

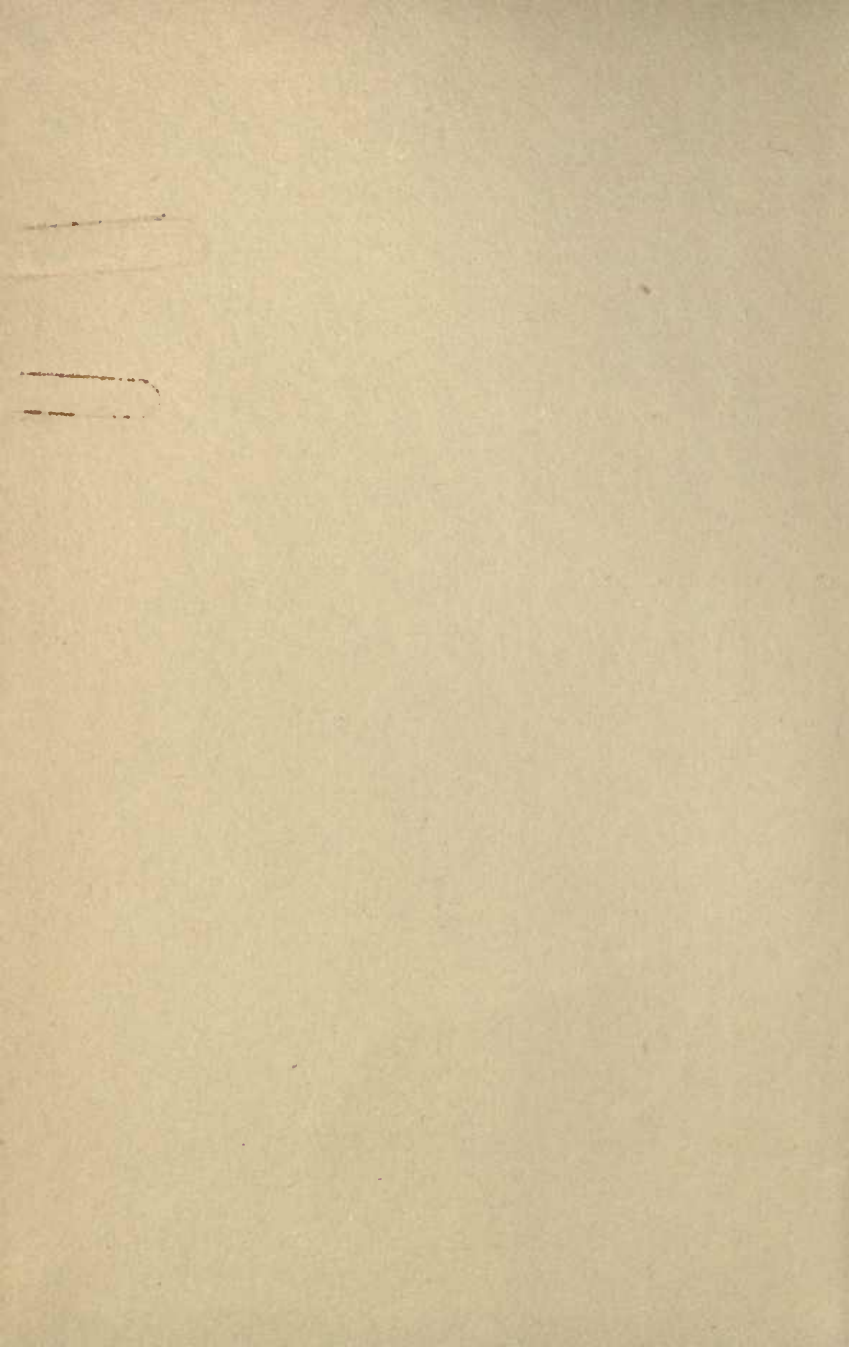
The
Social Diseases

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THE SOCIAL DISEASES

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*TUBERCULOSIS, SYPHILIS,
ALCOHOLISM, STERILITY.*

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LONDON
GEORGE ROUTLEDGE & SONS LTD.
NEW YORK: E. P. DUTTON & CO.

1920

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PREFACE

SOCIETIES have justly been likened to animal organisms.

Like the animals, human societies possess the functions of nutrition, relation, and reproduction; and the investigation of these functions, which may be described as social physiology, was ingeniously worked out, some fifty years ago, by Herbert Spencer.

On the other hand, just as the animals are prone to various diseases, so human societies may suffer from sickness, and as there is a social physiology there is also a social pathology.

In the animals the malady of the individual consists of a deterioration of the cells whose aggregation forms the animal organism. Similarly a social malady consists of the aggregate of the maladies of the individuals—the cells—who make up a society.

It will therefore be understood that there can be no social malady unless a large number of individuals are afflicted with this malady, just as we cannot regard an animal organism as diseased if only a few of its cellular units are impaired.

The social maladies, then, are those which menace the social units, both quantitatively and qualitatively, and are thus capable of jeopardising the future of societies.

These social or racial maladies, which have been widely discussed during the last few years, we now propose to describe. We shall consider their nature, their gravity, and their therapeutic treatment.

From this last point of view the investigation of social maladies, if we can judge by past experience, is apt to be somewhat disappointing; for the public authorities who are responsible for their extent and

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their gravity—though their responsibility is quite impersonal—have not hitherto had the courage to deliver a frontal attack upon them.

Why is this? As we shall see, all social therapeutics must involve the modification of habits, the enforcement of regulations and restrictions. Such matters are avoided by politicians as fire is avoided by a burnt child; for politicians are the slaves of their electors.

Consequently no therapeutics worthy of the name has so far been applied to the social diseases, which run their course unhindered; some, indeed, may even have been favoured by the somewhat incoherent measures of which they have been the object.

It is possible that public opinion, being at last more alive to the ills with which our European societies are threatened, at a time when their vitality, owing to the War, is in other ways so profoundly impaired, may achieve a beneficent reaction against this condition of affairs, and insist that the representatives of the nation shall organize the struggle against the plagues that threaten us.

Such a reaction is urgently needed; and it will be found that the social diseases which we are about to consider are most prevalent in those States which are most highly civilised; as though those nations whose civilisation is of oldest date might be likened to aged and therefore exhausted organisms, which are consequently liable to functional breakdowns, and to parasitic invasions of their organs.

History shows us that societies die and vanish from the earth as individuals do. The pessimistic may therefore regard the maladies of our societies as presaging their inevitable dissolution. But we would fain believe that there is still time to postpone the final collapse.

* * * * *

The diseases to which animals are subject—and the same is true of human diseases—originate in

three different ways. They may be due to the invasion of the organism by vegetable or animal parasites; to contamination by the absorption of toxic substances; or to functional disturbances of various kinds.

The diseases of societies, from the causative point of view, may be classified in the same manner into diseases whose origin is parasitic, diseases whose origin is toxic, and functional disorders. As we have already stated, they are identical with the diseases of the individual, and if they are promoted to the rank of social diseases it is only by reason of the large number of individuals afflicted by them: whereby they affect the future of races, and threaten the very existence of societies.

The diseases which come under this heading, and which we shall consider in the following pages, are four in number. They are: Tuberculosis, Syphilis, Alcoholism, and Sterility.

Tuberculosis and Syphilis are diseases of parasitic origin. The first is due to a vegetable and the second to an animal parasite.

Alcohol is a toxic malady—a disease of *intoxication*, using the word in its medical sense; a poisoning of the organism.

Sterility is a functional disorder or disturbance: it may be deliberately induced.

Such are the four great scourges from which all modern societies are suffering, but which threaten more particularly the oldest civilisations. They are more terrible than even the most terrible of wars; for wars, even the most destructive, are passing accidents from which societies recover fairly rapidly, as individuals recover from a serious loss of blood, while their very lives appear to be seriously threatened by the advance of any one of the four plagues which have stricken them.

It must be admitted, however, that a state of war aggravates all social diseases, and that the conditions

of social hygiene to which we are at present subject are peculiarly difficult.

On the one hand the privations and the fatigue undergone by men of weakly constitution end by re-awakening attenuated or torpid cases of tuberculosis which might, under ordinary conditions, have been completely cured; on the other hand, for reasons which it would be tedious to enlarge upon, syphilis, in a state of war, finds conditions extremely favourable to its propagation. We shall show that the same is true of alcoholism, but this more especially in France, thanks to the culpable weakness of the public authorities.

We propose to consider each of these maladies. In the first place we shall study its causes; then its different forms, which will enable us more surely to realise its prevalence and its gravity; then its remoter consequences, from the racial point of view; then the remedies which have been applied to it in the past; and lastly, the remedies which we ought to employ in future.

It is interesting to note that of the four great social diseases which we are about to examine, two are strictly *voluntary* disorders. Man contracts these two disorders because he wishes to do so; and he can abolish them by the mere exercise of his will. I am speaking of Alcoholism and Sterility; for the sterility which we shall consider is of course a voluntary sterility.

Syphilis is to a very great extent another voluntary disorder, and it is certain that the intelligent education of the young would quickly be followed by a notable diminution of the ravages of this plague, the most terrible of all the social diseases.

As these four diseases are responsible for the greater part of the moral suffering to which man is subject, it will be seen that it is only too true that societies, like men, are the architects of their own misfortunes.

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BOOK I
TUBERCULOSIS

BOOK I
TUBERCULOSIS
CHAPTER I

NATURE AND FORMS OF THE DISEASE—ITS
CONTAGIOUSNESS

Microbic in origin, tuberculosis is transmitted by contagion.—The most important point is to know whether tubercular lesions are *closed* or *open*. Only the open lesions permit the bacilli to escape, when they contaminate the surroundings and may be absorbed by healthy organisms.—These healthy organisms are thereby infected, and may in turn become tuberculous.—The earliest reactions of the infected organism are usually unperceived, and the malady progresses by stages with intervals of repose between them.—This is the period of pre-tuberculosis, or latent tuberculosis.—The organism already infected may be infected anew by a fresh contagion, and the reactions of an organism thus reinfected are commonly very violent.—Contagion is effected by the absorption of bacilliferous dust arising from dried secretions, or of the minute but virulently poisonous drops of moisture expelled by a phthisical patient when coughing or merely speaking.

TUBERCULOSIS is a parasitic disease of microbic origin. It is caused by a bacillus which makes its entry into the organism sometimes by way of the

respiratory tracts, and sometimes—indeed most frequently—by way of the digestive organs. At the outset it circulates in the blood, where it is seized upon by special cells—the *phagocytes*¹—and conveyed into the lymphatic glands, where it may remain immobilised indefinitely. But, again, it may undergo multiplication in these glands, and may migrate therefrom, to localise itself in various organs, when it causes, according to this localisation, broncho-pneumonia, pleurisy, meningitis, peritonitis, osteitis, etc.

The original contamination of the organism usually takes place in very early youth, when the mucous coats of the digestive organs absorb with peculiar facility. For a time—it may be for months, or even for years—the presence of the microbe in the organism is not betrayed by any very perceptible disturbance. Its multiplication may be hindered by certain unfavourable conditions, or the first centres of colonisation may be tolerated by the contaminated organism. This is the *latent period* of the disease, and it may very well happen that this period is never succeeded by the following phase; moreover, during this period the disease may be definitely extinguished.

The bacillary disease does not become manifest and accessible to medical diagnosis until it reaches its later phases, and its symptoms are peculiarly severe when an organism is re-infected; for contrary to the rule in certain other microbic diseases,

¹ These cells are so called because, in a sense, they *eat* the parasites of the blood, often causing their disappearance by a sort of digestion—that is, when they themselves are not destroyed by parasites which are able to resist this intracellular digestive process.

where the presence of the pathogenic or disease-producing microbe excludes any further inoculation by a microbe of the same nature, a tuberculous system will readily accept a fresh inoculation. But it reacts, at the point newly contaminated, by violent inflammatory disturbances. This reaction—to which the name of *allergy* has been given—is characterised by local vascular disturbances of a very acute nature, which apparently constitute an effort towards elimination, as though the organism were giving proof of a state of insufficient vaccination.¹

It is probable that the lesions of pulmonary phthisis, among others, are reactionary lesions of this character, due to a reinfection of the organism by a fresh invasion of germs from the exterior, or by the migration, from a centre where they were tolerated, of virulent germs which proceed to colonise a distant organ.

However this may be, the most important conception from our point of view is the classic division of tubercular lesions into *closed* and *open* lesions.

The tubercle bacillus may vegetate in the tissues without provoking any reaction beyond an ordinary trifling inflammation; but it usually provokes the

¹ On this phenomenon of *allergy* a method of diagnosis has been based which is of the greatest service in doubtful cases of tuberculosis. This is the *tuberculin reaction*. Tuberculin is a toxin extracted from cultures of the tubercle bacillus. A small quantity of tuberculin injected under the skin produces, if the subject is tuberculous, an acute inflammatory reaction, localised at the site of the injection, with a variable degree of fever.

It is this intense reaction which, in children affected by *latent tuberculosis*, when they are vaccinated against smallpox with vaccine taken from calves which are also affected by latent tuberculosis, gives rise to vaccinatorial pustules complicated by a wide inflammatory zone, indurated, and of a bright red colour, which is highly characteristic.

formation around it of a small granulation, about the size of a millet-seed (the tubercle properly so-called) which represents a sort of nest full of bacilli, an encysted nest, in which the parasite is very little accessible to therapeutic or immunising substances.

In this form the lesions of tuberculosis are *closed* lesions, whence the bacillus cannot escape to contaminate the external environment.

But these granulations may multiply; may become confluent; may grow soft and suppurate; and then the pus formed is expelled from the organism, as happens with all abscesses, and we then have to deal with a case of *open tuberculosis*.

Such are the lesions of adenitis, and of suppurating osteitis, and above all those of *pulmonary phthisis*.

The important thing to understand is that the virulent microbe swarms in the pus of these open tubercular lesions, and it is by these purulent secretions that the external environment is contaminated and becomes dangerous, as capable of conveying the contagion.

The absorption by a healthy organism of tubercle bacilli thus liberated constitutes the fact of contagion.

Contagion does not occur in any mysterious and inaccessible fashion, and contact with a tuberculous subject is not of itself dangerous. In order that contagion may be effected the healthy individual must absorb, through the agency of his surroundings, the specific bacilli ejected by a diseased organism.

This absorption most frequently takes place in the form of particles of moisture or dry dust which

are inbreathed or swallowed by the person exposed to them.

Contamination by dry dust is not the most dangerous form of contagion, for the bacilli of tuberculosis do not long resist the sterilising action of sunlight and desiccation; but the proximity of a consumptive patient is dangerous for another reason—because of the tiny drops of saliva which he expels in coughing, and even in speaking. These particles of moisture, rendered virulent by the passage of the pulmonary secretions into the mouth, have been collected within a radius of nearly seven feet from the patient; they may therefore be absorbed, by persons living in proximity to such patients, in the fresh state, that is, in possession of their maximum degree of virulence.

These elementary facts concerning the nature of tuberculosis, its lesions, and its modes of propagation, should be remembered before we inquire how it is that the disease has been able to increase to the point of becoming a social danger.

CHAPTER II

WHY TUBERCULOSIS IS SO WIDESPREAD

Contagion is the sole cause of the extensive spread of the disease.—It is favoured by the large number of semi-invalid persons, who are still capable of active work, and who go abroad like healthy persons, although they are suffering from pulmonary lesions which exude infected secretions full of tubercle bacilli.—At the present time half the death rate of our great cities may be regarded as due to tuberculosis.—As for the proportion of persons affected by tuberculosis, this is difficult to estimate, as persons who are only slightly affected are not registered, nor are they under medical observation.—We may safely assert that only a very small number of town-dwellers escape tubercular infection.

THE spread of tuberculosis has been so great of late years that in certain large cities—in Paris, more particularly—we may take it that this disease is at present responsible for a third and even for half of the deaths.

Official figures relating to the year 1913—the year before the War—attribute 18,552 deaths to the epidemic diseases, tuberculosis being excepted ; while tuberculosis alone was responsible for 84,443 deaths.

Between 1906 and 1913—in a period of eight years—the deaths from tuberculosis, in the whole of France, were 689,846 ; while all the epidemic or contagious diseases taken together killed only 165,518.

So we see that the losses due to the diseases described as epidemic are very small compared with the continual and increasing destruction of the population by endemic tuberculosis.

During the same period, 1906-1913, the deaths from tuberculosis rose to 44 per cent. of the general mortality for persons between the ages of 20 and 40 years. That is, they amounted to nearly half the death-rate.

But the mortality from tuberculosis fails to give us an exact idea of the frequency of this disease, and of the devastation which it causes. We must not number only the fatal cases; we must also count those which are not fatal, but which cause a certain amount of suffering, and which, taken in the mass, diminish the social value of the sufferers.

Like all diseases, tuberculosis occurs in forms of increasing seriousness, from the attenuated form which leaves the individual the appearance and the energies of almost normal health, to the extremely serious form which may very quickly end in death. Now, in the scale extending from the highly attenuated forms inaccessible to medical diagnosis to the clearly confirmed cases there is a long tract, representing perhaps two-thirds of the whole, which comprises persons who are, so to speak, on the frontier of the disease, and whose moral and physical value is more or less profoundly impaired.

If we may judge by the post-mortem examinations made in the hospitals of the bodies of those who have succumbed to various diseases, it is a very unusual thing for the system to escape tubercular infection; just as it is very unusual, when we subject to radioscopic examination persons who have all the

appearance of health, to find the lungs perfectly transparent, or unaccompanied by intra-thoracic glands which are unduly enlarged.

This extreme frequency of tuberculosis is explained by contagion. We must moreover reflect that the most dangerous tuberculous patients are not those who are most seriously ill, since these are kept more or less isolated in their bedrooms, and are surrounded by precautions calculated to diminish the risks of contagion. The most dangerous patients are those who are only semi-invalids, who move about freely, going to their work, attending to their affairs, or amusing themselves; for these contaminate their surroundings wherever they go, wherever they live. It is these chronic sufferers from bronchitis, these big, hearty-looking subjects of emphysema, these people who are for ever coughing and spitting, who sow their germ-bearing expectorations in every corner.

We have seen that as regards the danger of contagion we should distinguish between cases of *open* and *closed* tuberculosis: that is, cases which do or do not emit virulent secretions. Enlarged glands and bones may be tuberculous, but unless they undergo softening and suppuration they do not emit bacilliferous secretions. Until recently the same distinction was made between secretory and non-secretory, or open and closed cases of pulmonary tuberculosis. However, a more careful examination of the pulmonary secretions in tuberculous patients has revealed the constant presence of specific bacilli; in short, these secretions differ only in the smaller or greater quantity of dangerous microbes which they contain.

We must therefore abandon this division of pulmonary bacillosis¹ into open and closed bacillooses, and we must regard all sufferers from expectorating pulmonary tuberculosis as dangerous. Now the number of such sufferers is legion, above all if we include in this class the sufferers from chronic emphysematous bronchitis.

It is quite certain that pulmonary emphysema is of tubercular origin. While the complete induration of a portion of the lung is in reality a healing process, constituting a sort of cicatrix which is the vestige of a bygone lesion, and attests the absence of danger as far as contagion is concerned, pulmonary emphysema, on the other hand, is a process of imperfect recovery ; it is a half-way house, so to speak, and is always suspect as regards contagion. As these attenuated forms of pulmonary tuberculosis are observed in persons who offer a stout resistance to the progress of the disease, they are compatible with an apparently good state of general health, and a good capacity for work ; the result being that those who suffer from these forms lead the life of healthy persons, and are therefore living under the most favourable conditions for sowing the deadly seed on every side.

It is indeed not unusual to see such persons losing, from tuberculosis, in the course of their lives, several wives and a number of children, while they themselves reach an advanced age, and are far from suspecting that it is really they who have caused the successive disappearance of all those who have lived beside them.²

¹ Bacillosis : a state of harbouring bacilli.

² See p. 224.

We now see that the innumerable opportunities to which all town-dwellers are subject of absorbing, at one time or another, a few tubercle bacilli, are quite enough to explain the terrible increase of the spread of this disease, from which very few inhabitants of our large cities are absolutely free.

However, as the gravity of the disease is essentially variable, and as the number of those who recover from it is happily still considerable, although the death-rate from tuberculosis is undoubtedly increasing, there is reason to inquire whether some other condition, as well as contagion, does not play its part in the spread of the scourge.

In other words, as with all microbic diseases, we must consider both the seed and the soil upon which it falls, for the nature of this soil will be more or less favourable to the development of the seed. We must therefore inquire what are the conditions capable of modifying the resistance of the organism to the invasion of the disease ; and whether our populations are not at present subjected to influences of a peculiarly unfavourable kind as regards this resistance.

This inquiry is all the more urgent in that the tubercle bacillus is extremely sensitive to the nature of its cultural media, so that it is permissible to believe that it is also extremely sensitive to the nature of the organic soil in which it has to develop.

CHAPTER III

THE SOIL FAVOURABLE TO TUBERCULOSIS

Bad hygienic conditions; a sedentary life without sufficient fresh air; insufficient lighting of inhabited premises; overwork; above all sexual excess and alcoholism, and possibly vaccination against small-pox, are factors which modify the organic environment, which render the latter more or less favourable to the development of the tubercle bacillus.—The most obvious and most disastrous of these factors is a syphilitic heredity.—In all confirmed cases of tuberculosis we shall find the stigmata of hereditary syphilis.—While contagion is the sole determining cause of tuberculosis, the spread of syphilis must be regarded as the prime adjuvant cause of tuberculosis considered as a social disease.

It has been said of tuberculosis that it is a disease of darkness.

An investigation of the tuberculous homes of Paris showed that there are tuberculous houses, and that these houses are usually characterised by the imperfect lighting of the rooms.¹

¹ The investigations of M. Juillerat have added an interesting contribution to the history of tuberculosis, and have enlightened us as to the part which must be attributed to the domicile in the etiology of this disease.

