small doses, are too well known to be ignored. Alcohol, opium, tobacco, and all of the drugs of the physician each and all produce lasting injuries.

Let me end this chapter with the following quotation from Dr. Robert Walter: "The prevailing cry of all classes is, 'We must assist nature'; and not knowing how nature works, nor what disease is, men proceed to obstruct and thwart her operations, not to aid her. If she vomits they proceed by force to stop her vomiting; if she purges the same truth applies; if we are weak we proceed to a forced strength; if we are sleepless we compel sleep without removing the occasions of the insomnia. Not knowing what nature is trying to do, we proceed to thwart her processes by any means at hand. As long as disease continues to be regarded as our enemy, so long will medical practice continue the work of destroying life in the vain endeavor to destroy "disease."—**Exact Science of Health**, pp. 188-9.