For example, the statistics of the Sanitary Bureau of Paris (*Casier sanitaire*) reveal the fact that there are, in that city, a certain number of "death-houses," which go far to fill the dispensaries, sanatoria and hospitals. 820 houses were identified which in 11 years have furnished 11,500 deaths in a population of 106,300; or an average of 98·34 per 10,000 inhabitants per annum, while the average mortality is 49·5 per 10,000.

Another group of houses gives 81·2 per 10,000; a third, 75·2.

The defective illumination of inhabited premises is of course accompanied by insufficient ventilation and the comparative indigence of the inmates, which means a hygiene defective in all its details.

But the great sensitiveness of the tubercle bacillus to the direct rays of the sun, which destroys its virulence in a few days, justifies us in attributing to darkness a preponderating influence upon the activity of contagion. The cure of superficial tuberculosis by heliotherapy (sun-baths) is a confirmatory factor.

We know that in certain great cities, and above all in Paris, there are not only very great numbers of badly-lit houses, but also whole quarters, workers' cities we might call them, entirely composed of such houses. In these quarters the death-rate from tuberculosis is terrible, sometimes amounting to double the rate observed in other parts of the same city.

Where the sunlight can find no entrance, there disease makes its way, and above all tuberculosis.

The disappearance of badly-lit houses would undoubtedly be a great benefit, but it would be only a local benefit, quite insufficient to effect any sensible modification of the endemic tuberculosis from which we are suffering.

It is often said that overwork favours the development of tuberculosis. Intense and continuous labour, of course, if it is aggravated by insufficient sleep and an improper diet, which means that the repair of cellular waste is defective, may result in a state of physiological poverty which favours microbic infection; but whatever may be said of the conditions of modern life, cases of serious overwork are not very often met with; when they do occur they are in-

dividual cases which cannot be advanced as the explanation of a social evil.

Premature sexual excess appears to be of greater importance, as it is met with fairly often in young men at an age when they have not ceased growing. Now the exercise of the reproductive function seems to be peculiarly dangerous to those who are predisposed to tuberculosis. We know that pregnancy, in a woman, may revive and stimulate a torpid or latent tuberculosis; while in man the exercise of the genetic function, owing to the loss of precious substance and the nervous disturbance which it entails, costs the system a large quantity of phosphates; and when the exercise of this function is exaggerated, and above all premature, occurring at a time when the organism still requires constructive material, the result is an organic deficiency highly favourable to the development of tuberculosis.

The ideas which are current with regard to the exercise of the genetic function, according to which it is a natural and indispensable necessity in all young men, while its daily rhythm from one end of the year to the other is accepted as a commonplace (a rhythm which is not observed in any animal species¹) are, from the point of view with which we are occupied, extremely mischievous, and may produce disastrous results.

Those entrusted with the education of our youth must not ignore these considerations, from which young men in delicate health—and how numerous they are in our towns!—would derive great advantage.

¹ But the function has a seasonal rhythm in most of the lower animals. This seasonal rhythm is hardly perceptible in man.—*Trans.*

Alcoholism also has been accused of favouring tuberculosis. Alcohol, it has been said, makes the consumptive's bed. In consideration of the gravity of this other social disease, whose ravages we shall presently investigate, if this accusation were justified it would of itself be almost enough to explain the devastations of tuberculosis.

But here we must draw a distinction. Does the abuse of alcohol directly favour, in the individual, the development of tuberculosis? It seems to us that we can hardly assert that this is the case, for clinical experience shows and pathological anatomy proves that the action of alcohol upon the organic tissues is betrayed by the development of a process of sclerotic induration which would hardly seem calculated to favour the vegetation of the tubercle bacillus. It is indeed by virtue of a process of this nature that the lesions of tuberculosis are checked in their development, becoming encysted, and finally healing.

Yet it is evident that alcoholism may exert an indirect action, if it prevails in circles where the imperfect cell-repair due to intensive labour is prevalent, and if it absorbs the organic resources which ought to be devoted to this process of repair.

While we must admit that alcoholism does not favour a rapid and serious development of tuberculosis, we may consider that it does, under certain conditions, favour the invasion of the disease; moreover, it is said to be one of the factors of the spread of tuberculosis, since it favours the occurrence of chronic forms of the infection, and thereby multiplies the sources of contagion.

On the other hand, we must consider not merely the effects of alcohol upon the individual, but we

must also inquire into its effects upon posterity, that is, upon the race. In other words, even if the alcoholic does not become tuberculous, does he not beget children predisposed to tuberculosis? In other words again, does not heredito-alcoholism cause a predisposition to tuberculosis?

It is an indisputable fact that in certain classes of society alcoholism is found to be of frequent occurrence among the ascendants of tuberculous persons.

There are industrial communities in which, despite the habitual practice of voluntary restriction, the birth-rate none the less remains fairly high. The children, moreover, are sickly, and fall a prey to tuberculosis. The mothers provide the key to this problem in a couple of words. These children, they say, are "Saturday's children." Saturday is pay-day; and on Saturday the husbands and wives come home intoxicated, and the customary precautions are forgotten. Hence pregnancy is of normal frequency, but the condition of the offspring is lamentable.

Can we then say that a system prone to tuberculosis is a stigma of heredito-alcoholism? It is very difficult to form a definite conclusion as to this point. It would seem more probable that the usual form of heredito-alcoholism is represented by arthritism, which is, on the contrary, rather unfavourable to the development of the tubercle bacillus.

Among the ascendants of epileptics too we often discover alcoholism, yet it is much more probable that epilepsy is a stigma of heredito-syphilis.

And this brings us to an hereditary influence which has hitherto been disregarded as a factor of the

predisposition to tuberculosis, yet which appears to us to be its prime factor.

We refer to heredito-syphilis.

In speaking of heredito-syphilis we must make the proviso that the term refers to two quite distinct conditions. On the one hand, it denotes the transmission of the infection, that is, of the microbe, from parent to child, so that the child is born suffering from the active form of syphilis. As a rule it dies. This form of infective heredito-syphilis is comparatively rare. But on the other hand we very often witness the transmission to the child of special stigmata, morphological stigmata which affect principally the cephalic skeleton and the organs dependent thereupon, such as the teeth, but which may affect all the tissues and all the organs, from the heart to the brain.

For the syphilis of the parent is manifestly *teratogenic*, that is, productive of abnormal forms, of dystrophia (imperfect nutrition), of monstrosities, more or less pronounced, in the offspring; as though the reproductive cells, ova and spermatozoa, had suffered, owing to the presence of the parasite of syphilis, or its toxins, a kind of parasitic castration, resulting in the abnormal or incomplete development of their products.

Now these stigmata—major or minor—of hereditary syphilis are very easily detected. We shall describe them later on, in one of the chapters dealing with syphilis. But all that we have to say at the moment is that they are *almost invariably* found in tuberculous patients, and as a general rule they are more marked in the more serious cases.

This fact is of capital importance. Logically it

leads us to the indisputable conclusion that hereditary syphilis provides a soil which is peculiarly favourable to the development of the tubercle bacillus. We shall return to this point when speaking of syphilis.

And since hereditary syphilis—as we shall show in another chapter—is able to make itself felt through several generations, giving rise to anatomical anomalies and monstrosities or deformities which may become fixed in the family, it may result in a morbid condition which appears to be in close relation to the spread of tuberculosis.

Lastly, while examining the influences which may modify the organic medium in a direction favourable to tuberculosis, we must mention a hypothesis which is of a somewhat disturbing nature. This hypothesis refers to the possible influence of vaccination against smallpox.

Many physicians assert that small-pox favours tuberculosis; and their opinion is based upon the fact that persons who bear the marks of small-pox are very frequently attacked by tuberculosis.

Now we must not shrink from a thorough consideration of this fact and this hypothesis.

The virus of vaccine, if it is not identical with the virus of small-pox, of which it is supposed to be merely an attenuated variety, is at least very closely related to it. If the one modifies the organic soil in the sense described, it is probable that the other will modify it in the same direction and almost in the same degree.

Consequently, must we not regard the increasing frequency of tuberculosis as resulting, to a certain extent, from the regulations which have rendered vaccination and re-vaccination compulsory? At the

present moment there are no bounds to the demands of the hygienists, and there are some who prescribe re-vaccination every five years, and even every second year!

After all, we find, as the explanation of the fact that tuberculosis has been able to increase to the point of becoming a social danger of the most threatening kind, a whole complex of influences: poverty, unhygienic homes, excessive and premature sexual indulgence, hereditary alcoholism, inherited syphilis, and vaccination; all of which seem, in different degrees, to make for the same morbid predisposition, and each of which may claim its part in the common disaster.

We have made no mention of tubercular heredity as one of the factors of a soil favourable to tuberculosis. The direct transmission of the bacillus from parent to child is comparatively very rare; and as for the transmission of a constitution especially favourable to tuberculosis, as a result of actual tuberculosis, it is very doubtful if such a thing is possible.

While the children of tuberculous patients frequently become tuberculous themselves, this is because they live in contact with their parents amid surroundings contaminated in a hundred different ways, so that they cannot escape contagion.

But when the children are brought up apart from their parents, amid favourable surroundings, they develop normally and do not show any sort of taint which could be attributed to their origin.

Unlike syphilis, which, as we shall see, affects the whole race and sets its mark upon the offspring for several generations, tuberculosis is chiefly destructive

of the individual, without impairing his powers of reproduction.

Thus the mischief done by tuberculosis is represented by the aggregate of individual deaths and individual sickness ; but it is confined to these deaths and this sickness ; and however great these are, they are, taken as a whole, less compromising for the future of a society than the mischief worked by syphilis or alcoholism.

Undoubtedly tuberculosis is a great scourge ; but it is perhaps the least formidable of those which we have to investigate.

CHAPTER IV

THE CAMPAIGN AGAINST TUBERCULOSIS

The principle of the campaign against tuberculosis has been bequeathed to us by our ancestors, who themselves waged a successful war upon leprosy.—It has found its scientific proof in the experiments of Pasteur.—The principle of the campaign is to make war upon contagion by isolating contagious sufferers.

Is it possible to wage war upon tuberculosis?

It is plainly evident that if we possessed an efficacious remedy against the disease the war upon tuberculosis, the social disease, would be an easy matter; it would consist of the treatment and cure of the individual sufferers from tuberculosis.

But hitherto the search for a specific treatment has had disappointing results, despite the numbers and the efforts of the seekers; and this is true of preventive treatment as well as of curative treatment.

The new methods of immunisation, and serotherapy, which have proved so powerfully efficacious against some diseases, have yielded no decisive results in the therapeutics of human tuberculosis.

As it is at present practised, the method of serotherapy appears applicable only to acute infectious diseases, in which the microbe circulates in the fluids of the organism, or vegetates on the surface of its

mucous and serous membranes, as in plague, diphtheria, cerebro-spinal meningitis, and cholera. But in chronic diseases, in which lesions of the tissues are produced, in the midst of which the parasites are localised and isolated in a sort of protective cyst, the immunising principles introduced into the blood with the therapeutic sera prove to be absolutely ineffectual; this is the case in syphilis, in cancer, and above all in tuberculosis.

Similarly, the use of vaccines, at all events as it is at present understood, would seem to be necessarily ineffectual against a disease which becomes chronic precisely because the efforts of the system to effect a natural immunisation, such as is produced in acute diseases, are insufficient. We have seen, moreover, that the reinfection of tuberculous patients must be regarded as a frequent occurrence, and that this reinfection always aggravates the condition of the sufferers. Now there cannot be any question of employing vaccine against a disease which permits of reinfection.

The manner in which tuberculosis must be attacked by the new methods is therefore still to seek.

Remedies of a chemical nature, we must remind the reader, have all proved equally ineffectual; and as for physiotherapy (treatment by sun-baths or sea-bathing), its action is confined to local and external forms of tuberculosis, which form only a very small proportion of cases. Despite a passing hope, the enormous bulk of cases of pulmonary tuberculosis have not been touched by physical agencies, and it is precisely in these cases that the social danger resides.

It remains, then, to attack the disease at its source, before the individual is infected, and since tuberculosis

is a contagious malady we must make war not upon the disease but upon contagion.

The principle of this campaign was taught us by Pasteur, in his classic investigation of the diseases of silk-worms. It is simple and radical.

Pasteur succeeded in stamping out the disease (pebrine) which threatened to destroy his nurseries of silkworms by selecting the eggs, setting aside and isolating those which were invaded by the microbe of pebrine, and ensuring that no contact was possible between the healthy silkworms and the contaminated larvæ.

The result was speedily decisive: the batches of larvæ protected by this simple method all attained a healthy maturity.

It must be admitted that while this method is readily applied in the case of laboratory experiments, or even in the raising of cattle for the market, it becomes terribly complicated, as we shall see, when we have to deal with a human malady as widespread as tuberculosis.

Yet the principle was applied, many centuries before Pasteur's time, by our ancestors, who, having to fight against a horrible disease which in many ways was analogous to tuberculosis, were successful in freeing themselves of the scourge and saving us from it.

We are referring to leprosy.

In certain forms of leprosy the sufferer is, as in tuberculosis, afflicted with tubercles of varying dimensions, which ulcerate and suppurate; but these tubercles are external, situated on the unclothed portion of the body, on the face and hands; and these ulcerating tubercles produce the hideous and terrifying aspect of the leper, which was evidently largely

responsible for the adoption of the Draconian methods employed in connection with the victims of the disease.

The consumptive is no less afflicted, but the lesions produced by his complaint are usually internal; it is his lungs, which are not visible, that ulcerate and suppurate; so that he is not an object of terror and disgust, as is the leper. He continues to live among his fellows, who do not suspect the danger with which they are rubbing elbows.

Our ancestors, having to cope with a contagious malady, did not hesitate to practice isolation of the sufferers in order to prevent contagion. They established leper-houses, and thus they succeeded in extirpating leprosy.

It was a very pretty experiment, which long antedated those of Pasteur, and it is thanks to this experiment that we are not all of us more or less leprous to-day.

It is true, on the other hand, that we are all more or less tuberculous. Salvation is apparently to be found in the isolation of tuberculous patients in hospitals which would be the equivalent of the leper-houses of our ancestors.

But times have altered; science has cast its light upon the dark and terrifying mystery of contagion; the agent of this contagion has been seen, isolated and cultivated; we know where it lurks and how to avoid contact with it; so that while we accept the principle of hospitals for the tuberculous we must at once observe that they would not in any respect resemble—except in the principle which inspired them—the leper hospitals whose dismal fame has lingered on into our own times.

The hospital for the tuberculous would no more resemble the leper hospital of the Middle Ages than a journey in an express train resembles a journey by coach; for it is obvious that the isolation of a tuberculous patient—and it is of course understood that only those would be isolated who were suffering from open lesions, capable of conveying contagion—an isolation, moreover, which could under certain conditions be observed in the patient's home—would be free of all the perfectly useless restrictions of the leper hospital, which were in part devised to strike terror into the minds of the heedless.

The hospitals for tuberculosis would be simply a combination of hospital and hotel; they would be provided with every modern comfort, and subjected only to certain rules of internal discipline relating to the intercourse of the patient with visitors from outside.

We shall now describe how the campaign against tuberculosis is at present conducted in France by the physicians of the *Assistance Publique* (Poor Law Relief) and a few large administrations; and we shall see how far this campaign falls short of providing the effective defence of which we have just expounded the principle.

CHAPTER V

SANATORIA AND DISPENSARIES

Sanatoria treat only patients in the early stages of the disease: that is, patients who are not contagious.—With a few exceptions, the dispensaries merely distribute miscellaneous medicines of doubtful efficacy.—These institutions are of questionable utility merely from the philanthropical point of view; they are useless as weapons against contagion.

MANY conferences have been convoked for the purpose of discussing the problem of tuberculosis. Ministers, no less than physicians, have delivered eloquent speeches. Beyond this nothing much has been done; above all nothing has been done which could really be expected to check the increasing spread of the disease.

A great to-do has been made of our sanatoria, which were an importation from Germany, and also of our anti-tubercular dispensaries. Let us see what these institutions really count for in the campaign against tuberculosis.

We are not speaking of private sanatoria, which are merely nursing-homes, more or less luxurious hotels, in which well-to-do patients are able to enjoy a rest under special conditions of hygiene and discipline. They concern only a very small proportion of the affected population; consequently they cannot to any great extent influence the public health.

The free sanatoria, those of the *Assistance Publique*, might, it would seem, be of greater utility.

But there are as yet only a few of these establishments, with a total of a few thousand beds, while the poor sufferers from tuberculosis are numbered by hundreds of thousands.

These sanatoria are of course large establishments built to last for centuries, so that the cost per bed is extremely high; and the numerous staff with which they are provided makes the cost of daily maintenance very heavy.

What is infinitely more serious is that these sanatoria receive patients only in the early stages of the complaint; that is, patients who are suffering from closed or non-contagious tuberculosis. The result is that while the statistics of the cures obtained in these sanatoria are undoubtedly highly creditable, their effect in preventing contagion is absolutely null.

It will be said that those patients in the early stages of the disease who are treated in these sanatoria undergo improvement, and that a certain proportion of them escape the phthisis which threatened them. We grant that this is so, but what is the significance of this mere drop withdrawn from the torrent of germ-laden expectorations which continues to flow into our public thoroughfares and finds its way into every home?

The dispensaries, which are certainly less costly than the sanatoria, are no less powerless against contagion, if we except three or four dispensaries in Paris which are well organized and which undertake the education of the consumptive. These, after investigating the homes of the sufferers, endeavour as far as possible to improve the hygienic conditions of

these homes, disinfecting premises which are suspected of contamination and providing patients with nourishment.

These few establishments excepted, there are, as we have said, only rudimentary establishments which provide their patients with miscellaneous drugs. One can only regard them as charitable institutions, which are certainly useless in the campaign against tuberculosis.

In France a few private business concerns, and even a Government department, that of the Posts and Telegraphs, have tried to organize a logical campaign against the contagion which used to decimate their staff. In this department it has eventually been decided to exclude employees suffering from open tuberculosis, while all suspect cases of chronic bronchitis are obliged to use pocket spittoons. Those suffering from pre-tuberculosis—who are, as we know, merely consumptives in the early stages of the disease—are given prolonged leave, their salary being continued. Special attention has been directed to the hygiene of business premises, from the standpoint of cleanliness, lighting and ventilation, while common spittoons have been abolished. Employees were of course tempted to spit into or at these receptacles, which were so many foci of contagious matter.

These efforts are very praiseworthy, and there is no doubt that they have improved the sanitary condition of the staff affected. But in the great campaign against the social scourge of tuberculosis, as we conceive that it should be waged, it must be recognised that such measures represent only a negligible total of results; moreover, these results even are probably endangered or annulled by the dangers which

threaten the employees directly they quit the premises where they are so carefully protected.

After the two first years of the great war the French War Office (*Administration militaire*), in view of the large numbers of tuberculous patients which it was forced to return to civil life, and the large sums of money which the Pensions Department was compelled to provide, decided to create a number of hospitals and sanitary stations where tuberculous soldiers could be treated and if possible recover their health before they were sent before the Boards of Demobilisation (*Commissions de réforme*).

The war, indeed, owing to the exceptional fatigue incurred, and the cruel vicissitudes of climate or weather to which the combatants were exposed, has been responsible for an extraordinary increase of tuberculosis.

While a certain number of sufferers from pre-tuberculosis were able to benefit by the new open-air life which was imposed upon them, it was more often the case that torpid and attenuated forms of tuberculosis were accelerated by the new conditions, so that they rapidly developed into pulmonary phthisis.

These sufferers are now kept under observation and sorted in the military hospitals; thence they are for the most part sent to "sanitary stations," which are really improvised sanatoria. There they remain for an average period of three months, during which time they receive a special training.

We must regard the creation of these sanatoria—there are twenty-four of them, comprising a total of some two thousand beds—as a laudable attempt to make war upon tuberculosis; but we must not hesitate to confess that it is absolutely insufficient from

the standpoint of the universal and effective campaign to which we must make up our minds if we wish to achieve anything.

One institution has been created, however, which is greatly superior to all those which we have described, and which has really been inspired by a true understanding of the danger to be fought and its origin.

This is the *Œuvre Grancher*, which removes children from families in which they are in contact with tuberculous parents and exposed to deadly contagion and places them in the country with peasant families, where they lead a healthy and industrious life, in the open air, until they are thirteen years of age. Of course, the children with whom the *Œuvre Grancher* concerns itself must not themselves be suffering from confirmed tuberculosis, while the parents from whom they are propagated must, on the other hand, be afflicted with open tuberculosis: that is, must be dangerous.¹

The future of all these young creatures, who have

¹ The Society known as the *Œuvre de Préservation de l'Enfance contre la Tuberculose* aims at removing, for as long as is considered necessary, children who are still healthy from family surroundings in which they are exposed to the contagion of tuberculosis, by placing them with healthy families in the country.

This work, as a means of fighting against tuberculosis, is above all praise. It really attacks the origin of the evil, for there is no doubt that contagion in the family is a frequent source of tuberculosis.

Their sojourn in the country terminates at the age of thirteen, when the wards of the Society may be apprenticed. Children have rarely been withdrawn by their parents before this age; where they are so withdrawn it is usually because the situation of the parents is altered. If the father dies the mother feels lonely and takes back her little ones to keep her company. Sometimes too, happily, the parents' tuberculosis is cured, the material situation improves, and the couple withdraw the wards whom they have entrusted to the Society. Sometimes, again, if both the mother and the father die, an aunt or uncle becomes the guardian of the children and adopts them.

thus been saved from contagion, and whose excellent health has been under observation for a number of years, proves clearly that hereditary tuberculosis exists only as an exceptional condition, and that cases of "family" tuberculosis are almost always due to contagion in the family circle.

The misfortune is that such an institution should be, after all, only a private institution, whose means of action, alas! are extremely limited, so that its benefits are destined to be lost in the ocean of public disaster.

Let us add that since the beginning of the war the *Œuvre Grancher* has been forced considerably to relax its activities, confining them to the maintenance of those children who were already its wards, without recruiting any fresh beneficiaries.

There is no doubt that in a logical plan of campaign against tuberculosis the extension of the *Œuvre Grancher*, which should be made a State institution, and of obligatory application, ought to be placed in the front rank.

In all these cases the Society has achieved its object: it has protected the children from tubercular contamination.

But the greater number of its wards remain under the protection of the Society. The majority, indeed, when removed to the fresh air of the country, acquire a liking for the life of the fields and look back with horror upon the dark, overcrowded city slum or tenement in which they grew weak and emaciated. On reaching the age of thirteen they no longer wish to return to the city; it is then that the Society endeavours to find them situations. Thanks to the doctors of the colonisation centres, farmers, vine-growers and agricultural labourers are found who are willing to take them as assistants or apprentices—and the work of salvage continues.

In 1908 the *Œuvre Grancher* placed 375 children in the country; their cost to the Society, in the preceding year, was £5,800. In 1913 the number of the Society's wards must have been nearly 500.

CHAPTER VI

INDIGENT CONSUMPTIVES IN AND OUT OF HOSPITAL

In the hospitals, where they are neither isolated nor treated, consumptives, unless they are dying, make only a temporary stay; just long enough to infect a few fellow-patients.—They are then restored to liberty, and employ themselves in profusely sowing contagion in public places and thoroughfares.

THE reader may be surprised to note that in speaking of the various expedients directed against tuberculosis we have not spoken of the French hospitals, where so many consumptives are treated, if we may use the term, that these establishments are always more or less encumbered with them.

The reader should realise that the hospitals, which are not intended to harbour chronic and incurable patients, receive phthisical subjects only to the detriment of patients suffering from acute diseases, who should not be kept waiting for admittance, yet who are thus left for a longer or shorter period without the attention which they urgently require.

But since, as a matter of fact, it is admitted that consumptives must be received by the Poor Law hospitals, arrangements might have been made to give these patients, during their stay, a certain amount of treatment appropriate to their condition, and above

all to give them the special instruction which any consumptive ought to receive before he can return to a collective environment, in the midst of his family or otherwise, in which he is liable unconsciously to sow contagion.

Nothing of the kind is done in the hospitals, where phthisical patients are not even given the pocket spittoon so urgently recommended by all physicians.

Further, these are the terms in which Grancher, speaking of the treatment which phthisical patients receive in the hospitals, describes the adventures of a consumptive in Paris :

“At the first onset of the disease tuberculous patients are nursed at home and quickly exhaust the few savings accumulated during many years of labour and economy. Very often they even run into debt; then, their credit exhausted, they come to ask for admission to the hospital. There they are nursed, or rather they are allowed to rest, for a few weeks, after which one is compelled to send them away, in order to make room for fresh applicants. They return to work, but can no longer gain their livelihood as before; fatigue and lack of nourishment swiftly aggravate their complaint, and force them to pay a further visit to the hospital. This is repeated several times, and the visits which they pay us are closer and closer together.

“But there are often no vacant beds in our wards, and the patients are sent to the Central Bureau. There at most a dozen beds are available daily, and one has to deal with more than a hundred applications for admission: the beds available are given to fever-patients, and the phthisics are put off until the following day. For a week or ten days in succession

they repeat their fruitless applications, either at the Central Bureau or the hospitals. During this time they are not at work, and in consequence do not eat; their malady advances rapidly. Finally they are admitted to the hospital, and there they die, unless they have died on the way thither.

“During each of his terms in hospital the phthisical patient is subjected to the most varied medical treatment, as the therapeutic resources at our disposal, for all that they are almost useless, are none the less numerous.

“There is an absolute lack of hygiene—that is, of air, nourishment, clothing and rest—in the treatment of phthisics in the hospitals. There is no need to prove the obvious—namely, that the air of a hospital ward is not fit for phthisical patients. The atmosphere is always vitiated by overcrowding, dust and dejecta. Despite the employment of the best known systems of ventilation, the air is insufficiently renewed, and open windows are possible only to a limited extent if there are, as there always are, cases of pneumonia or rheumatism in the wards.

“The food, excepting the bread and wine, is bad. The supplementary cutlet reaches the patient only after a long journey from the kitchen to his bedside, cold and unappetising.

“The natural stimulants of the appetite, a certain variety of seasonings, are absolutely wanting; and nothing is absent, from the insufficiency of courses, and the jumbling together upon one and the same bed-table of plate and spittoon, urinal and tumbler, to add to the consumptive's natural distaste for food.

“The clothing provided is as insufficient as the nourishment. The hospital cloak does not give suf-

ficient protection against the draughts of the courtyards and corridors. A special voucher from the doctor is required to obtain a flannel vest, and it is a favour which, once granted, is hardly ever repeated for the same patient. But what of the rest so necessary to these poor patients, yet so rarely obtained in hospital? Every day, early in the morning, the process of cleaning begins and goes on all day, except when the doctors or relatives are visiting the wards. The nurses empty the spittoons and chamber-utensils, polish, dust, sweep, make the beds, roll them into the middle of the ward, pile up the chairs and the bed-tables: in short, the patient is routed out and put back again at least once a day. During the night his neighbour coughs or groans or cries out; the male nurse goes to and fro in the ward, and the sister makes her rounds. The unfortunate consumptive, kept awake by all this commotion, and by his own cough, gets hardly any sleep, and prevents his neighbours from sleeping.

“With the present organisation,” adds Grancher, “all the phthisical patients are boarded at the rate of three francs a day indiscriminately, and they all die.”

This, we may say, is not the most serious point: for one thing is even more lamentable than the life, or death, of the phthisical patient in hospital, and that is his life outside the hospital, in the intervals between his visits, during which he is not, after all, very dangerous.

Incapable of labour which would assure them of proper nourishment, indigent consumptives are, as a matter of fact, reduced to mendicity. The Poor Law Relief generously allows them three to five francs per

month; they wander from refuge to slum, from slum to refuge, or in the summer they lie on the benches or under the bridges; the most fortunate, those who are cared for by a hard-working family, abundantly contaminate the premises of those who shelter them. But all alike, wandering along the public thoroughfares, in search of the light work that no one is willing to give them, or some problematical assistance, scatter their virulent expectorations wherever they go; and these, transformed into dust, are freely distributed by the next gust of wind, or perhaps by the brooms of the municipal sweepers, over the passers-by of all ages and either sex.

Not a spot of our most opulent cities escapes this scattering of the seed of death; from the wretchedest alleys to the most stately avenues, to say nothing of our pleasant public promenades and parks and garden-squares where our children take their first steps, or the sandy beaches on which they roll, which no placards (like those which bid us be kind to animals) warn us to regard with suspicion, by reason of the tubercular sputa which may be mingled with the sand.

It is an unspeakable scandal: a hygienic scandal and a moral scandal.

In Paris particularly—that wealthy city which prides itself upon its elegance, and which has made such costly and useless sacrifices in the cause of hygiene—the sight of these unhappy consumptives is truly the living symbol of the expiation of a crime: the crime of disregarding human solidarity.

The Poor Law has provided for the acute contagious diseases—for scarlet fever and smallpox; for paralytics and lunatics; for the blind and the deaf;

for backward children ; for idiots and imbeciles ; but it has not provided for consumptives without resources, without a home, who are, one and all, unconscious murderers, and who, as the price of the oblivion and abandonment to which they are relegated, scatter death around them in a continuous stream of poison.

Let us observe, to be just, that these unfortunate people are not the only ones to contaminate public places in this scandalous fashion. Semi-invalids, rich or poor, still capable of an active life—and their name is legion—do the same wherever they go, and in all the premises which they enter, bent on work or amusement.

The prohibition, under penalty of a fine, to expectorate in public places, might evidently provide a partial remedy for this dangerous situation. We are not aware of the weighty considerations which have prevented the public authorities from issuing such a prohibition. Perhaps they are afraid of a revolution !

The fate of the decree forbidding dog-owners to allow their animals to defile the pavements is obviously not encouraging. Yet the prohibition to spit in public places has been imposed on the inhabitants of several cities of the United States, and no disorder has resulted. This prohibition is the necessary corollary of the request that consumptives shall employ a pocket spittoon.

Under present conditions it is quite hopeless to count on the general use of this protective appliance. For the majority of patients it constitutes a sort of dishonouring label, proclaiming their malady, which they take very good care not to exhibit in public, especially under the conditions which would indicate its employment.

It is an extraordinary fact that in collectivities—in offices, workshops, etc.—the comrades of the sufferers themselves oppose the latter's use of the protective spittoon, as though the sight of an object intended to avert a danger actually created that danger.

To sum up—whatever the number of patients expectorating bacilli, the indigent sufferers form the most dangerous section of such patients, by reason of the abundance of their secretions; for well-to-do folk who have reached this stage of the disease usually keep their room, either in their own homes or in private sanatoria.

CHAPTER VII

THE ISOLATION OF CONTAGIOUS PATIENTS

The campaign against tuberculosis is essentially a campaign against contagion.—There is only one means of abolishing contagion: the isolation of contagious sufferers; at home when such isolation can be assured, and in other cases in special sanatoria.—Isolation in sanatoria should have nothing cruel or terrifying about it; many sufferers would be cured in these hospitals, the internal system of which would not in any way recall that of the leper-hospitals.—On the one hand the well-being of the patient should be considered; on the other, the relief of poor families, who ought to receive allowances when it is the head of the family who is isolated.—These considerations provide an answer to the objections which have been raised to the principle of compulsory notification, which is a necessary corollary of isolation.

IF we wish to cope effectively, and in a decisive manner, with the ravages of tubercular contagion, which threatens to destroy the race, there is no choice of means. The only means on which we can rely is that which was employed by Pasteur to stamp out the silkworm disease. Pasteur isolated the parasite-ridden eggs; we must isolate the parasite-ridden human beings. We must isolate contagious consumptives who are suffering from open lesions.

By such means leprosy was vanquished, and tuberculosis may likewise be abolished.

When and how should this isolation be put into practice? This is a question which requires consideration; but it is permissible to argue that under certain conditions isolation might be effected even in the midst of the family, provided the protective measures indicated were strictly observed, while any disregard of them would lead to the removal of the patient.

As for the large tuberculous population, it would be divided among the sanatoria, of which each department or district would possess one or several.¹

How many sufferers from tuberculosis would have to be isolated? And what sort of buildings ought we to have to receive them?

¹ With regard to the sanatoria established in France during the war, M. Küss, senior physician of the Angicourt Sanatorium, makes the following remarks in the *Bulletin médical* for the 12th August, 1916: "The fruitful conception which inspired the promoters (M. Brisac, Director of the *Assistance Publique*, and M. Honnorat, deputy) of the sanatoria was to undertake from now onwards the organisation of the anti-tubercle campaign after the war and to add in advance to the future dispensaries of social hygiene the homes which they cannot dispense with if they are effectually to fulfil their function of preservation against tuberculosis. No one any longer doubts that it will be necessary, after the war, to grapple energetically and methodically—and directly—with the serious problem of the social campaign against tuberculosis, in the solution of which we have allowed ourselves to be outstripped by, so many other nations. The war having forced us to take immediate action in respect of demobilised consumptives, we cannot allow these efforts, which had only a sentimental value, to be condemned to sterility; it is absolutely essential that they should be linked up with the application of plans for the future; and here we have one of the chief points of interest about the public sanatoria: attached to the permanent organisation of the *Assistance publique* they could become stable and permanent institutions, provided they exhibited the qualities which are requisite in a true sanatorium. Now from this point of view it is proved beyond dispute that many of these newly created sanatoria have been established under conditions which lend themselves admirably to the treatment of tuberculosis."

It is still rather difficult to reply to the first of these questions. Judging by the number of tuberculous patients with open lesions who have attended my consultations at the Municipal Dispensary-Sanatorium of Jouye-Rouve-Taniès, I estimate that there are three thousand indigent consumptives in Paris. I am considering only the incurable sufferers, who have neither resources nor relatives able to look after them; unfortunates condemned to live, or rather to die, upon an uncertain charity, wandering from door to door, the unacknowledged guests of nameless lodging-houses, refuges, night shelters and police stations, and a danger wherever they go.

It seems to me that in order to act with the greatest possible promptitude, without waiting for a law which will order the internment of tubercular patients and the construction of hospitals to receive them, it would be easy and by no means costly to withdraw from intercourse with their fellows those patients who are particularly dangerous, and who certainly are responsible for the greater bulk of tubercular contagion in Paris.

I have therefore proposed the erection, on the outskirts of Paris, of suitable huts, such as would be quite sufficiently comfortable, to shelter these unfortunates during the last months of their lives.

Estimating their number at 3,000, and the term of their survival at three months, ten huts containing each 100 beds (capable of receiving 300 to 400 patients during the year) would suffice to receive them all, and thus Paris would be rid of one of the chief sources of contagion, while an end would be made of the scandal we have described.

And in order to obtain such a benefit what would

the City of Light have to pay? A truly ridiculous sum: £60,000 for the construction of ten hospital huts and £40,000 annually for their upkeep.¹

Thus, for the sum of £100,000, a mere drop in the ocean of its budget, the city of Paris could have installed and set going for the first year a scheme of effective protection against tubercular contagion. It might have disinfected itself morally and physically, and it would have initiated a true campaign against tuberculosis.

No doubt there are certain objections which may be made to the realisation of such a plan.

To begin with, the criticism has been advanced that such temporary hospitals would speedily acquire the most sinister reputation, and that as the patients would be perfectly aware that they would enter them only to die, no one would be willing to enter them.

Those who think thus do not know the patients of

¹ These figures are in accordance with an estimate made by an architect, M. Tavernier, for a projected hospital, but containing 100 beds, with two annexes, providing accommodation for a housekeeper, a caretaker, a cook, two male and two female nurses. The cost of such a temporary hospital should not exceed £6,000.

It should be noted that each of the patients in the large common ward would be partially isolated in a cubicle composed of a partition six feet eight inches in height; thus patients would be spared the sight of death-bed scenes, which would obviously be numerous and frequent.

It remains to estimate the working expenses of one of these temporary hospitals.

Now according to the experience acquired as Director of the Jouye-Rouve-Taniès Dispensary-Sanatorium, where the meals of the patients—copious and physiologically therapeutic—cost only a franc apiece in ordinary times, the nourishment of the patients, together with the salaries of the staff, ought not to exceed £4,000 per hut per annum.

At the same time the Municipal Council of Paris voted a sum of £400,000 for the erection, at Vaucresson, of a hospital for consumptives, capable of receiving only a few hundred patients.

whom they speak. To the latter the hospital is a place where they go to die, yet they would be only too happy to gain admission and to pass the remnant of their days there. What do they ask of us, those unfortunates who apply to the doctors of the dispensaries when they are discharged from hospital? For a refuge, any sort of refuge where they would be allowed to rest, where they would get something to eat, and where they would be allowed, without further anxiety, to let the days go by. They would perhaps say that it spelt death; but what they fear, like all human beings, for that matter, is a painful death, aggravated by cold and hunger. In comparatively comfortable surroundings, even in the midst of the dying, they would no longer think of death, for such is the mentality of the consumptive: he always cherishes indestructible hopes.

To those for whom they would be intended, therefore, these temporary hospitals would not be the place where they would die; they would be the haven where they might cease from wandering, where they would be warm, where they would obtain food and sleep.

It has also been said that such temporary hospitals would be, for the adjacent districts, accursed spots, centres of contagion which would spread danger for miles around. No commune would accept their proximity without vehement protests.

We know that during great epidemics, in time of plague or cholera, the peasants still accuse the doctors of spreading the disease by poisoning the wells. But are we to compromise with such a delusion? There is no place where contagion is less to be feared than in a sanatorium or dispensary conducted according to the rules of modern hygiene. Where the clothes and

the linen of the patients are disinfected, where every patient has his private spittoon, and where no expectoration contaminates the ground, there is not the slightest danger of contagion. It is on leaving such establishments, on returning to even the most carefully scavenged public thoroughfare, that we run the risk of contagion.

The fears of those who would live in the neighbourhood of such temporary hospitals would therefore be chimerical, survivals of a bygone age; and the establishment of such institutions would enable the local hygienic authorities—mayors, officers of public health, etc.—to educate the public, and to teach it how one contracts tuberculosis and how one avoids it.

The plan which we have just briefly described was submitted—without the least hope, however, that it would be seriously considered—to the Municipal Council of Paris, as a means of starting a decisive campaign against tuberculosis.

It should be noted that there was no question of important architectural undertakings, such as the erection of thousands of cubic yards of hewn stone or bricks and mortar, and that the scheme could have been carried out with a very small staff. These, we admit, are not the qualities desirable in public works.¹ I may add that the initial cost per bed and the cost of

¹ The members of municipal councils do not always, alas! seek election from disinterested motives. Hence an inclination to adopt such proposals as involve the award of costly contracts to persons who are sometimes not unrelated to councillors, or are at least of a grateful disposition. The only remedy is to cease to elect tradesmen or business men of doubtful character to municipal bodies.—*Trans.*

the patient's maintenance were almost scandalous in their moderation.

As a matter of fact no one paid the least attention to the scheme, with the exception of M. Ambroise Rendu, who was good enough to bring it forward.

If I have recalled this scheme it is because it seems to me that its low cost would permit of its extension throughout the country if ever our legislators were to introduce a measure of safety enforcing the isolation of contagious cases of tuberculosis.

In any case this scheme would dispose of the preliminary argument, with which one has so often had to contend, that the expense entailed by such a measure would be excessive, amounting to tens of millions of pounds, and there is no doubt that this argument would be more decisive now than it might have been before the war.

The hospitals or sanatoria for tuberculous patients might, at least provisionally, be no more than pretty and healthy bungalow buildings, erected on picturesque sites, in the midst of parks or gardens, in the upkeep of which the patients themselves would occupy themselves.

Set free from all anxiety, the patients would be free to receive visits from relatives and friends, such visits being subject only to a few precautions relating to contagion due to conversation between persons dangerously near one another.

And as in reality a good proportion of such patients would recover, or at least improve, under the hygienic influence of their new life, to the point of passing from the stage of open lesions to that of closed lesions, so that it would be possible for them to return to the world outside the hospital, the sanatoria of the future

would assuredly very soon acquire the best of reputations, which they would enjoy until the day when their existence would become superfluous, and there would be nothing left to do but to burn them.

The isolation of tuberculous patients would of course involve, as a corollary, the compulsory notification of tuberculosis, which would thenceforth be included in the schedule of contagious diseases.

This principle of notification is unassailable, for tuberculosis—that is, with open lesions—is one of the most contagious of diseases; and although it does not manifest itself a few days after the absorption of the germ, as smallpox and scarlet fever do, it is none the less equally contagious with these diseases, and in a sense more dangerous, since in the majority of cases it is not possible to discover the source of contagion and take defensive measures.

In practice it must be admitted that this peculiarity may be used as the basis of arguments highly unfavourable to the principle of notification; for we tend to deny a danger that we cannot see.

It has been objected, on the other hand, that it would be cruel to inform patients that they are tuberculous, and would result in many tragedies of despair. It does not seem to us that this argument is valid: the consumptive, whose treatment is a matter of general hygiene rather than of medical therapeutics, has every reason for requiring to know what ails him if he wishes to recover, for he must in that case adopt a mode of life to which he would never constrain himself if he did not know himself to be seriously threatened. No doubt the physician's verdict may cause some considerable distress for a few hours or days, but the consumptive quickly becomes hopeful

again, above all when he is assured that his malady is curable. As we have said, optimism, and optimism of an indestructible kind, is in the great majority of cases the characteristic of the tuberculous patient.

Lastly, it has been objected that the compulsory notification of tuberculosis would directly militate against the accomplishment of the object in view, since the sufferer, dreading isolation or internment, would refuse to be medically examined and would not take proper care of himself.

This, however, is begging the question, for sufferers never or hardly ever believe themselves to be tuberculous, and it is only when the physician has informed them of the nature of their complaint that they declare themselves to be consumptive.

But, finally, let us suppose that dangerous patients do actually refuse to see the doctor; ideas concerning the danger of contagion are at present general enough—and they will become more and more so—for the members of the threatened family to bring sufficient pressure to bear upon the patient to make him respect the law; the more so as it would be legitimate to inflict penalties on families which should conceal their invalid members.

If poor families tolerate the presence of a consumptive to-day, it is only when the consumptive is still capable of working. Directly the family is indemnified for the removal of their consumptive members they will become absolutely pitiless, as they are now when it is a matter of driving an invalid who is no longer anything but a burden upon them to enter a hospital.

Compulsory notification would therefore, in all probability, very quickly become a habit; and the

result would be so profitable to all, to the diseased and the healthy alike, that there would be more reason to dread its abuse than to fear its omission.

CHAPTER VIII

THE COST OF THE CAMPAIGN AGAINST TUBERCULOSIS

The expense of isolating the victims of tuberculosis would undoubtedly be very heavy, since it would be necessary to compensate the families deprived of their support.—We have already entered upon this policy of costly compensation.—In the Army, which in France comprises nearly a quarter of the adult nation, pensions are granted to soldiers discharged on account of tuberculosis, and in the near future tuberculosis will be regarded as an industrial accident.—Thus half the population will be working to support the other half.—Cost for cost, it would be better to incur a certain amount of ruinous expense in order to avoid becoming tuberculous than to ruin ourselves completely by maintaining the victims of tuberculosis.

The cost of the campaign against tuberculosis, even if the latter be economically conceived, in accordance with the indications already given, would still be very heavy, for the establishment of sanatoria and the maintenance of patients would absorb only a portion, and no doubt the lesser portion, of the money which would have to be devoted to it.

It would, in fact, be necessary to indemnify every family from which a wage-earning member had been taken—the father, the mother, or a child of an age to earn his living.

However greatly diminished the capacity for work may be in the victims of tuberculosis, and even when they are seriously ill, it is nevertheless true that the great majority of them continue to work, impelled by the necessity of gaining a livelihood for the family. I have seen clerks refusing to stay at home, even when spitting blood by the mouthful several times a day; I have known them to die pen in hand. The internment of poor consumptives would therefore be admissible only on the condition of indemnifying their families. Let us note, to begin with, that we have already largely adopted this policy of pecuniary compensation. In France, indeed, since the war tuberculosis is regarded as a disease contracted on military service, or aggravated by the conditions of service, so that the consumptive is entitled to Discharge No. 1: that is to a pension, or a gratuity renewable annually.

And this is mere justice, for it is impossible to raise the objection that the disease was possibly anterior to military service. If the man was suspected of tuberculosis before his enlistment, he ought not to have been accepted. Since he was passed as fit for service by the tribunal (*Conseil de Revision*) the State is undoubtedly responsible for the aggravation of his malady.

The men thus discharged because of tuberculosis are more numerous every day; and the physicians of the sanitary stations to which they are sent for a few months in the hope of improving their condition sufficiently to avoid discharging them have observed that many patients undergo treatment very unwillingly, fearing precisely lest their precious Discharge

No. 1, on which they count so eagerly, escape them ! And here a novel and somewhat unexpected aspect of the question presents itself : the conflict with the patient himself, who, in his own interests, does not wish to be cured !

This new military law has created a very important precedent, whose consequences will be felt before long. Hitherto employers and the law have absolutely refused to regard sickness in general, and tuberculosis in particular, as accidents of occupation.

There is no doubt whatever that under the pressure of the trades unions Parliament will be compelled to revise and expand the law, and, before all else, to make it cover tuberculosis ; for since the latter is regarded as a consequence of military service, on what principle would it be possible to refuse any longer to regard it as a consequence of industrial or commercial employment ?

And then, the cases of tuberculosis becoming more and more numerous, we shall be confronted by this unexpected situation : half the population will be working to keep the other half.

And this new law will undoubtedly affect the workers in a manner which it will be well to realise beforehand ; for its incidence, as almost always happens, will aggravate the lot of those whom it professes to assist : since the employers will soon refuse to engage any worker who has not been duly declared, after a medical examination, to be free of the slightest tubercular taint. And as this taint is all but general in the workers of our great cities, we can hardly see where such measures will lead us ! There is reason to fear that we have here the seed of labour crises both numerous and varied.

The wisest and most economical course would be to prevent the mischief going any further, and to adopt a logical and radical policy: that is, to isolate tuberculous patients.

The tuberculous members of the working classes, and all poor or indigent tuberculous patients, would be interned in sanatoria.

Tuberculous patients of the well-to-do classes would be isolated either in their homes, if the circumstances lent themselves to this course, or in private sanatoria similar to those which already exist. But in all cases the character of this more luxurious form of isolation would be closely inspected, and would be replaced by a stricter form if it were considered insufficient.

Such is the only solution of the problem of the campaign against tuberculosis, the social malady. It is a solution which many have approached, without daring to propose it; and a host of remedies have been formulated which are only unreliable palliatives intended to produce the illusion that the evil is really being attacked.

We ought to-day to be well aware of the value of all these remedies. In seeking to spare the susceptibilities of the patients we have merely dealt gently with the disease, which is now threatening to destroy us.

Tuberculosis is transmitted by means of the secretions of patients who are suffering from open lesions. Let us isolate all consumptives with open lesions, and in order to make sure that there shall be no flaw in the system, let us prohibit spitting upon the ground in public places and thoroughfares.

Without these definite and radical measures all other efforts are doomed to certain failure.¹

¹ In the foregoing chapters we have spoken only of inter-human contagion. There is no longer any need to reckon with tuberculosis of bovine origin due to the absorption of gerin-laden milk.

The bacteriologists have learned to distinguish between the bovine bacillus and the human bacillus, and the first is very seldom found in man.

The employment of boiled or sterilised milk is now so general that all danger would seem to have disappeared in this quarter; and as for the flesh of tuberculous animals, this does not appear to be very dangerous; firstly, because cooking destroys the bacilli with which it might be contaminated, and secondly because the tubercle bacillus is hardly ever found in the muscles of animals.

Raw meat, then, need not be regarded as suspect unless the carcase reveals a condition of general cachexia; but in such cases it is hardly likely that the butchers would buy.

BOOK II
SYPHILIS

BOOK II
SYPHILIS
CHAPTER I

THE NATURE OF THE DISEASE AND ITS PHASES

Syphilis is caused by a microbe of an animal character, the treponema.—Its transference from one organism to another is most commonly effected by direct contact, but it requires a slight traumatism, an abrasion of the skin or the mucous membranes, which serves as a gate of entry.—Once the organism is infected the malady evolves through several phases.—It gives rise, after the initial indurated chancre, the lesion of inoculation, to the superficial manifestations of secondary syphilis—roseola and mucous patches; and then to the profound and varied lesions of tertiary syphilis, which may affect the kidneys, the liver, the heart, the arteries, or the nervous system.—For a long time the syphilitic nature of a large number of diseases was not realised. This was notably the case with tabes and general paralysis, which are now referred to their true cause, thanks principally to a method of investigation known as sero-reaction, which enables us to recognise with absolute certainty those cases which are due to syphilis.

SYPHILIS, like tuberculosis, is a disease caused by a microbe. This microbe, which for a long time eluded microscopic investigation, was discovered some ten

years ago. It is a microbe of an animal nature, not a vegetable microbe like that of tuberculosis. It was given the name of *Spirochaeta pallida*, and is now more generally known as *Treponema pallidum*.

It belongs, as a matter of fact, to the family of Trypanosomes, which have already furnished the parasite of dourine, a disease of horses which is in many respects analogous to syphilis. This parasite, *Trypanosoma equiperdum*, usually assumes the form of a spirillum.

Although certain of the lesions of syphilis are rather like those of tuberculosis, the two diseases are very different from an epidemiological point of view, and also as regards their modes of infection and contagion.

As regards infection it should be noted that the point of entrance of the trypanosome is external, and requires a solution of continuity, a small wound, a rent in the integuments, either of the skin or the mucous membranes, while the absorption of the tubercle bacillus almost invariably takes place in the interior of the organism, probably through the healthy mucous membranes of the respiratory or digestive tracts.

While the system has to absorb a fairly large quantity of bacilli in order to become infected with tuberculosis, it seems that the smallest quantity of virulent material is sufficient to infect it with syphilis; and an extremely brief period of contact enables the trypanosome to establish itself upon the tissue contaminated, whether that of the mucous membrane of the genital organs, or the mouth, or of some cutaneous fissure, however small. Cases have been cited of physicians who, after exploring syphilitic

lesions, and noticing a trifling scratch upon a finger, have immediately washed and cauterised the wound; yet in spite of this prompt disinfection they were unable to escape infection.

Consequently, where sexual intercourse takes place, and one of the subjects is afflicted with virulent lesions, the contagion of the other is humanly speaking inevitable, since connection can hardly be effected without a certain slight erosion of the mucous membranes.

But whereas the microbe of tuberculosis is most frequently absorbed through the medium of the external environment, in the form of dust or moist particles, in syphilis contagion is almost invariably effected directly, by immediate contact, as the trypanosome can only live a few moments outside the living organism. While one hears of cases of contagion effected through the medium of a glass which has been used by a syphilitic patient afflicted with lesions of the lips, it should be remembered that in such instances the person infected must have used the contaminated glass very shortly after the syphilitic.

So the fact that the tubercle bacillus is able to survive in the external environment, while the trypanosome of syphilis does not resist this environment, together with the fact that syphilitic lesions are comparatively dry, while tubercular lesions discharge abundant secretions, produce very different conditions of contagion in the case of the two diseases.

The initial lesions of tuberculosis assume the form of adenitis (glandular inflammation), for the bacillus is able to penetrate the mucous membranes without provoking a reaction in the tissues, and it is only in the lymphatic glands, to which it has been conveyed

by the phagocytes, that it provokes, as it vegetates, an inflammatory reaction characterised by swelling and fever.

The treponema, on the other hand, always provokes an acute reaction of the tissues in the locality of the minute wound which has served as the place of entry; a characteristic reaction, which makes it possible to diagnose the complaint. This reaction constitutes what is known as primary syphilis: it takes the form of the indurated chancre.

This local syphilis is quickly followed by symptoms which mark the infection of the whole organism. The glands in connection with the chancre swell and grow hard (the indolent bubo); then an eruption of rose-coloured spots appears on the trunk (*roseola syphilitica*, the roseola of syphilis); then ulcerations of the mucous membranes occur, more especially in the mucous membrane of the mouth (these are the *mucous patches*), whose secretions, like those of the chancre, are extremely virulent. These symptoms constitute one phase of secondary syphilis, and appear some weeks after the chancre. The roseola appears only once during the course of the disease, but the mucous patches, even when the syphilis is under treatment, are extremely liable to recur. These are in reality, with the initial chancre, the true contagious lesions, the more so as in the woman the indurated chancre of the genital parts is very often unperceived.

A capital point which differentiates the natural history of tuberculosis from that of syphilis is that tuberculosis, during the stage of infection, does not protect the organism against a reinfection; and we

have seen that this reinfection is accompanied by very serious disorders; while once the organism is contaminated by syphilis reinfection is absolutely impossible; thus, by inoculating a patient with the secretions of his own indurated chancre we cannot produce, in any part of the body, a further indurated chancre. A syphilitic organism can no longer be inoculated from the outside with the microbe of syphilis; but this does not prevent microbes resulting from the initial infection from multiplying in the interior of the organism, where they produce a great variety of lesions, according to the organs affected.

At this stage the humours of the organism are profoundly modified, and on this modification the method of sero-reaction has been based, which enables us to affirm, when the reaction is positive, that the patient under suspicion is indeed a victim to syphilis. It is true that a negative sero-reaction does not prove that the patient is not syphilitic, for the treatment of the disease may cause a temporary disappearance of the sero-reaction, although it may not for that reason prevent the ulterior symptoms from appearing.¹

¹ The syphilitic sero-reaction, or "sigma reaction," commonly known as Wassermann's Test, though it should be known as Bordet's, from the name of the French physiologist who discovered the principle of the test, is not, as was at first believed, a specific reaction; that is, it is not caused by the presence in the blood-serum of the patient of the toxins elaborated by the treponema.

According to the recent investigations of M. L. Bory, this reaction is apparently due to a quantitative modification of the albumins of the serum, a modification probably characteristic of the physiology of organisms intoxicated by the treponema.

This readily explains the fact, which at first appeared somewhat paradoxical, that positive reactions have been observed in cases of hereditary dystrophy (faulty nutrition) which could not be suspected of active syphilis.

In those cases it is enough to admit that the humoral alteration

After the intermediate series of secondary symptoms, appearing in succession, but sometimes without passing through this intermediate series (adenopathy, papulo-squamous syphilids of the skin, mucous patches in the mouth) the disease may manifest itself in the tertiary lesions.

These lesions are extremely varied, for they may, as a matter of fact, affect all the systems and all the organs. They mark the advance of the parasite into the depths of the organism, and its random localisation in those parts that offer the least resistance.

Like the secondary symptoms, the tertiary symptoms also may affect the integuments, that is, the skin or the mucous membranes. These lesions are known as tuberculo-ulcerous, owing to their external aspect, in the mouth, and in the tongue, they take the form of those white pearly patches known as smokers' patches, although tobacco has nothing whatever to do with their origin. These lesions must be regarded as contagious; but generally speaking the tertiary lesions of syphilis, by the very fact that they affect the deep-lying organs, are not contagious.

The kidneys, the liver, the lungs, even the eyes may be the seat of syphilitic processes of an inflammatory nature, or actual growths, of a tuberculous appearance, which are known as *gummae*. Very often, too, we observe manifestations of periostitis and exostosis, which are readily cured, however, by

which occurred under the influence of the infectious malady is capable of hereditary transmission, just as are the morphological stigmata.

In other words, the sigma-reaction is a simple morbid reaction, not a phenomenon of immunity. In practice it is none the less a reflex of great utility, as it enables us to affirm the existence of the disease, and to follow and measure its development.

the specific treatment. The most serious lesions are those which affect the heart and the arterial system, or the nervous system: spinal cord, meninges, and brain.

Cases of syphilitic myocarditis are comparatively frequent, and when the lesions are localised in a certain region, intermediate between the right auricle and ventricle, a region known as His's Bundle, rich in nervous ganglia, we observe disorders characterised by a slow permanent pulse—which may fall to thirty or forty beats per minute—with a condition of vertigo which is often very serious.

At other times it is the aorta, at its cardiac origin, which is affected, presenting a degeneration of its walls, which most frequently results in its dilatation and the formation of an aneurismal pouch.

All lesions affecting simultaneously the origin of the aorta and the mitral valve should be regarded as being of a syphilitic nature.

The arterial system, moreover, may be affected throughout its whole extent, and its lesions produce the greatest number and variety of functional disorders. Thus the obliteration of a muscular artery gives rise to intermittent lameness, and that of the branches which irrigate the upper extremities provokes the asphyxia of the extremities, or Raynaud's disease. The cerebral hæmorrhages which result from an arterial lesion of the central nervous system provoke those hemiplegias which are commonly described as attacks of apoplexy.

If the nervous system is invaded by the treponema the disorders produced are extremely serious and with very few exceptions fatal.

Syphilitic myelitis, tabes, meningitis, and general paralysis are of this order.

Tabes or locomotor ataxia and general paralysis have only recently been referred to syphilis. These disorders were formerly regarded as parasyphilitic: that is, physicians were inclined to believe that they were favoured by a previous attack of syphilis, but that they were not a direct manifestation of the infection.

The discovery of the treponema was fatal to this theory of parasyphilitic disorders. In the characteristic lesions of these diseases the microscope has succeeded in proving the existence of the specific parasite; and sero-reaction, applied to the blood of the victims of tabes and general paralysis, confirms the testimony of the microscope in almost every case.

Tabes and general paralysis are therefore true syphilitic disorders. Perhaps in certain cases their origin is only heredito-syphilitic, for these disorders occasionally make their appearance in subjects who really do not appear ever to have had any previous syphilitic symptoms. Still, this origin may be only apparent, for in the case of syphilis one should be extremely sceptical in the face of the most energetic denials, since the primary symptoms may occur unperceived even in individuals who observe themselves most attentively.

Moreover, the hypothesis has been put forward—based upon careful microbiological observations—that there is a special race of treponema which has a special predilection for nerve-tissue. Upon infection by this variety of treponema the initial chancre is supposed to be insignificant, and the secondary symptoms very fugitive.

This would explain why syphilis may be energetically repudiated by victims of tabes and general paralysis, even when the sero-reaction contradicts their statements.

It would also explain certain curious instances of several subjects contaminated by one and the same woman, all of whom have succumbed to general paralysis. Such instances have been noted in the case of medical students, who recalled very clearly under what circumstances they contracted syphilis, and whom it was possible to follow to the end of their career.

The syphilitic disorders which we have just enumerated and briefly described—for we are not writing a work on pathology, but a study of a social malady—affect the individual, diminishing his physical and moral value to a greater or less extent, and may immediately or remotely endanger his life. But they do not represent all the mischief done by the treponema; they are only its less serious manifestations from the standpoint of the life of societies, a standpoint which is the only one that interests us here.

Here is a list of tertiary complications drawn up by Professor Fournier, from a total number of 4,700 patients afflicted by the tertiary phase of syphilis.

	Cases
Complications involving the skin (tertiary syphilids)	1518
Gummatous tumours (subcutaneous gummae)	220
Tertiary lesions of the genital organs	285
" " " tongue	277
" " " palate	218
" " " throat and pharynx	118
" " " lips	45

				Cases
Tertiary lesions of the tonsils	-	-	-	12
" " " mucous membrane of				
the nose	-	-	-	10
" " " bones	-	-	-	556
" " " bones of the nose and				
the bony palate	-			241
" " " joints	-	-	-	22
" " " muscular system	-	-		23
" " " digestive canal	-	-		22
" " " larynx and trachea	-			36
" " " lungs	-	-	-	23
" " " heart	-	-	-	23
" " " aorta	-	-	-	14
" " " liver	-	-	-	71
" " " kidneys	-	-	-	39
" " " testicles	-	-	-	255
" " " eye	-	-	-	111
" " " ear	-	-	-	28
" " " veins and arteries	-	-		17
Syphilis of the brain and spinal cord, tabes, general paralysis, etc.	-	-	-	2009

The toxins secreted by the treponema appear to have a predilection for the reproductive elements—ova and spermatozoa—destroying, either partially or completely, their reproductive faculty.

As a result of this species of parasitical castration, analogous to that observed in a number of animal and vegetable species, sterility is of frequent occurrence in syphilitics, above all when the disease is not subjected to treatment.

Treatment seems to improve the situation, and syphilitics who undergo treatment are often fertile. Still, this improvement is only apparent, for although

treatment attenuates the piecemeal destruction of the generative cells, it does not completely prevent it, and the individuals proceeding from these cells are still marked in some degree by the syphilitic taint; they are more or less seriously blemished; they bear, more or less profoundly, the brand of the stigmata; they suffer a diminution of their vital energies, and of their resistance to disease; their external forms are affected, and their faculties are imperfectly balanced.

They are *heredito-syphilitics*.

And the syphilitic heredity, from the standpoint of the future of the race, is the most disastrous of all the diseases to which the individual may fall a victim.

CHAPTER II

HEREDITO-SYPHILIS AND THE SYPHILITIC HEREDITY

By heredito-syphilis we mean the transmission of the infective microbe from one of the parents to the child—this is heredito-syphilis properly so-called—and also the morphological modification of the offspring, which in this case present degenerative changes of a dystrophic order, not of an infectious nature.—Properly speaking, these degenerative changes constitute the stigmata of the syphilitic heredity.—These stigmata may manifest themselves through several generations.—They are varied and numerous, and may affect any part of the system, at the hazard of the degenerative changes which the syphilitic toxin has produced in this or the other portion of the reproductive cells.—The most serious of these hereditary taints is the production of an organic soil favourable to the development of tuberculosis.—Syphilis thus provides the soil for tuberculosis; and the hereditary influence which is most disastrous from this point of view is that transmitted by the mother.

The hereditary manifestation of an infectious disease may assume two different forms.

The microbe of the disease may pass from the procreator into the offspring, through the infection of one of the reproductive cells, ovum or spermatozoon; or when the inheritance is of maternal origin, the microbe may pass through the placenta, which, it appears, is not a perfect filter in respect of the

elements existing in the mother's blood; and in this case the child enters the world suffering from the same disease as its infected parent. This is heredito-syphilis properly so-called.

Or there may be developed, in the child, a degenerative change of the constitution, or modifications of structure or function, due to humoral changes, themselves due to intoxication, caused, in the parents, by the progress of the disease with which they are infected. It would be better to apply to this condition the term *syphilitic heredity*.

We have seen that tuberculosis is very rarely hereditary in the first of these senses; that the children of tuberculous parents are seldom born infected with the bacillus. The hereditary character of predisposition to tuberculosis is also disputable, and we shall presently see in what sense predisposition is capable of transmission.

Tuberculosis is therefore more particularly an individual disease, which is to be regarded as a social malady only by reason of the great number of individuals who are afflicted by it.

It is otherwise with syphilis. On the one hand, its transmission from the mother or the father to the foetus is of frequent occurrence; and if children suffering from heredito-syphilis in the infectious state are comparatively rare this is because they usually die in the womb. Miscarriages are indeed extremely frequent in women who are infected or merely fecundated by a syphilitic man.

In any case the children born syphilitic are almost all doomed to an early death.

This all but universal mortality, and these numerous miscarriages, must therefore be added to the loss

due to complete sterility, which is frequent in syphilitics, and which plays an important part among the causes of the low birth-rate or the actual depopulation from which France and other countries are suffering.

On the other hand, the syphilitic influence, even apart from any active infection, always makes itself felt in the offspring, and is betrayed by the more or less profound disorders which constitute the stigmata of the syphilitic heredity.

The syphilitic influence, that is, the syphilitic intoxication of the parents, causes, in the offspring, dystrophias, disorders of development, which are revealed by a degenerative change of the normal structures, sometimes sufficiently marked to constitute actual monstrosities.

In other words, the syphilitic influence of the parents is above all teratogenic, productive of monstrosities, great or small.

It seems as though certain portions of the reproductive cells must have been destroyed by the parasite or the toxin secreted by the parasite, and that these cells, in their development, are no longer capable of producing complete individuals and normal structures.

These changes are, as we have said, the result of a sort of incomplete parasitical castration. The humoral changes in the parents, which may be detected by the sero-reaction, may themselves be transmitted to the offspring, and for this reason the positive sero-reaction observed in the latter has thrown a vivid light on the nature of the numerous dystrophias which have always been noted, but whose nature and significance were completely unknown.

First of the minor stigmata of heredito-syphilis in the order of frequency we must note the morphological blemishes of the cephalic skeleton and its adjuncts: the exaggeration of the frontal bosses, the ogival hollow of the palatal vault, and above all the vices of dentition: notched teeth, stunted teeth, absent teeth, improperly planted teeth, separation of the upper median incisors, and the presence of tubercles (known as Carabelli's tubercles) on the internal surface of the molars. These tubercles are in reality supplementary cuspids.¹

The face also is the seat of some of the minor stigmata of heredito-syphilis: malformation of the ears, squinting, perhaps myopia; the tongue scrotal, fissured, slit, or notched; and above all hare-lip, a major stigma, of which the separation of the incisors is in a sense the prophecy.

The circulatory system is often modified by heredito-syphilis; tachycardia (frequent pulse), exophthalmic goitre, and the asphyxia of the extremities are due to this influence; and certain orificial disorders of the heart; pure mitral retraction and mitro-aortic lesions are regarded as being most frequently malformations of syphilitic origin.²

The nervous system could hardly escape the

¹ The significance of these tubercles as stigmata of heredito-syphilis has been disputed.

² Mitral retraction, a heredito-syphilitic malformation, is extremely frequent, but it is easily overlooked when it is not exaggerated, as it is then manifested only by very slight functional disorders, which always draw attention to the respiratory system.

M. Denis, in 90 patients, discovered it 40 times; in 50 cardiac sufferers, taken at random, 21 times; in another series of 31 cardiac patients, 19 times.

Lastly, of 600 patients suffering from cardiac affections, the same observer found that in 110 the cardiac rhythm betrayed a slight retraction of the mitral orifice.

syphilitic influence, and there is no doubt that certain forms of entero-neurosis, with neurasthenia, idiocy, imbecility, dementia praecox and epilepsy are the major stigmata of heredito-syphilis.¹

It seems to us that hysteria itself must be attributed to the same influence, considering it essentially as a retraction of the field of consciousness, a disorder which probably originates in some anatomical degeneration of the web of the cerebral tissue. Sufferers from the severer forms of hysteria frequently display numerous stigmata of heredito-syphilis.

Lastly, rachitism (rickets) is undoubtedly a major stigma of a specifically hereditary character, and has long been regarded as such.

The same is true of infantile and juvenile obesity, and also the familiar *coxa vara*, a deformity consisting of an abnormal inward curve of the neck of the femur.

In lymphatism or *status lymphaticus*, in which the tubercle bacillus appears as a complication, we must regard as pertaining to heredito-syphilis the local strumous constitution peculiarly favourable to the vegetation of the tubercle bacillus; and this leads us to the question of the relation of heredito-syphilis and tuberculosis, a question of the greatest importance, which appears to us to dominate the entire history of heredito-syphilis.

We know that appendicitis even has been attributed

¹ MM. Raviart, Breton, and Petit have often met with the positive sero-reaction in subjects who betrayed in any degree an arrested development of the intellectual faculties: idiocy, semi-idiocy, and imbecility; as well as in cases of dementia praecox; which enables us to affirm that syphilis plays, in the etiology of these mental infirmities, a far more important part than has hitherto been supposed.

to heredito-syphilis, and that it should be regarded not, of course, as being in itself of syphilitic origin, but as a secondary infection, perhaps, of an ordinary character, which finds a predisposition in an organ which is itself probably modified by heredito-syphilis, as are the naso-bucco-pharyngeal mucous membranes in strumous children.

We know that these ideas concerning heredito-syphilis have aroused a great deal of protest; it is not easy to see why. If we have adopted them it is only after verifying their truth in thousands of cases. Further, here is the opinion of Gaucher, one of the first authorities in this connection :

“ The first category of heredito-syphilitic manifestations comprises the *virulent heredity* which may occur even after several years of infection. This category includes children afflicted with generalised secondary heredito-syphilis, with infantile syphilis properly so-called; this is the classic hereditary syphilis.

“ It may also include cases of tertiary heredito-syphilis. This may be precocious, primary, or consecutive upon secondary heredito-syphilis, or delayed : even very greatly delayed. This tertiary heredito-syphilis may comprise all the cutaneous, mucous, osseous or visceral lesions of tertiary syphilis.

“ The foregoing manifestations, and above all those of secondary heredito-syphilis, are common to hereditary syphilis of paternal and maternal origin alike. The following manifestations, of the second and third category, appertain more properly to the syphilitic heredity of paternal origin. The first arise from a virulent syphilis which is still parasitical; the second, which we shall now examine, are rather of toxic origin.

“This second category of manifestations comprises the remoter consequences of syphilis, but also affections and lesions of a clearly defined nature, and parasyphilitic or dystrophic affections, which I rank as quaternary or quinary heredito-syphilis.

“Strabismus, many cases of myopia, stammering, rickets, backwardness, idiocy, epilepsy, club-foot, hare-lip—all these are the penalties of a paternal syphilitic heredity. There are many others, and in particular I believe most cases of appendicitis are of syphilitic origin. In 100 unselected patients I obtained the positive Wassermann reaction nearly 50 times (48, to be exact). These were subjects of all ages, of whose antecedents I knew nothing whatever.

“And what adds still further to the serious nature of this syphilitic heredity is the fact that the affection or malformation, once it is established, becomes hereditary of itself.

“A person who squints, the son of a syphilitic, will beget squinting children; and an epileptic, suffering from the syphilitic heredity, will beget epileptics and will perpetuate epileptics through several generations, without any fresh syphilitic infection.

“It is for this reason, because the first cause often throws back through several generations, that the syphilitic origin of a great number of affections has been denied.

“It is the same with the tendency to bear twins. Twins are heredito-syphilitics, and the tendency to produce twins may be transmitted to the following generation, without further syphilis. This is why it may be said that the tendency to bear twins is hereditary in certain families.

“In the third category I place a large number of

cases in which the special heredity is not appreciable; but this is not to say that it does not exist. These cases are those of children who present only ordinary defects, which it is possible to attribute to the syphilitic heredity only by protracted observation of similar manifestations. These children are neither vigorous, nor handsome, nor intelligent.

“It must not be forgotten that at the present time a fourth part of the male population is syphilitic. Now the syphilitic heredity does not prevent the contagion of syphilis; so that there are a great number of individuals who are born syphilitics, yet themselves contract syphilis. It may be imagined what a horde of degenerates this accumulation of syphilis is capable of producing.

“You come across them every day: these young men with beardless faces, prominent lower jaws, divided incisors, round shoulders, and narrow chests, with their arms too long, their legs bowed, and their toes turned out. Despite their defects, they live, and may even make some figure in the world, and they often play their part as members of society as well as others. None the less, they are the victims of a syphilitic paternal heredity, and they bear the stamp of this heredity on the whole of their physique.”

Even before Professor Gaucher, Professor Fournier, in his booklet “For our Sons when they are Eighteen,”¹ sounded the alarm in respect of the devastation due to hereditary syphilis. After pointing out the individual dangers of syphilis, “let us now,” he said, “consider the mischief it works in the family, the child, and the race.

¹ *Pour nos fils quand ils auront 18 ans.* 47 pp. Rueff, Paris, 1902.

“As regards the family, syphilis constitutes a threefold social danger, which includes: 1, contamination of the wife in the home (which frequently occurs, for statistics inform us that of 100 syphilitic women in a city practice, there are 19 who have been conjugally infected, that is, about one in five, a stupefying and heartrending proportion); 2, disagreement, dissolution of marriage, separation, divorce—very natural results of the injury which the husband has inflicted upon his wife; 3, material ruin of the family by reason of the sickness, incapacity or death of the husband. For by reason of its late maturity, syphilis often presents its account only when the “rackety” young man of former years is transformed into a husband and the father of a family. It is usually, therefore, the husband who pays, in hard cash, the debt of the youth. But in hard cash and indirectly the family too expiates the fault of the husband, when the latter becomes infirm, or helpless, or dies. For being then deprived of its natural support, it is in danger of falling into poverty, and only too often does so. How many tragedies of this kind have I not witnessed as the consequence of syphilis?

“If, as an old practitioner, I am asked what is the worst, the most disastrous thing about syphilis, I should reply, without a shadow of hesitation: it is the group of hereditary complaints which the disease produces; they are truly frightful, and result in the wholesale massacre of our children. This is no exaggeration.

“Syphilis, in short, is enormously deadly to the child. It kills the child before birth, or during the first days or weeks of its life, or at a more advanced age. Very often it wreaks its vengeance upon cer-

tain families, producing a whole series of successive abortions, or the death of the children, to the number of 4, 6, 8, 10, and even more (as many as 19 have been recorded). So much so that this infantile polymortality constitutes, from the medical point of view, an indication of the first importance in the investigation and diagnosis of heredito-syphilis. So much so, that in many instances it ends by dispeopling the home, leaving it empty, literally and absolutely empty.

“It appears from recent investigations that syphilis, by means of these hereditary consequences, may constitute a cause of debasement, of degeneration, affecting the whole species, resulting in the birth of inferior beings, decadent, dystrophic, fallen from the estate of healthy humanity. They are degraded: either physically—that is, they are prematurely born, and remain small and stunted, are infantile invalids, etc.; later becoming rickety, deformed, hunchbacked, etc.; or they are born with all manner of dystrophias, which are merely the results of an arrested development (hare-lip, club-foot, malformation of the skull or the limbs, deaf-mutism, testicular infantilism, etc.); or mentally degraded, constituting, according to the degree of their intellectual abasement, backward children or simpletons; or they are unbalanced, or deranged; or they are imbeciles or idiots.

“To-day it is not denied that this degradation may attain the degree of monstrosity. Syphilis may create monsters: that is, may result in extreme malformations, due to the complete arrest of development. It may, for example, create dwarfs. This is the acme of degeneration.”

However highly coloured these pictures of the syphilitic inheritance may be, they are not yet complete, and the most serious of these defects has not yet found a place in them.

This taint, whose existence has already been affirmed by a few observers, has not yet been realised to its full extent. In any case it has not yet been given a place amidst the classic beliefs respecting this disease. We are speaking of the relation between syphilis and tuberculosis.

In this connection Professor Fournier was the first to write: "I shall not hesitate to inscribe syphilis among the etiological factors of pulmonary tuberculosis"; but the idea here expressed was still somewhat vague.

This idea was admirably expressed by M. Emile Sergent, who, in October 1905, at the Congress of Tuberculosis held in Paris, made a communication which terminated in these conclusions: 1, the relations between syphilis and tuberculosis are of the closest character; 2, syphilis, acquired or inherited, creates a soil particularly favourable to tuberculosis; 3, to fight syphilis is, in a certain degree, to fight tuberculosis. "For my part," said M. Sergent, "the observations which I have collected have led me to form the conception which I maintain to-day. Whenever I have been able to look for syphilis in the hereditary antecedents of tuberculosis, I have found it in one of the ascendants."

"I do not profess," he adds, "to maintain that tuberculosis necessitates, for its germination, the existence of a syphilitic soil; I am simply trying to show that syphilis is not merely a threat of predisposition to tuberculosis in the syphilitic himself; but

that this predisposition is transmitted to his descendants also, so that the latter inherit the soil that engenders heredito-syphilis properly so-called . . . While the syphilitic heredity predisposes to phthisis, it is far from being indifferent to the development of other forms of tuberculosis, particularly scrofula."

It is of course incredible that such a theory should pass unnoticed. In reality we have here a highly important discovery; and there is only one explanation of the silence which has been kept in respect of such a hypothesis. It is because the notion that syphilis is "a shameful disease" is still in full force. While people will readily own that there are tuberculous subjects in their family, they will emphatically refuse to acknowledge that there are syphilitics: which is merely childish.

My personal observations, which have included many thousands of tubercular subjects, have confirmed M. Sergent's at every point. Nine times out of ten I have discovered the stigmata of heredito-syphilis in patients suffering from confirmed tuberculosis.

Further, as a result of these observations, it appears that there is a visible relation between the number and severity of these stigmata on the one hand, and the gravity of the tuberculosis on the other hand. There is almost always a parallelism between the severity of the heredito-syphilis and the gravity of the tuberculosis. Accordingly we are forced to conclude that syphilis prepares the soil for tuberculosis. In other words, the terrible increase of tuberculosis which we observe with so much alarm can only be the consequence of a similar increase of syphilis.

If we consider that syphilis may transmit its influence through several generations—through three, four, five, or perhaps more—and that the best qualified and most moderate authorities estimate that a fourth part of the male population is to-day syphilitic, we may logically deduce that none of us can flatter ourselves that we are free from some degree of heredito-syphilitic influence, more or less clearly defined, and in those of us who are fortunate more or less attenuated; and that we may thus explain why the receptivity to tuberculosis tends to become universal in the generations now living.

More; the attentive study of the family antecedents of tuberculous patients—and in some of my observations this inquiry has yielded the most valuable results—indicates plainly that the most marked cases of predisposition to tuberculosis are the result of a syphilitic heredity of maternal origin.

Thus, as regards the creation of a soil favourable to the infection and the vegetation of the tubercle bacillus, the maternal syphilitic heredity would appear to be particularly disastrous; as though the humoral system of the offspring, for the building up of which the mother provides all the materials, owed its insufficiency to the degradation of the system of which it is merely a sort of annex or continuation.

Before closing this chapter we have still to furnish the proof of what we have already stated concerning the manifestations of the syphilitic heredity through several generations.

The point is important, and deserves that we should describe in some detail an observation which plainly establishes the fact under examination.

Replying to an objection which had been made to

him in respect of an observation in which he had spoken of the effects of syphilis in a grandfather, Gaucher, in a recent discussion before the Academy of Medicine, asserted that we must very often take into consideration not merely the syphilis contracted by the grandfather, but also that contracted by the great-grandfather. Here is the gist of one of the observations to which he alluded: 1, Great-grandfather died young, of paraplegia (syphilis of the spinal cord); 2, grandfather squinted, and without suffering from acquired syphilis died of cerebral haemorrhage; 3, the father did not suffer from acquired syphilis, nor any other disease, but exhibited a furrowed tongue; 4, of three children one was backward, almost an idiot; another had a gap between the upper median incisors and an abnormally high palatal arch, suffered from lateral curvature of the spine, and was operated on for adenoids; a third suffered from entero-colitis and was also operated on for adenoids. The sero-reaction of the father and the children was positive; that of the mother negative. The children were breast-fed by the mother.

Thus, in the fourth generation, the hereditary syphilitic influence of the great-grandfather produced: 1, dental dystrophias, a scoliosis, and adenoid vegetations; 2, a cerebral dystrophia, idiocy, dental dystrophias, and strabismus; 3, entero-colitis and adenoid vegetations.

CHAPTER III

THE GRAVITY AND EXTENT OF THE EVIL

Before the war a third part of the male adult population was afflicted by syphilis; and the influence of the disease makes itself felt, in the form of stigmata and degeneracy, to the fourth and fifth generation; such are the two numerical data which enables us to appreciate the serious nature of the evil.—These data refer to the years before the war; we may safely assert that to-day the frequency of syphilis has been increased by a third if not a half.—Syphilis is therefore by far the most serious evil that threatens society.—Although contagion is dependent upon the will, the problem of waging war upon this social peril is one of the greatest complexity.

A DISEASE which afflicts at least one third of the male adult population; a disease whose final symptoms are mortal; a disease which frequently entails sterility, and may be transmitted to the offspring either in its infectious form, which is then rapidly fatal, or in the form of defects as numerous as they are varied; of which the slightest diminish or even destroy the social value of those who suffer from them, while the more serious endanger life; a disease which extends its disastrous influence at least to the fourth generation, and perhaps even farther; a disease, that is, which tends to destroy the race as well as the individual: such a disease is assuredly one of the greatest of all social evils.

On the one hand, depopulation; on the other, the multiplication of degenerates; such is the work of syphilis.

Moreover, the syphilis peril has never been so great as at the present moment, simply because of the war, which aggravates all the maladies to which societies are subject, and whose influence in respect of tuberculosis we have already considered, while we shall presently see how alcoholism has been affected.

Professor Gaucher, whom we have already quoted, asserted that after the first three years of the war it might be estimated that the frequency of syphilis had increased by one third, if not by half. "We must recognize," says this eminent syphilographer, "that the disorder into which the war has thrown men's minds has rather confused our customary ideas of morality. Men who have hitherto observed the laws of conjugal fidelity, and who are suddenly separated from their families, while conscious that they are exposed to the continual peril of death, forget their normal prudence. Venereal contagion results from promiscuous and suspect connections which these men would carefully have avoided in civil life. On the other hand, women, left to themselves, often with insufficient resources, permit themselves to replace for the time the absent husband. Under these circumstances, particularly in time of war, men find manifold occasions of venereal contagion, apart from intercourse with professional prostitutes. These last, it is true, play an important part in the propagation of venereal diseases; but from the interrogation to which we have subjected our patients we find that the disease is very often communicated by women of a different class who were only occasionally prostitutes,

and were not prostitutes at all before the war, and sometimes by married women, by the wives of mobilised soldiers, to whom they made only a trifling payment, or none at all.

“ It is this moral relaxation, inevitable in time of war, this abandonment of all sexual prudence, born of the incessant dangers which threaten us, that has caused the increase of syphilis since the war. And since the general mobilisation syphilis has been increasing not only among soldiers, but also in the civil population.

“ The statistics of my hospital (Saint-Louis) before the war, compared with the present statistics relating to the soldiers and civilians treated in my wards, have enabled me, thanks to the mingling of civilian patients, men and women, and soldiers, in the same hospital, to form an exact idea of the prevalence of syphilis to-day, since the mobilisation, among civilians and among soldiers, compared with its prevalence before the war.

“ Between the 1st January and the 31st July, 1914, that is, in the six months preceding the war, in a total number of 3,000 patients, I observed, in round figures, 300 recent cases of syphilis.

“ Between the 14th August and the 31st December, 1915, I received into the same hospital 4,912 patients, both civilians and soldiers, among whom I noted 793 cases of recent syphilis, or, in round figures, 800 recent cases among 5,000 patients.

“ Before the war, then, taking all the patients in my wards, one tenth of them had recently acquired syphilis. Since the war the proportion is one sixth. Syphilis has therefore increased by more than a third, by nearly one half, since the mobilisation.

“ In this hospital, which is to-day a mixed hospital, civil and military both, the proportion of recently acquired cases of syphilis is practically the same in soldiers and civilians. The increase of syphilis since the mobilisation is the same in the army and in the civil population. We find chancres, far more than was formerly the case, in quite young lads and in elderly men. It would seem as though in the interior of the country those who are unfit for active service have replaced, as far as contracting syphilis is concerned, those who have left for the armies.”¹

That is where we stand at present. It is easy to see what we are coming to.

Even after the war of 1870 the physicians declared that there was “ a generation of the Siege of Paris,” marked by its special nervous temperament, and a characteristic feebleness of constitution; and this was after a war that lasted barely six months.

We can already affirm that the “ generation of the Great War,” which lasted more than four years, will be poor numerically, but rich in heredito-syphilitics.

Syphilis, even more truly than tuberculosis, is a social malady, because contagion is, after all, voluntary, and the individual can perfectly well avoid it.

The contagion of tuberculosis, of course, is not influenced by the will; and it is inevitable that we should be exposed to the undetected absorption of the infective bacilli. A tuberculous sufferer breathes in our faces with his germ-laden breath; a gust of wind results in our absorbing the contaminated dust of the highways; or flies walk over our food with feet which are loaded with microbes from the expectorations of consumptive patients.

¹ Communication to the Academy of Medicine, 28 March, 1918.

As for syphilis, we know very well where the danger lies and what we must do to avoid it.

It would seem, therefore, that the campaign against syphilis must be particularly easy; but such a belief would argue a singular ignorance of human psychology. The inquiry which we are about to make into what has been done in this direction, and what yet remains to be done, will clearly show the full complexity of the problem.

CHAPTER IV

THE CAMPAIGN AGAINST SYPHILIS. WHAT HAS BEEN DONE

In the absence of a medical treatment capable of actually sterilising the syphilitic system, which would do away with the problem of combating this scourge, various measures of public order have been recommended with a view to stamping out the disease.—The measures at present in force in France constitute what is known as the Regulation of Prostitution or the *Police des mœurs*.—This Regulation is merely the enforcement of a police order, not the application of a law; but this is not its chief defect.—What condemns it without appeal is that it is ineffective, that it has proved absolutely helpless against the spread of the social scourge.—Nevertheless, in certain communities the campaign against syphilis has proved highly effective.—It should be noted that the *Police des mœurs* supervise and prosecute only women, while in the above-mentioned communities, in the Army, for example, the campaign has particular reference to the men.

We have briefly indicated, in the foregoing pages, the cycle of depopulation and degeneration due to syphilis.

We shall now consider the difficult problem of combating this peril.

It is very obvious that if we possessed a truly specific medical treatment for syphilis the problem of the anti-syphilis campaign would no longer exist.

A few years ago it was believed for a moment that we were at last in possession of this great sterilising treatment. The new arsenic compounds,¹ imported from Germany with a great blowing of trumpets, were, we were told, those heroic remedies which would in the space of a few days destroy the very last of the very hardiest treponemae in the infected organism.

The trial of this new treatment was then made in France. The drugs were tested conscientiously and extensively. But their use had quickly to be discontinued or diminished; and we doubt if a single physician could be found to-day who would argue the reality of the radical cure of syphilis by the arseno-benzols and other similar products.

These products proved to be active cicatrising agents, rapidly bleaching the ulcerous syphilids—a property by no means without value, from the standpoint of possible contagion—and useful in the treatment of the few patients who cannot tolerate mercurial treatment.

But the arsenical treatment cannot be applied without the risk of serious and sometimes fatal results; and it has also been accused of favouring the nervous and cerebral forms of the disease, and of rendering them precocious.

However this may be, this treatment, active though it is, does not result in the radical and final cure of syphilis; and we cannot from this point of view declare it superior to the classic mercurial treatment, to which a number of practitioners have wisely and wholly returned.

But we know that however valuable this classic

¹ Arseno-benzol, 606, etc. etc.

treatment may be it does not protect the patient from active returns of the disease.

By administering the treatment as it should be administered, over years and years—four, six, eight, even ten years—we often succeed in maintaining the syphilitic in a state of apparent health, in suppressing the external manifestations of the infection, in curing, if you will, his individual syphilis; but the treatment of the patient does not suppress the results of the disease in his descendants, and it is even probable that it favours the development of dystrophic heredito-syphilis. For while syphilis that is not treated usually involves sterility, abortions, or hereditary infantile syphilis, the patient who is duly treated is prolific, and produces offspring tainted with the syphilitic heredity; so that the individual benefits procured by treatment are perhaps counter-balanced by the racial mischief committed; so that it is not paradoxical to say that dystrophic heredito-syphilis, the generating cause of tuberculosis, may result from the treatment of syphilis.

Owing to the comparative bankruptcy of therapeutics where syphilis is concerned it has been necessary to have recourse to protective measures as against contagion; and in France the outcome of this necessity is an administrative method: regulation, controlled and sanctioned by the *Police des mœurs*; that is, the inscription of women giving themselves to prostitution, the institution of licensed houses, the sanitary inspection of the prostitutes, and their internment on the appearance of a contagious disease.

It may be remarked that, to begin with, this regulation is not legal, since it is not the application of any law; but this is a point of secondary importance,

which it would not be difficult to remedy, if the system of regulation had yielded such results as one had the right to expect of it.

In principle it is quite admissible that the prostitute, who exercises a dangerous profession, should be subjected to special supervision, as are all persons exercising a calling dangerous to the public health.

As for the results of interning the diseased, and its value as a measure of prophylaxis, we cannot do better than repeat the commonsense argument invoked by M. Fournier and the *École de Saint-Lazare*: namely, that a woman in prison contaminates no one as long as she is in prison, and that this is an undeniable advantage.

It must be recognized, however, that these are only two minor aspects of the question, and that criticised from a higher standpoint regulation appears to do more harm than good.

Summing up the discussion of regulation which took place at the International Conference of Brussels in 1910, M. Fiaux brings the following indictment against the regulation of vice and the *Police des mœurs*:

“In the course of its earlier labours the conference caused a multitude of inquiries to be made, as to the organisation and operations of, and the results obtained by, the *Police des mœurs*. These inquiries resulted in a mass of information, statistics, etc., the most abundant obtained since the work of Parent-Duchatelet and the recent English, Italian, and Russian inquiries; with this advantage, that it was of a universal character.

“This is what we call the criticism of the *Police des mœurs* by the facts.

“ If this first series of inquiries had proved the excellence of the *Police des moeurs* the work of the Conference would have been completed, and its reply would have put an end to anxieties and inquiries. The system of the *Police des moeurs* would have emerged from the Palais des Académies in Brussels recognized, undisputed, and triumphant. It would only have remained for the State and municipal authorities to enlarge the system, above all to render it more rigorous, and also more autonomous, more independent of the laws and of all control.

But the trial was far from ending in victory ; it was pitiful ; it was unfavourable and more often than not disastrous to the system.

“ It appeared, to begin with, that the system was based upon the official recruiting of vice from the ranks of the poorest of the female proletariat ; young girls, minors, were the precocious and obligatory conscripts of this lamentable wrong.

“ It then appeared that the recruiting of these girls by the police, their inscription upon the registers, and their confinement in licensed houses, ensured, without possible remission or exception, the contamination of these unhappy creatures, delivered over, by the very fact of their official submission, to the tender mercies of the male ; and that they immediately became the indirect instruments by which the public was poisoned.

“ It appeared also that administrative medicine was the most ridiculous and perilous of the comedies played at the expense of the public health and confidence. Women suffering from disease, described as ‘ treated ’ or ‘ cured, ’ were sent back as ill as they were before ; *whitewashed*, said a great French

physician, exasperated by this pseudo-therapeutic camouflage; *painted over*, was the severe verdict of an eminent and courageous magistrate of the Court of Paris, who on a later occasion was asked to express his opinion. 'Damaged goods' were made sound at Saint-Lazare in one month! Often even the *radical cure* took even less time; it was enough merely to pass through the prison!

"It appeared at the same time that this administrative medical service had the most disastrous influence upon the medical service of the *Assistance publique* itself, contributing to maintain in the hospitals, as against ordinary patients afflicted with sexual diseases, but having no connection with the *Police des mœurs*, the absurd prejudice that the venereal diseases are *shameful*; a prejudice highly unfavourable to the investigations undertaken by the scientific and disinterested efforts of an efficacious and devoted medical service like that of the hospital physicians of Paris and the provinces.

"It appeared lastly that this system—whose so-called legality was that of the regulations issued by the Lieutenants-general of Police in the time of Louis XIV. and Louis XVI.—had never at any time included, for the benefit of the unhappy women thrown into this common sewer, the slightest attempt at an official institution of rescue, the most modest municipal reformatory or house of retreat! Woe to the young girl, the young woman, who has fallen! The inscription on the registers of the Parisian Prefecture of Police, or the Central Commissariats of the provinces, replaces for them the terrible sentence read by the Florentine poet above the entrance to the place from which none ever returns: for them there is no

more hope . . . inscribed as prostitutes, they could only die as prostitutes.”

This severe criticism of the system of the *Police des mœurs* is certainly impressive, for it appeals to humane considerations which cannot be neglected.

But from the practical point of view, in the limited connection of the anti-syphilis campaign, and the protection of the public, it would seem that the discussion between those who uphold regulation and those who favour abolition can have no issue, as neither of these parties can bring decisive arguments to bear.

It is certainly the case that within limited areas the system of regulation and supervision, strictly applied, has been and should be able to protect certain collectivities against syphilitic infection; and this beneficial result has been obtained, both in certain colonies, and in military circles, where the measures of supervision may be made extremely rigorous, although they apply to men only, whereas the official supervision applies only to women.¹

¹ It is interesting to note the protective measures which have been instituted in the American Army operating in France.

In France, in order to combat the recrudescence of the venereal peril, in the Army and the workshop, we have contented ourselves with multiplying the centres where syphilis is treated when acquired. This, as M. Sabouraud remarks (*Presse médicale*, 18 February, 1918), is what we might call the ancient prophylactic formula, of prophylaxis after the event. It involves war upon prostitution, avowed or clandestine, raids, compulsory inspection and treatment, and the internment of contagious subjects. Are not our efforts wrongly directed, and could we not do something better?

Now this is how the prophylaxis of venereal disease is understood and applied in the American Army and these are the results obtained thereby:

As soon as he joins his unit, the American soldier is warned explicitly of the dangers of venereal disease, and what he has to fear. He is warned by means of compulsory lectures, given by Army surgeons. These lectures not only put the man on his guard against chance encounters, but they explain most carefully that even after

But apart from these results, which are assuredly not to be neglected, yet are too limited to make it possible for us to attribute a decisive value to the system of police regulation, there is one general fact of capital importance which dominates the entire discussion: it is, that syphilis is on the increase, and alarmingly on the increase.

And this increase is not solely the result of the war, for it was already visible before the war. In 1900 Professor Fournier estimated that in Paris at least 20 out of every 100 men were infected with syphilis; in 1914 Professor Gaucher found this proportion had increased to 30 per cent.; in 1916 he believed that this last figure had increased by a third or even half; and in 1917 he affirmed that the fre-

he has been exposed to danger he must endeavour to obviate its consequences, and *that if he does not do so he will be punished.*

That is the first method. Here is the second: In every American garrison town permanent prophylactic stations are installed, which are open at any hour of the day or night, and every officer and soldier must carry upon him the list of these stations corrected to date. Every man must, when he has had sexual relations, under pain of punishment, present himself at one of these stations, as quickly as possible after connection (at the latest within four hours).

In Paris there are two of these stations, of which one alone gives, on an average, 75 treatments per diem.

These stations are kept by medical orderlies selected for their particular practical intelligence. The treatment which it is their duty to administer is simple and does not take more than ten minutes.

To begin with the genital organs are washed with soap and water. An instillation of protargol, 2 per cent., is then made in the anterior urethra, with a glass syringe, as a prevention of blennorrhagia. The injection made, the patient keeps the urethral orifice closed with the finger for a space for five minutes. Then follows, as a prevention of syphilis, a copious inunction of the glans, the prepuce, and the sheath of the penis with an ointment containing twenty-five per cent. of calomel, and the patient is careful to apply it by massage, under the eyes of the orderly; and this massage must be particularly attentive to the region of the preputial frenum and to both sides of the frenum. This massage also is continued for five minutes, after which the penis is enveloped in a dressing of silk tissue-paper, and this the soldier must retain for at least four or five hours, until the subsequent washing.

quency of the disease had increased by two-thirds. This brings the proportion to 50 per cent.

Apart from any other consideration, a system of protection which gives such results is judged without appeal. We must have something better than this.

It goes without saying that each station possesses a register on which are entered the day and hour of treatment, with the name of the patient and his rank.

These simple prophylactic methods have been in use in the American Army since 1911. It was soon noted that only those soldiers who did not present themselves at a station, or attended too long after connection, were contaminated. It was therefore decided that every man afflicted with venereal disease should be punished forthwith, the mere fact of infection being regarded as a sufficient proof of his default.

In barracks venereal supervision is undertaken by an army surgeon. Twice a month without warning he makes a special inspection. The man who is found to be infected is sent *ipso facto* before a tribunal of military police, which condemns him to three months' suspension of pay.

From previous statistics it appears that in time of peace 7 to 8 per cent. of American soldiers who had promiscuous sexual relations were infected. This ratio rose to 12 and 15 per cent. during the war in Cuba and the Philippines. With the present prophylactic methods it has fallen to $\frac{1}{2}$ per cent.

The Australian Army has had only one case of infection per thousand; and at Bordeaux, of a thousand men treated, not one developed infection.

"Is it not a striking thing," says M. Sabouraud, who relates these facts, "to see, once more, a prophylactic method which was entirely French in its origin applied in France by other nations, while we make no use of it?"

CHAPTER V

THE CAMPAIGN AGAINST SYPHILIS. WHAT MUST BE DONE ?

Syphilitic infection arises from voluntary actions. Therefore, to combat it, we must appeal to the will.—We can influence the will in two ways: through fear and through interest.—The education of young people of both sexes, as to the peril of syphilis, will appeal to it through fear.—This education has been attempted, but timidly, in a limited fashion as regards both time and extent. It is a matter of urgency that it should be continued, and on a larger scale.—Persuasion through interest could be effected by a law making intersexual contamination a penal offence; a law making men and women equally responsible for syphilitic infection, which would do away with the twofold scandal, moral and hygienic, of the system of police regulation.—The logical corollary of the sexual education of the adolescent of both sexes, and of a law making intersexual contamination a punishable offence, would be the suppression of official or “protected” prostitution.

In order to combat a disease whose cause—in this case inter-sexual contagion—is subject to the individual will, we must influence that will. In order to fight tuberculosis it was necessary to invoke hygienic changes; in order to fight syphilis we must involve psychological changes; we must influence the mentality of individuals.

We know of only two genuinely efficacious means of acting upon the will : persuasion through fear and persuasion through interest. These two means will provide us with weapons which, properly handled, would probably yield us results which constraint and violence, in the form of the official regulation of vice, have been powerless to achieve.

Let us first of all consider the method of persuasion through fear. Such persuasion, obviously, can be effected only by the tongue and the pen, by spoken or written lectures ; which lectures should be multiplied in every direction, especially in collectivities of young people, such as schools and colleges for boys and girls, young men and women, private or public administrations or corporations, workshops, etc.

A first effort has been made in this direction, and we have already mentioned the little booklet published by Professor Fournier, in 1902, under the title : "For our Sons when they are Eighteen. Some Words of Advice from a Doctor."¹ This booklet has been widely distributed by the French Society for Sanitary and Moral Prophylaxis;² but this effort was only temporary, while the generations succeed one another, and wholesome advice must be given to them in a continuous stream.

Professor Fournier's lecture is very well calculated to effect the desired persuasion, showing in an impressive light the misdeeds of individual and inherited syphilis, and indicating how the disease is contracted, how it is recognized, and how avoided.

¹ *Pour nos fils quand ils seront 18 ans. Quelques conseils d'un médecin.*

² *Société française de Prophylaxie sanitaire et morale.*

“It has been said in jest,” says Professor Fournier, “that the fear of syphilis is the beginning of wisdom. So be it! but we do not comply with wisdom merely because of fear; we comply with it also by reason of other sentiments of a higher order: namely, the principles of morality and religion, self-respect, respect for women, the respect which is due, in advance, to the one who will be your helpmate, to the children who will be born of you, to the home that one day will be yours.”

Addressing himself to young men, Professor Fournier does not hesitate to tackle the question of continence. “Much has been spoken, improperly and lightly, of the dangers of continence to the young man. I must confess that if these dangers exist I am not aware of them, and I, a physician, have never yet observed them, although I have not wanted for subjects of observation.

“Moreover, I will add, in the name of physiology, that the true virility is not attained before the age of twenty-one or thereabouts, and the need of sexual intercourse does not make itself felt before this period, above all if unwholesome excitations have not prematurely awakened it. Precocity is merely artificial and more often than otherwise is simply the result of an ill-directed education.

“In any case, be sure that the danger in this case resides less in restraining than in anticipating the requirements of nature.”

The only fault we might find with this instruction as to the venereal peril is just that it has not insisted at sufficient length upon the deplorable prejudice that continence is dangerous, and that the sexual cravings of young men are to be respected; a prejudice which

in many families is shared by the fathers themselves, who declare that "youth must have its fling."

The exercise of the reproductive function before growth is completely terminated is harmful from more than one point of view. Firstly, from the standpoint of individual development, which is arrested, and remains fixed, when the genetic function enters into operation.

Secondly, we have noted how dangerous sexual prematurity may be as regards the development of tuberculosis.

Lastly, the danger of syphilitic infection completes the tale of the mischief worked by this prematurity; for the lack of experience natural to young men, and the class of women to whom they resort, render this terrible contamination almost inevitable.

When a man allows himself to be led away by a clandestine prostitute the index of the danger incurred is, as we have stated elsewhere, as high as 33 per cent. In other words, with this class of women of three dealings one will almost inevitably be followed by infection.

Of course the corollary of this advice is to recommend early marriage, and here again there is need to modify the ideas in this connection which are prevalent in most French families, where people think much more of secondary and material interests, which cannot make anyone happy, than of the health of the children and the vigour of the generations to come, and it is precisely these that are the true elements of happiness.

To attain this end we must address ourselves also to young girls; we must make them understand in particular the dangers of conjugal and conceptional

syphilis; of the disastrous results, in the children, of paternal or maternal heredito-syphilis; and we must persuade them that in order to avoid all these evils the surest means is to marry, when quite young, a young man.

Parents, too, should assure themselves by every means at their disposal that the individual whom they are about to bring into the family, and who is destined to perpetuate them, is not already the victim of personal syphilis or tainted by a strongly-marked syphilitic heredity.

Of course, in the present state of our morals it would be rather difficult to establish this state of affairs. We hardly see how it could be done save by the provision of a medical certificate furnished by the family doctor. The refusal to submit to examination at the hands of the physician would be equivalent to a confession of disease, that is, of unfitness to marry.

The French Society for Sanitary and Moral Prophylaxis has also distributed information intended for young girls, in the form of a booklet by Dr. Burlureaux.¹

It must be admitted that these efforts are highly praiseworthy, intended, as they are, to give young people that indispensable special education of which we are speaking; and they have certainly produced

¹ *Pour nos jeunes filles, lorsqu'elles auront seize ans.* Dr. Burlureaux has not hesitated to grapple with the delicate problem of the sexual and anti-syphilitic education of young girls, and he has solved it successfully by a frontal attack. He believes that young women and even young girls are often acquainted with all the secrets of the so-called "hidden" plagues, and that they are ignorant only of their dangers. His pamphlet is a welcome companion to that of Professor Fournier.

very happy results. But they are not continuous, whereas they ought to be renewed year by year, for years and years on end, indefatigably; and above all they ought to be multiplied and extended, in order to penetrate all those circles where they might reach young people in need of good advice.

So much for persuasion through fear; but as we must not count too greatly upon its power in a matter where the appetites are appealed to by exciting factors which are still more widespread and still more powerful than any appeal to fear may be, it would be as well, without delay, to proceed to the other method which we have mentioned, and on which we have reason for basing stronger hopes: we refer to persuasion through interest.

It was once more the Conference of Brussels which tackled this further question. The arbitrary system of police regulation, a system absolutely one-sided, appeared to the Conference so illogical, so puerile, so futile, that it condemned the method in an almost dogmatic fashion; indeed it waived the matter, propounding the question of making intersexual contamination a punishable offence; or, in other words, the problem of sexual equality in respect of prostitution.

For what is peculiarly scandalous in the system of police regulation is that it punishes only the infected woman, who is already the victim of some man who has sought her to derive pleasure from her. And this man remains free to make as many similar victims as he chooses.

And the scandal is not merely a moral scandal; it is also a sanitary scandal, for it is evident that we cannot combat a contagion if no steps are taken

against half those persons who are responsible for its spread.

In 1903, as a result of a moral scandal, the Government appointed an extra-Parliamentary Commission¹ which was required to investigate the reforms which might be introduced into the system of the *Police des mœurs*; and this Commission, like the Brussels Conference, came to the conclusion that the *Police des mœurs* was incapable of reformation or even of improvement. It voted for its abolition, pure and simple, considering that a system applied to one sex only was an iniquity both from the moral point of view and as a matter of justice; while from the hygienic standpoint it amounted to the organisation or at least the sanctioning of contagion, since, (considering the matter from the moral point of view) the woman alone was penalized, while (considering the hygienic issues) the man was always left free to propagate the disease without running any risk of personal inconvenience.

To remedy this twofold scandal the Commission proposed to substitute, in place of a system which had long been condemned by its bad results, a system amenable to the common law, of which the two principal features, the two extreme terms, would be: (1) the misdemeanour of recruiting for immoral purposes, and (2), the misdemeanours, civil and penal, of intersexual contamination, delinquencies applicable, of course, to persons of either sex, without distinction of condition or quality. We know that contagion is acknowledged a misdemeanour by the French courts. In the case of conjugal syphilis it is cause for separation or divorce, and pecuniary com-

¹ *Commission extra-parlementaire du Régime des mœurs.*

pensation; and a celebrated judgment delivered in 1903 by that eminent lawyer the President of the Civil Tribunal of the Seine, M. Ditte, sanctioned the extension of this important and valuable social jurisprudence to the protection of the unmarried woman when proof of intersexual contamination can be furnished to the judge.

The question of the misdemeanour of contamination would therefore seem to be solved.

There remains the question of the penal offence.

The law voted by the Commission was thus expressed: "The penalties provided by articles 305, 310, 311, 319, and 320 of the penal code are applicable, in accordance with the distinctions therein contained, to contamination by venereal diseases. Proceedings can be instituted only on the complaint of interested persons, who can always, until final judgment, stay proceedings."

In accordance with the legislation revised by the Commission, the delinquencies punished by the law would be: (1) *Voluntary*, intentional, premeditated contamination (of a determined victim); a mode of transmission less rare than would be supposed in the annals of disorderly houses; (2), *conscious* contamination, that is, effected by a person knowing himself or herself to be diseased and contagious; (3) contamination by imprudence, effected by a person not knowing himself or herself to be diseased, or unaware of the nature of the malady, or having more or less excuse for believing himself or herself to be cured.

The scale of penalties should correspond with the gravity of the offence, as in all the branches of the penal law; and extenuating circumstances would of course figure largely in the new system.

In support of the juridical creation of the penal offence, which was voted also by the French Society for Sanitary Prophylaxis, M. Lucien le Foyer writes :

“The principle of the new misdemeanour is this : there is such a thing as the evolution of the ideas of evil ; consequently there is an evolution of the conceptions of civil repression and criminal reparation of and for the harm done to others. The idea of disease tends to enter into the conception of wrongdoing, and to become confounded with it ; hence the conceptions of civil reparation and criminal repression tend to attach themselves to the communication of a disease to another person.

“Disease inflicts injury as does a wound. The virus of the disease in particular is a poison. Poisoning appertains to the penal code. In connection with certain special diseases, the communication of which presents rather the obvious characteristics of an attempt upon the life or health of another, the conception of disease becomes *socialised* ; that is, the conception is becoming *civilised* by reparation and *generalised* by repression.

“Contamination rests upon the same basis as murder and homicide. Everybody knows that criminality is coming to be more and more regarded as a matter of pathology ; opinion inclines to consider crime the result of a disease. But we must not look at only one side of a truth. We must understand it in an inverse sense. Pathology is coming to be regarded as a matter of criminality ; opinion must in time come to consider disease as the result of crime. To commit a crime is a disease ; to transmit a disease is a crime.

“To tell the truth, disease is a physical crime ;

crime is a social disease. Let us make reparation for the one and repress the other."

M. le Foyer rejected the division of contamination into *voluntary* and *involuntary* contamination, which would have made it too simple a matter to assimilate the new misdemeanour to the old offences of voluntary and involuntary wounds: for the words "*voluntary* contamination" he substituted "*conscious* contamination." "The knowledge of the disease from which one is suffering," said M. le Foyer, very justly, "combined with the absence of the intention to injure—the contamination of others, which is not avoided, though involuntary—constitutes conscious contamination. This degree of the misdemeanour is, by a long way, that which is most frequently met with."

As for "involuntary" or unconscious contamination, it can hardly be admitted except in the case of backward persons, when the diseased subject may really be unaware that he is diseased, and that his malady is of a special nature, and transmissible.

To confirm the legitimacy of the penal delinquency, M. E. Dollians, in his work on the *Police des mœurs*, very justly makes a comparison between the consequences of the action of the man who has rendered a woman enceinte and the man who has contaminated a healthy woman. "The man," he says, "who has made use of a woman for his own pleasure cannot make the objection that the child is, for the woman, a natural risk involved by the act to which she consented, and that she must make herself responsible for it; the person guilty of contamination cannot declare that he had no intention of contaminating."

This was in reply to the much too specious objec-

tion that the sexual act involves a risk of disease, disease, like a state of health, being a natural condition!

To sum up: as M. Dollians has said, the misdemeanour of contamination respects the principles infringed by the misdemeanour of prostitution: equality between the sexes and classes, and the liberty of all sexual union. It satisfies the principle of equality before the law. One of these theoretical advantages is precisely the juridical affirmation that the man and the woman are equally guilty of propagating the venereal peril, which deprives the man of his privileged position, his immunity. It establishes equality in sexual relationships; all differentiation of the latter, all tendencies to form a hierarchy, disappear; lastly, the establishment of the offence of contamination respects the liberty of sexual union; it does not imply any right of judgement or control of the sexual act itself.

The question of making intersexual contamination a penal offence has now been thoroughly threshed out and is in a condition to be submitted to Parliament.¹

It would seem superfluous to criticise this reform in this chapter from the legal point of view; moreover, it would be beyond our province. But we find in it precisely that persuasion through interest (reinforced, if you will, by the fear of the police) which is, it seems to us, together with persuasion through fear of disease, than which it is more powerful, the

¹ This question has been excellently discussed in all its bearings by M. Louis Fiaux, in a volume entitled *Le Délit pénal de contamination intersexuelle* (Paris, Alcan, 1907), from which we have borrowed freely.

only factor capable of acting on the mentality of the individual, restraining him effectually from the accomplishment of those possible sexual crimes which spread the contagion of syphilis in so alarming a fashion.

For with this new law added to our penal legislation everyone would be warned that a serious and effective responsibility was incurred by the man or woman who should communicate the disease of syphilis to another person.

“Like all laws,” M. Fiaux observes, “this law would act principally by force of threat and example. Be sure that a few examples, in which the law should be justly, severely and rigorously applied, would have an excellent effect as a public disinfectant, moral and sanitary, and a disinfectant of this nature is what everybody is asking for, without distinction of doctrine. *Pœna in paucos et metus in omnes*, according to the excellent penal formula.”

Here, moreover, are some instructive figures; they are furnished by M. le Pileur, who, of 532 young girls and women who were suffering from syphilis, discovered that

						Years of Age.
6	girls	had	been	seduced	when	10 to 11
2	”	”	”	”	”	11 to 12
8	”	”	”	”	”	12 to 13
24	”	”	”	”	”	13 to 14
50	”	”	”	”	”	14 to 15
142	women	had	been	seduced	when	15 to 16
106	”	”	”	”	”	16 to 17
86	”	”	”	”	”	18 to 19
38	”	”	”	”	”	19 to 20
24	”	”	”	”	”	20 to 21

					Years of Age.
11	women	had	been	seduced	when 21 to 22
11	„	„	„	„	„ 22 to 23
7	„	„	„	„	„ 24 to 26

And M. le Pileur gives us the following summary of these statistics :

Seduced at	-	-	-	16	years
Prostituted at	-	-	-	17	„
Syphilitic at	-	-	-	18	„

Here, again, are some figures furnished by M. Martineau, which give the age and profession of the seducer and the age of the victim :

Number of girls.	Age when seduced.	Quality of seducer.	Age of seducer.
1	13	The father - -	45
1	14	Traveller in wines -	26
1	15	Conseiller de Prefecture	32
1	17	Naval lieutenant -	33
1	20	Banker - - -	40
1	21	Solicitor's clerk -	22
1	24	Physician - -	24

And so on; we find, in long lists similar to this, among the seducers of girls of from nine to twenty years of age, relatives (uncles and cousins), the idle rich, wine-merchants, timber-merchants, linen-drapers, café proprietors, actors, music-hall artists, draughtsmen, students, civil service clerks, architects, lawyers, officers, physicians, married men. Of 582 syphilitics M. le Pileur found that 65 belonged to the liberal professions, and 11 were employers of labour.

Well, there is no reason to doubt that the great majority of these interesting persons would have been deterred by the fear of imprisonment and the prospect of paying damages. *Intimidability*, as Lombroso used to say, would here have produced its full protective effect.

And in the face of these statistics let there be no more talk of the sexual need and the legitimacy of its satisfaction!

For we might ask why all these honourable men, having to satisfy a legitimate sexual need, had carefully chosen virgins for this commonplace physiological operation!

And we are thus led in the last resort to conclude that the necessary corollary of a methodical sexual education of young people of both sexes, in which the family and the school authorities would co-operate, and the promulgation of a law making intersexual contamination a penal offence, would be the suppression, pure and simple, of official prostitution, the resort to which appears, more often than not, to be the complement of excessive libations in more or less fashionable restaurants and cabarets.

There are cities, even in Europe (notably in Switzerland), where licensed houses are unknown, and where the recruiting of prostitutes, and the persecution of women, are severely punished. It is probable, since the function makes the organ and also creates the desire, that the inevitable and respectable sexual requirements of the citizens of these communities have undergone a notable and beneficial diminution.

Public health and morality could only gain, and gain enormously, by the disappearance of the organised and regulated scandal of official prostitu-

tion; and by the convergent action of the various means which we have proposed there is reason to hope that syphilis, as a social scourge, would disappear.

BOOK III
ALCOHOLISM

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CHAPTER I

THE NATURE OF THE EVIL. THE DISORDERS RESULTING
FROM IT

Alcoholism, which must not be confused with drunkenness—an incident which may leave no traces—results from the prolonged impregnation of the cells of the organism by alcohol, a toxic substance which tends to destroy them by the retardation of organic combustion which it produces.—The doctrine that alcohol is a food will not bear examination.—The repeated contact of alcohol with the elements of the tissues causes the fatty degeneration of these tissues and leads to fatty hypertrophy of the organs.—If the exaggerated consumption of wine, rather than that of spirits and liqueurs, is at fault, the liver becomes hypertrophied, then indurated, and insufficient.—In all cases alcoholism is characterised by digestive and nervous disorders which diminish the productivity of the individual, and his resistance to infectious diseases, and cause precocious senility.—Merely by reason of the individual wreckage which it causes, alcoholism is a serious social malady.—But there is also a hereditary alcoholism. The descendants of alcoholics form that great army from which the doomed and premature victims of alcohol, crime, and insanity are recruited.—Arthritism appears to be the ordinary form of hereditary alcoholism.

In alcoholism we have to deal not with a microbic disease, resulting from the invasion of the system by

a living parasite, but with a chronic intoxication due to the impregnation of the organism by a substance which profoundly deranges the functioning of the cells of all the tissues of the organism. This derangement is characterised by a retardation, more or less accentuated, in accordance with the doses absorbed, of the organic combustion which, as we know, takes place in the very substance of the cells.

The result of this retardation of cellular combustion is, in the long run, to provoke the deposit of fine fatty granulations in the cells themselves, and in the organs as a whole of the fatty substance which is characteristic of the alcoholic, that is, the individual chronically intoxicated by alcohol.

Alcoholism, therefore, is a chronic intoxication, a slow poisoning, by alcohol.

We shall not dwell upon drunkenness, which is the acute form of this intoxication, and which results from the congestion of the mucous membranes of the stomach and of the brain owing to the sudden contact of an excessive dose of the poison. This excessive dose provokes violent reflexes, such as vomiting, which results in the expulsion from the system of part of the poison absorbed.

If the organism does not succeed in thus ridding itself of the poison, then, after the brain has manifested its reaction by the disorder of the ideas and movements, the drunkard falls into a state of torpor characterised essentially by a fall of temperature, which, under certain conditions of external temperature, may be fatal. This is due to an exaggeration of the physiological action which we have already noted.

Drunkenness may of course lead to alcoholism, and

is often the prelude to it; it may also occur during the course of alcoholism; but drunkenness does not cause alcoholism, nor does it by itself constitute alcoholism. It is an acute incident which certainly fatigues the organism, but does not as a rule leave lasting traces.

Alcoholism requires for its production the prolonged contact of the body-cells with the substance which tends to destroy them; the elements of the cells must be impregnated with alcohol, and unless the doses absorbed are excessive this impregnation does not occur, nor is the violent reaction of defence and rejection produced which constitutes drunkenness.

In reality alcoholism is not one invariable form of intoxication: it comprises at least three intoxications which present certain slight points of difference: the intoxication by alcohol properly so-called, or *ethylism*; intoxication by wine, or *œnolism*; and intoxication by beverages containing various essences, of which the type is absinthe, for which reason this form of intoxication is described as *absinthism*.

As a matter of fact the intoxication due to wine or liqueurs is itself ethylism, for all these beverages are more or less alcoholic; but the special poisons which are added to the alcohol, and which complicate and even aggravate its action, give œnolism and absinthism special characteristics, which we shall duly note.

The alcohol which is absorbed by the organism is not all dealt with in the same way. One portion of it—the smallest portion—undergoes combustion on passing into the pulmonary circulation; and it is for this reason that some have maintained that alcohol is a food, since it produces heat and therefore

economises the reserves of the organism. But this comparison is a specious one, for we must not take into account only one of the effects produced, when this effect is favourable, and pass over the rest, which are truly deplorable, in silence. We might, as a matter of fact, work a turbine by employing sulphuric acid instead of water; but the result would not be encouraging, for the turbine would quickly be destroyed; and if we recognise that alcohol is able to produce heat, we must not disregard the degenerative changes which it may produce in the cells with which it has been in contact, before undergoing combustion.

Moreover, the quantity of alcohol thus physiologically burned is extremely small. This quantity corresponds with the amount of wine consumed by sober persons who experience no inconvenient results from this beverage owing to their leading an active open-air life. But it is not these sensible wine-drinkers who become alcoholics.

Directly the quantity of alcohol absorbed exceeds this physiological dose, which, we repeat, is extremely small, and is even non-existent for some persons, the toxic substance circulates in the blood-stream, which brings it into contact with all the organs, and consequently with all the constituent elements of these organs.

To say that alcohol is a toxic substance is to say that the impregnation of the body-cells with this substance does not take place without damage to them; the texture of the organs and the content of the cells are impaired by this contact, and the damage done is more extensive in proportion as the contact is more frequently repeated.

To begin with, alcohol, when brought into contact

with the mucous membranes of the stomach, provokes a congested condition of these membranes, with or without erosions; and presently the portal vein, which conveys the blood of the stomach and the intestine to the liver, reveals an inflammatory condition of its walls.

The brain, which, on the absorption of the poison, is subjected to repeated congestions, involving at first the dilatation of its small blood-vessels, presents, after a certain time, a slight degree of sclerosis. Seen under the microscope the nerve-cells appear infiltrated with pigmentary or fatty granulations.

The viscera, notably the heart and the liver, display an excess of adipose tissue and also a fatty infiltration of their elements. In intoxication by alcohol only—ethylism properly so-called—cirrhosis of the liver is hardly ever observed; but this cirrhosis, at first hypertrophic, then atrophic, and finally complicated by ascites, is the rule in œnolism, by reason of the potassium salts contained in the wine, which act as a special poison upon the hepatic cells.

The fatty degeneration of most of the glands is also observed; and there is too a deposit of fat, in more or less considerable masses, in the subcutaneous tissue, principally in the region of the abdominal wall.

Of these various lesions some are caused by the direct irritant action of alcohol on the tissues, and others by the retardation of combustion, which is proved by the diminution of the proportion of carbonic acid exhaled.

This explains why alcoholism is peculiarly serious in gouty and arthritic subjects, whose constitutional disorders are aggravated by it. Now these disorders are

closely analogous to the modifications which appear in the tissues with advancing age: which caused Lancereaux to say that the drinker, from the physiological as well as from the pathological point of view, is comparable to the old man, and that the abuse of spirituous liquors results in a premature old age.

The disorders observed in alcoholics affect more particularly the digestive functions and the nervous system.

The appetite is diminished, the digestion is impeded, there are burning sensations in the region of the stomach (pyrosis), and slimy vomiting in the early morning (morning phlegm).

On the other hand, the majority of the nervous functions are affected in chronic ethylism: the victims experience a pricking or tingling sensation in the extremities, which may give place to a certain degree of insensibility.

The muscular strength diminishes, and presently a slight tremor appears, at first passing, then permanent, consisting of slight rhythmical and symmetrical jerks of the upper limbs, which become more noticeable in proportion as the victim tries to subject his movements to accurate control. The lips and tongue, and the muscles of the face, may also be affected by this tremor.

After a certain number of years of alcoholic excess, the muscular strength is so diminished that the drinker has lost almost all his capacity for work, and finds himself obliged to abandon any calling that demands any muscular effort. At the age of fifty a drinker is usually "done for," as far as his productive capacities are concerned.

The genital functions suffer the same depression as

the muscular strength, and absolute impotence is a frequent result of alcoholic excess.

Then appear cerebral disorders—insomnia, dreams, and nightmares, often characterised by visions of terrifying phantoms or strange animals. On waking the alcoholic often suffers from vertigo and visual disorders, above all if he drinks liqueurs.

When an alcoholic who has reached this stage indulges in fresh excesses, exceeding the dose to which he is accustomed, drunkenness may manifest itself by a violent nervous crisis of delirium and tremor (*delirium tremens*). A crisis of this nature may be precipitated by an ordinary chill, an injury, or an attack of some infectious disease, such as pneumonia or erysipelas.

This trembling delirium, which is characterised principally by terrifying hallucinations in the slighter forms, is marked in the super-acute forms by an extreme agitation in which all the muscles are in movement, without rest or remission. The face is flushed, and covered with sweat, and the eye haggard; the temperature is high; there is extreme thirst; convulsions may occur, necessitating the use of the strait-waistcoat; and after a longer or shorter period of this ungovernable excitement (six, twelve, twenty-four hours), during which he may be a danger to himself and to those who approach him, the patient, exhausted, falls into a state of collapse and dies.¹

¹ We have not considered absinthism separately, as it may be regarded as an aggravated form of alcoholism, consisting as it does of simultaneous alcohol poisoning and poisoning by drugs or essences.

All drinks containing essences—bitters, pick-me-ups, liqueurs—may, like absinthe itself, which is the typical example, produce absinthism. Thus absinthism has been observed in quite young girls who had been advised to take peppermint or eau des Carmes for digestive troubles.

The development of ethylism is as a rule rather a slow process, for the abuse of alcohol requires several years to impair the system seriously. Only in the second period of ethylism, when the disorders, at first congestive, have become organic, owing to the fatty degeneration of the cells, is alcoholism really established. This period is characterised by an imperious need of alcohol; and it is then that the French proverb "he who has drunk will drink" becomes strictly accurate. In the third period the alcoholic is characterised by his general malnutrition and sottish degradation.

But long before he has reached this degree of degeneration the social value of the alcoholic is profoundly diminished, from the productive as well as from the reproductive point of view.

We have said that the abuse of alcohol makes the drinker old before his time. That is, he is diminished in his physical and intellectual value, as a producer and also as a procreator. At forty years of age an alcoholic often appears sixty; so that a third of his life has been destroyed, and precisely that portion of his life which, in well-balanced and industrious men, is the most fruitful, owing to the skill and experience acquired.

The leading characteristic of acute absinthism is the occurrence of convulsive crises which approximate closely to the crises of epilepsy.

As for chronic absinthism, its special physiognomy results principally from disorders of sensibility which are at first localised in the extremities, afterwards gaining the trunk, in a more or less symmetrical fashion. These disorders of sensibility consist of an excessive exaggeration of the reflexes and of sensitiveness to pain.

Finally, a symptom comparatively common in the drinker of absinthe or similar liquors is a peripheral paralysis, perfectly symmetrical, localised by preference in the nerves of the lower limbs, although it may affect the pneumogastric or phrenic nerves, when it involves fatal complications.

It will be seen what waste alcoholism is responsible for, from the social point of view.

Does alcoholism favour tuberculosis? Does it, as has been said, manure the soil for tuberculosis? In a certain sense it undoubtedly does so; but indirectly, through the poverty which, in the working classes, is usually its accompaniment, and the insufficient alimentary repair which results from the abuse of alcohol.

As for the direct creation of a soil favourable to the development of tuberculosis, we do not believe that alcohol has this effect; indeed we rather incline to the contrary opinion. We have considered elsewhere this question of the soil favourable to tuberculosis, and we have attributed its production to the syphilitic heredity. There is no need to be surprised therefore if we find many alcoholics among the victims of tuberculosis, for the syphilitic heredity often manifests itself by a special mental degeneration, compounded of impulsiveness and suggestibility, which is entirely propitious to the development of alcoholism.

But while alcohol does not directly cause a predisposition to tuberculosis, it is none the less true that it confers a character of special gravity upon any infectious disease by which the alcoholic may be attacked.

The system steeped in alcohol loses all powers of defence against the virus of disease, and this is why pneumonia and erysipelas, which, as we know, are serious maladies in old men, are equally serious in alcoholics, who often exhibit, during the development of these diseases, excitement, delirium, and a coma which may be fatal.

Physicians have noted the marked influence of alcoholic drinks upon skin diseases in general and the

cutaneous complications of syphilis in particular; and Professor Fournier, at Saint Louis, used constantly to remind his students of the way in which syphilis is exacerbated by alcoholism.

Wounds are commonly more serious in alcoholics than in temperate persons; and surgical operations are more dangerous. Many wounded soldiers during the Great War were unable to support indispensable operations because of their alcoholic taint.

Statistics, moreover, prove how little resistance the alcoholic opposes to disease in general. Out of 4,744 patients M. Jacquet found that 1,905 were alcoholics, or at least drinkers, a proportion of 29.01 per cent.; out of 1,328 patients in the Parisian hospitals he found that 610 were alcoholics, or 46 per cent.

It was said, *à propos* of the revision of the 1914 conscripts, that "if the young men of twenty years of age were finer than those of twenty-one, this was because they had had a year of drink the less." It must be recognised that the premature consumption of alcohol—and in certain parts of France they begin to give alcohol to the child almost in the cradle—has caused a terrible degeneration of that splendid race of men of whom certain provinces, such as Normandy, were formerly so proud.

But it is above all from the age of thirty years and upwards that a man really begins to drink, or rather to feel the effect of what he drinks. He then, one may say, begins to age visibly, and alcoholics of forty to forty-five years of age are often no more than sheer human wrecks, who look to have long passed their sixtieth year.

In this connection the remarks made by certain prefects, at the time of the inspection of discharged

and exempted men, which was undertaken at the end of the year 1915, with a view to remobilisation, are characteristic. We cannot quote them here, but they will be found in the official report.¹

The general mortality of alcoholics is of course much higher than the average. This average for all professions being represented by 100, the mortality of the publicans of the industrial districts of England is represented by 2,030 and that of the farmers by 506.

The infantile mortality of the descendants of alcoholics is also very high. M. Jacquet, between the 1st of May, 1912, and the 1st of May, 1913, investigated the facts relating to the offspring of 396 drinkers. These were classed in three groups, according to their consumption of alcohol. One hundred and forty-one moderate drinkers lost 83 children; 108 heavier drinkers lost 115; while 147 heavy drinkers were responsible for 244 deaths.

Is there such a thing as hereditary alcoholism? Alcoholism is already a social malady, owing to the individual degeneration of which it is the cause. Does it further threaten the race itself?

A very striking fact is the exceptional frequency of arthritism in the offspring of alcoholics. Now arthritism is a mark of a constitution characterised by retarded nutrition; hence it seems that there must be a hereditary transmission of the retardation of organic combustion which is, as we have said, the physiological characteristic of the action of alcohol on the system.

Arthritism, an ordinary heredito-alcoholic taint,

¹ *Rapport fait au nom de la Commission de Legislation fiscale chargée d'examiner le projet de proposition de loi sur le Régime d'alcool*, par. M. Coutan.

would thus be an indirect disproof of the creation by alcoholism of a soil favourable to tuberculosis; for there is an actual antagonism between arthritism and tuberculosis. The tubercle bacillus vegetates only with difficulty in an arthritic soil, and tubercular lesions in arthritic patients are characterised by their tendency to sclerosis, that is to cicatrisation.

In confirmation of this origin of arthritism, the offspring of arthritics often suffer from defects which, as we shall see, are assuredly the result of heredito-alcoholism.

Among these defects we must first of all mention the inborn tendency to use and abuse alcoholic drinks commonly observed in the children of drunkards. "It is usually between the ages of 15 and 25," says Lancereaux, "that the tendency reveals itself, in an extremely insidious fashion, in young men and even in girls. The appearance of these cravings may account for the tendency of certain races to indulge, more than others, in the abuse of alcohol; it explains the great number of Norman and Breton alcoholics observed in the hospitals of Paris."

But there is more than this to be considered. It is probable that epilepsy and hysteria, when they are not derived from syphilis, are the results of alcoholism. The nocturnal terrors of children are more often than not due to the alcoholism of their parents, if not to the intoxication of the child itself.

Lastly, we often detect alcoholism in the family antecedents of young criminals of the impulsive or amoral type.

We have already drawn attention to those wretched "Saturday's children" who are characteristic of certain industrial communities. It is from this

tainted youth that all the victims of precocious vice and crime are recruited.

Of the mental disorders which constitute hereditary alcoholism, MM. Triboulet and Mathieu write:¹ "The intelligence is not greatly impaired in the first generation of the offspring of alcoholics, and there were comparatively few idiots or imbeciles in the cases observed by Legrain, who investigated 215 families of drinkers. The children are intelligent and precocious, but they suffer a sort of arrest at a given age; they are not endowed with any great intellectual or moral stability. Moreover, they are nervous; *neuropaths*; and from their early youth one perceives that their character and intelligence are ill-balanced; they are capricious, ill-tempered, and violent, exhibiting an exaggerated delight or an abnormal state of depression for the most trifling causes.

"What is more serious is that in a certain number of cases we observe errors of conduct, sexual excesses, or conscious obsessions.

"Under the title of *moral insanity* Legrain has observed, in 32 out of 508 children of alcoholics, the following defects: bad instincts and vices, lying, insubordination, precocious prostitution, sexual perversion of every kind, theft, swindling, vagabondage.

"The dangerous impulses observed are of every kind: assaults, quarrels, homicide under the influence of drink, acts of brutality and rebellion, threats of death, etc.

"It will be seen how burdened is the mental state in these individuals, who, as a rule, are not habitually sufficiently insane to necessitate internment.

¹ *L'Alcool et l'Alcoolisme*, by H. Triboulet and F. Mathieu.

But mental alienation itself receives a very large contingent of heredito-alcoholics. Legrain has observed 106 cases among 508 individuals, and notes that depressed and melancholy states of mind predominate, with a frequent tendency to suicide.

“Occasionally special symptoms of alcoholic heredity are developed. *Delirium tremens* may appear by hereditary transmission. More rarely hereditary tremors are said to have been observed.

“The impairment and unsettlement of the nervous centres of heredito-alcoholics may give rise to maladies of the nervous system. Infantile convulsions are recorded with some frequency in the cases noted by H. Martin (in 48 out of 1697 subjects) and Legrain (in 39 out of 508). Hysteria, too, is observed, or hystero-epilepsy (in 60 out of 119 subjects) and true epilepsy (in 52 out of 508 subjects). Absinthism in the parents appears directly and almost inevitably to engender epilepsy in the children. A few cases of chorea are observed.

“In the second generation of heredito-alcoholics the observations of Morel and the statistics of Legrain, who investigated 98 families, producing 294 children, we find an aggravation of symptoms. The intelligence is more seriously impaired. Idiots and backward children are numerous, and 23 cases of mental alienation are recorded. In 40 families there is epilepsy. Infantile convulsions and meningitis are frequent. Drunkenness is almost constant.

“In the third generation Legrain follows up seven families with 17 children, who are all defective; some are idiots, backward, or weak-minded; others suffer from moral insanity, hysteria or epilepsy.

“It is not only by mental or nervous defects, but

also, in many cases, by defects of the physical constitution that organic disorder is revealed in the descendants of alcoholics.

“Féré, investigating the embryos of animals, has subjected eggs to the influence of alcohol; he opens them before they hatch, and discovers alterative changes which give rise to monstrous deformities. Duneaux and Breschet also have encountered atrophic malformations in human foetuses born of alcoholic parents. Legrain, in a total of 215 families, noted 174 cases of foetal mortality or precocious mortality. The alcoholism of the parents thus contributes to the depopulation of the country.

“The physical defects of the children consist in what are known as the stigmata of degeneration; these are, malformations of the skull and asymmetry of the face; sometimes strabismus, blindness, deafness, deafness and dumbness, and malformations of the vertebral column; and we may also regard infantilism as due to arrested development. Thus, in a minor degree, since the investigations of Magnus Hus, Rabuteau and Lancereaux, hereditary alcoholism is held responsible for the falling off in the average of stature and physical vigour, and the results of military enlistment in France and Switzerland appear to confirm this opinion.

“The children of alcoholics offer less resistance to disease, and when they escape meningitis or scrofula they are decimated before maturity by acute diseases.”

There is no doubt that the observers whom we have quoted have often mistaken the stigmata of heredito-syphilis for those of heredito-alcoholism; and in reality it must have been difficult enough to dis-

tinguish between them at a time when heredito-syphilis was still imperfectly understood—especially before the test of sero-reaction was known—the more so as syphilis and alcoholism often go hand in hand, to their mutual aggravation and complication.

The statistics to which we shall now appeal will show us, moreover, in a more striking fashion than any pathological considerations, the close and deadly connection existing between the consumption of alcohol, crime, and lunacy.

CHAPTER II

THE EXTENT OF THE EVIL. ITS SOCIAL CONSEQUENCES

During the last fifty years the consumption of alcohol in France has doubled, and in this connection the country is now at the head of all the countries in the world.—At the same time criminality, mental disorder, tuberculosis and suicides have similarly increased.—The war has still further aggravated this condition.—As a result of the new habits formed by the female workers in factories and workshops, there is reason to fear that alcoholism is becoming more frequent among women.

Anyone considering the present extent of the evil would find it difficult to believe that alcoholism is a disease of recent development. Yet in 1852, when the Académie Française awarded one of the Montyon prizes to Magnus Hus, a Swedish physician, who in 1849, dismayed by the advances which the new malady was making in Sweden and Norway, was the first to sound the alarm, the author of the academic report was still able to write: "France contains many drunkards, but fortunately no alcoholics."

The times have changed indeed. Eighteen years after this happy period, in 1870, Bergeron, calling the attention of the Academy of Medicine to the prevalence of alcoholism, stated that "the evil was already very great," and since then all the States of Europe, notably England, Denmark, Russia, Swit-

zerland, and even the United States, have been forced to give attention to and organise a campaign against the new scourge. Further, the plague has passed into the hot countries, and in Algeria, as in the tropical regions, it has been responsible for terrible ravages.

In order to appreciate the danger with which it threatens France, we must inquire into the consumption of alcohol of recent years. The statistics of the Ministry of Finance inform us that the quantities of alcohol which have paid duty have increased from 18,748,668 gallons (851,825 hectolitres) of pure alcohol in 1860 to 34,296,730 gallons (1,558,234 hectolitres) in 1913.¹ The amount of alcohol paying taxes has thus nearly doubled in 53 years.

These figures, it must be remembered, do not take into account the so-called "family consumption" of alcohol: that is, the brandy which the *bouilleurs de cru* (farmers, vine-growers, etc., who distil spirits ostensibly for their own use) are allowed to consume without paying duty, after distilling it from their wines and ciders, the residuum of the wine-press or cider-press, the dregs of the vats, or the fruits grown in their orchards. Everyone knows that the alcohol thus obtained is in reality consumed not by the family of the distiller, his servants, friends, and neighbours, but also by their labourers, and even by the customers of certain wine-shops, cabarets, etc., supplied by the distiller unknown to the Control (Régie).

The number of gallons of pure alcohol made by the

¹ These and the subsequent figures are quoted from the report of the *Commission de la législation fiscale chargée d'examiner le projet et les propositions de loi sur le régime d'alcool*, by M. Tournan (Paris, 1916).

bouilleurs de cru, and therefore not controlled, has increased, according to the estimates of the Control, from 110,000 in 1896 to 220,000 in 1913. It has therefore precisely doubled. But there is reason to think, according to M. Tournan, that the estimates of the Administration amount only to a fraction of the alcohol utilised for family consumption or secretly supplied to retailers.

Judging by the total of the official statistics the average amount of alcohol consumed per inhabitant amounted in 1913 to 6.86 pints of taxed liquor, and 7.92 pints, or close upon a gallon, with the liquor exempted from taxation. These figures, compared with those of other countries, are extremely high; for excepting Denmark, where the consumption per head, in 1911, was 10.102 pints, in all other countries it was below 7 pints.

In other words, France appears to be the most alcoholic country in the world. But a more careful analysis of the situation soon shows us that the following figures afford us a very insufficient idea of the quantities of alcohol consumed by each drinker.

To begin with, the consumption per head, calculated for each department, turns out to be very unequal. Between 1904 and 1913 it varied from 21.44 pints in Seine-Inferieure to 1.4 pints for Gus.

And the average per inhabitant is higher in the towns than in the country. In 1913 it was 13.8 pints in communes of 4,000 to 6,000 inhabitants, as against 5.67 pints in the country.

Lastly, in the same town all the inhabitants do not drink equally: the children consume little or no spirituous liquor; and the women, even in provinces where they drink too much brandy, as in Normandy,

do not drink nearly as much as the men. Finally, there are water-drinkers. Also, it has been ascertained that in towns such as Le Havre, Caen, Rouen, and Boulogne-sur-Mer, the greater part of the alcohol is consumed by a small number of drinkers, who drink annually, on an average, 52.8 pints of alcohol at 100°, or 132 pints of alcohol at 40° (the normal strength of brandies), or 3,000 small glasses or "nips" in the course of the year, which gives a daily consumption of eight small glasses.¹

But even this is not a maximum. "In many cantons of Eure, Calvados, Seine-Inferieure, Manche, and notably in Mortinais and La Hogue, the country of the legendary "café à la mort," there are many men, farmers or fishermen, who drink not less than half a litre (.88 of a pint) of brandy every day. Some boat-owners or farmers pay all or part of the wages of their men in brandy, served at the cafés, without food. The women themselves in certain districts have contracted the drink habit. The children who take their meals to school sometimes carry in their food-baskets a bottle of coffee laced with brandy, and the school-teachers state that it is not unusual to see them arrive at the school drunk." (Tournan, report already cited.)

It is impossible to obtain statistics of the individuals afflicted with alcoholism; the more so as it is with alcoholism as with all other diseases: all degrees of the malady may be observed, from the slightest to the most advanced cachexia. But there is no doubt that a great part of the population of France is afflicted with it.

¹ G. Lachapelle, *L'Alcoolisme*, in *La Revue de Paris*, December 1915.

We may judge of this by the frequency of extreme cases, which do get recorded, since they are observed and catalogued in the prisons and lunatic asylums. Alcoholism leads to crime and insanity. Let us see in what direction the statistics of crime and insanity are tending in France.

M. Legrain, the chief physician in the Asylum of Ville-Eveard, has submitted to the Société Générale des Poisons the results of statistics which he personally collected, relating to 2,500 drinkers, the majority of whom would have been liable to prosecution had they not been sent to the Asylum under his direction. Investigating the "criminological value" of alcohol, he ascertained that of these 2,500 patients 1,664, or 66 per cent., would have been liable to prosecution and imprisonment.

As to the nature of the crimes and misdemeanours committed, M. Legrain found that of every 100 drinkers 21 had been guilty of acts of violence (blows, etc.); 17 of vagabondage or mendicity; 10 of threats; 8 of resistance to the law; 3 of breaking out of custody.

The Keeper of the Seals, in the General Account of the Administration of Criminal Justice in France, notes during the last few years before the war a very perceptible increase of those crimes which have their origin in the taverns and places of amusement, and which are the result of vice and alcoholism. The increasing number of assaults and stabbing affrays, etc., also appears to the Keeper of the Seals to be an obvious consequence of alcoholism.

About one third of the cases of resistance to the law and assaults upon policemen, etc., are provoked by the abuse of alcohol; one fifth of the cases of

personal violence and robbery with violence are caused by drunkenness; one sixth of the offences against morality are due to the same cause. "It is violence, there is no doubt of it," says the Keeper of the Seals, "that constitutes the specific criminality of drunkards and alcoholics; acts of violence, homicidal or covetous, blows and wounds, and violent acts of immorality: such are the crimes most frequently engendered by the abuse of alcohol."

In point of age the number of prisoners addicted to drink is proportionally larger among adolescents than among adults; and this fact by itself would explain the ever-increasing proportion of juvenile crime, the statistics of which can but follow the increasing statistics of alcoholism.

Lastly, the districts in which crimes of violence are most frequently the results of alcoholism are situated in the regions which show the greatest consumption of alcohol: Besançon (where absinthe is chiefly responsible), Rouen, Caen, Paris, Douai, Amiens, Nancy, Angers, Rennes. In these districts the average proportion of intemperate delinquents is ten times greater than elsewhere.

Moreover, the statistics of the prisoners tried in the Assize Courts during the ten years 1904-1913 confirm these conclusions: the amount of criminality is greater in the departments which consume an excessive amount of alcohol than in the others.

The data relating to insane alcoholics are in all respects comparable to those relating to criminal alcoholics.

Certain insane persons owe their condition solely to their abuse of alcohol; others seem to have been led to the asylums by various diseases—epilepsy,

auto-intoxication, etc.; but alcoholism has intervened as the last straw, aggravating the previous affection, and without it there would have been no obligation to resort to internment. These two categories, however, do not constitute the entire population of insane alcoholics. "How many alcoholics," says Professor Debove, "exhibit mental disorder, without being for that reason shut up in an asylum! For one actual lunatic, how many alcoholics over the brink of mental alienation enjoy their liberty and are not included in the statistics!"

According to statistics drawn up by the Poor Law authorities (Direction de l'Assistance Publique) relating to those insane persons whose condition is attributed to alcoholism, the proportion of patients afflicted with alcoholism, for the period 1861-1885, was 5 per cent. in the case of the women and 21 per cent. in that of the men. But a comparison of the beginning and end of this period is highly significant as showing the progress of alcoholism; for the figures relating to women rose from 2.82 per cent. in 1861-5 to 9.58 per cent. in 1881-5; while the figures relating to men rose from 14.78 to 21.9 per cent. during the corresponding period.

In 1907 a fresh inquiry was conducted in the various asylums, with a view to determining the exact number of patients whose mental alienation was caused partly or wholly by the abuse of alcohol. In 1907 their numbers were 9,932 among 71,547 patients, which represents a total of 13.60 per cent. of the entire population of the asylums. In ten years there had been an increase of 50 per cent.

Finally, between 1893 and 1912 the number of alcoholic patients under treatment in the public

asylums increased from 76,413 to 101,461; that is, by nearly one third. During this period the numbers of those patients whose malady was attributed to alcoholism rose from 5,050 to 10,037; that is, it had almost doubled.

We have already expressed our opinion of the relations between alcoholism and tuberculosis: that it does not seem to us that alcoholism is specially productive of a soil peculiarly favourable to tuberculosis, as syphilis appears to be. But we are fully alive to the influence which the anti-hygienic conditions under which the majority of alcoholics live may exert upon the development of tuberculosis. This influence is no less obvious for being indirect, and it is interesting to inquire what the statistics have to say in this connection.

Now M. Fuster has shown us that nearly all the towns of more than 20,000 inhabitants which have a death-rate from tuberculosis higher than the average death-rate obtaining in towns of this size are in the north-west of France (notably 16 towns out of 25 in Normandy and Brittany), and the same author has drawn a map of "rural tuberculosis," showing its incidence by departments; a map whose agreement with that showing the consumption of alcohol is remarkable.

The statistics issued by the medical boards examining recruits (Conseils de revision) between 1906 and 1915 show that in general those departments in which large quantities of alcohol are consumed furnish a high ratio of tuberculous subjects. While the average for the whole of France was 13.50 per 1,000 of the men called up, it was 43.30 per 1,000 in Ile-et-Vilaine, 34.51 in Orne, 33.78 in Mayenne, 24.35

in Calvados, 23.09 in La Manche, and 15.52 in Seine-Inférieure.

Again, the advance of alcoholism is commonly invoked to explain the extraordinary increase of the number of suicides in France during the last forty years. From 5,276 in 1875 the number rose to 6,259 in 1880, 8,418 in 1890, 8,926 in 1900, and 9,810 in 1910, or 2.4 suicides per 10,000 inhabitants. Given the mental instability of alcoholics, who readily pass from a state of exaltation to one of depression, it is permissible to conclude that alcoholism plays a prominent part in this progressive increase of the number of suicides, the more so as those departments in which the greatest number of suicides are recorded are also those which consume the greatest quantities of alcohol. In 1905 the department of Eure stood at the head with 186 suicides, or 55 per 100,000 inhabitants. Seine-Inférieure came immediately after with 338 suicides (53 per 100,000 inhabitants). Paris was fourth on the list, with 1,462 suicides (35 per 100,000 inhabitants).

Thus during the last fifty years the tide of alcoholism has been steadily rising, and simultaneously its social symptoms—criminality, insanity, and suicide—have made alarming advances.

Note that the figures which are given above are pre-war figures, and that there is no room for doubt that the war has aggravated the situation, as it aggravates the other social maladies. The victims which alcoholism has claimed during the last few years have hitherto evaded the statistician; but the extraordinary frequency of cases of drunkenness, the prelude of alcoholism, the spread of drinking habits among women, who have been passing the wine-shop on the

way to and from the munitions factory, and have not failed to leave there a large proportion of their un-hoped-for earnings, are disturbing symptoms of the aggravation of the scourge.

It is high time to take counsel. But before inquiring what remedies it would be possible to apply to this painful situation, we will examine the conditions which favour the abuse of alcohol in the individual.

CHAPTER III

WHY AND HOW ONE BECOMES AN ALCOHOLIC

The factors of alcoholism are of a physiological and psychological order.—The absorption of alcohol in quantities larger than the dose which can be dealt with by a given organism, and the continued absorption of alcohol of a particularly toxic quality, constitute its physiological factors.—The psychological factors are: the craving for the stimulus due to the absorption of the poison; imitation; the temptation of passing wine shops, cabarets, bars, etc., where the poison is sold, at every step; the craving for rest and amusement, in those who are idle or in those who work, and the want of a home in which they could find either.—Feminism, which results in taking the woman out of her home, in order to perform work which is more and more closely approximating to that of men, will cause a yet greater number of uninhabitable homes, and will at the same time multiply the “poor man’s clubs”—that is, taverns, wine shops, etc.

If we inquire into the individual causes of alcohol we shall find that these causes are of two kinds: physiological and psychological.

Physiologically, a man becomes an alcoholic because he absorbs a quantity of alcohol which is larger than that which his system is able to burn, and therefore larger than that which the tissues should be called upon to tolerate.

It is difficult to ascertain this quantity, since it varies with the individual, with his constitution, and with the kind of life which he leads.

Thus arthritic subjects tolerate alcohol very badly; and for them a quantity of alcohol which a normal subject can perfectly well support is absolutely poisonous.

Similarly, persons who work in the open air, and with their muscles, are not incommoded by a quantity of wine which would be dangerously toxic to the sedentary worker. Thus there are furniture-removers who drink ten to fourteen pints of wine a day, and who take quite a time to succumb to such habits, which would kill an office-worker in a few months.

Physiologically, again, a man becomes an alcoholic more especially because he drinks alcohol of bad quality—a poison doubly poisonous.

Fifty years ago the alcohol consumed was usually diluted sufficiently to prevent its producing very harmful effects; and brandy was too dear to be within the reach of every purse.

But presently the manufacture of industrial alcohol was developed with extraordinary rapidity, and its price, which was 166 francs per hectolitre in 1854, fell in seven years to 44 francs, involving a parallel depreciation in the price of grape brandies, which fell from 193 francs to 58 francs. It was then that alcohol began its ravages.

On the other hand, as the industrial alcohols had a disagreeable taste, which had to be removed by rectification, and as the product thus obtained was deficient in flavour, the manufacturers were led to add all sorts of essences, which were highly seductive to the palate, but extremely toxic to the organism:

notably thuyone, benzoic aldehyde, and salicylic ethers. These dangerous substances were further capable of masking the unpleasant flavours of ill-rectified alcohols, which are particularly poisonous. What was then offered for consumption was, as M. Grivean justly remarked, "poisoned poison."

In 1913, when 34,296,730 gallons of alcohol paid duty for general consumption, the "poisoned poisons," such as absinthes, bitters, etc., amounted to 8,925,957 gallons, or more than one fourth of the whole. Between 1872 and 1913 the quantity of absinthe consumed increased to 36 times its initial figure; and France absorbed more absinthe than all the other countries put together.¹

¹ Concerning the quantity and quality of alcohol absorbed, the essences being reckoned as impurities, M. Ponchet, in a report upon a proposed law relating to the sale of liqueurs, apéritifs and alcoholized wines, submitted in the name of the Conseil d'hygiène publique de France, expresses himself as follows:

"If we seek to classify spirituous liquors in accordance with the foregoing data, we see that the first term of the series consists of neutral industrial alcohol reduced in strength for consumption, that is, white brandy; and the last consists of the same alcohol containing in solution, and in the largest doses, the essences extracted by maceration and distillation from plants containing substances which are recognised as being extremely dangerous—that is to say, absinthe.

"Between these two extreme terms we place the various natural brandies, aromatic wines, and liqueurs.

"Alcohol in itself is a toxic substance, whose harmful effects no longer call for demonstration; but this disastrous effect is still further increased by the aldehydes, the acetones and the ethers which are formed during fermentation or exist in the natural state in all the ingredients employed in the preparation of aromatic beverages. The toxicity of these products is all the greater in that the manufacturer passes from the derivatives of the fatty series to those of the aromatic series, while the chemical composition of these compounds becomes still further complicated. From this point of view the maximum toxicity must be attributed to the derivatives of the group of bi-cyclic terpins, whose principal representative, in the aromatic plants employed, is thuyone. For an equal dose of alcohol, therefore, these liqueurs are all the more dangerous in that they contain a greater quantity of essences, for all the essences used are harmful, and more particularly the essences of the menthene group.

Among the psychological factors which lead to alcoholism, we must, to begin with, reckon the agreeable excitation which follows immediately upon the absorption of a small quantity of alcohol. This sensation, moreover, is common to the absorption of all toxic substances in small doses, whatever the nature of these substances—whether they are poisons of mineral, vegetable, or even microbic origin. One often observes it, indeed, in the early stage of infectious diseases, during the period of incubation. This excitation gives the person who experiences it an impression of strength and capacity for work, which is precisely why the victim predestined to alcoholism will resort to it whenever he feels a little lazy, and it becomes necessary for him to exert himself. Such occasions for resorting to the favourite stimulant are not lacking in modern life. We may add that this sensation of strength and capacity is wholly illusory, for experiments have proved that the work produced under these conditions is perceptibly inferior in quantity and in quality to work done when the blood is cool. And this sensation of power is only enjoyed at the cost of the state of depression which presently follows it, which is itself very often the cause of one or more returns to the stimulant, in search of departing courage.

To this quest of a pleasant stimulus we must add

“It may be added that for equal doses of alcohol and essences the liqueurs are more dangerous in proportion as their powers of seduction are greater, for those which most attract the consumer are those which he can least resist, so that he takes more of them. Here intervenes an individual psychological factor, which the observations of the alienists have clearly proved. We must realise, in short, that the influence exercised by essences, as well as by alcohol, on the neurones of the central nervous system is much more intense and much more marked than their toxic power.”

imitation, a factor which is common to the majority of human actions, and which acts here with special force, because of the fact that the consumption of alcohol usually takes place away from the home, in public, and this function of imitation, by means of which the drinker influences the sober man, women, and even children, is perhaps one of the most potent factors of the spread of alcoholism.

We may add that it is favoured greatly by the scandalous multiplicity of drinking-bars, cabarets, etc., of every kind, which the passer-by, whether townsman or villager, find by the roadside..

Indeed the places where drink is sold are met with in France to-day at every step; cafés, brasseries, restaurants, public-houses, bars, hotels, music-halls, cinema-theatres, tobacconists, dairies and pastry cooks', groceries, linen-drapers', coal and wood stores, to which we must add the innumerable wine-merchants' offices, and the *cabarets à femmes* or *cafés chantants*, in which lubricity serves as a bait to the drinker. In 1913 there were in France 482,704 establishments where alcoholic drinks were sold: or 1 for every 82 inhabitants.

M. Tournan (in his *Report*, already cited) lays stress upon the disastrous part played by the private distillers or *bouilleurs de cru*. "The privilege which the farmer enjoys of distilling, without declaration or taxation, the products of his harvest, has led him, little by little, in certain districts, to pour into the still all his spoiled wines and ciders, the residuum from the wine-press, the dregs from the vat, in short all the products that cannot be directly consumed. The distillation is often effected with rudimentary apparatus, and without the least care. The brandy

thus obtained being as a rule of small value, the distiller has formed the habit of consuming it in large quantities, and this habit has gradually spread to all the members of the family. It goes without saying that the retailers of the neighbourhood do not fail, as opportunity serves, to make surreptitious purchases of this peculiarly harmful liquor. The alcoholism prevalent in the Norman countryside must be attributed largely to the privilege enjoyed by the private distiller."

While the working man has his wine-shop, the farmer his still, and the townsman his café, where flows a continuous stream of those innocent cocktails and liqueurs, containing a high percentage of alcohol, which are certainly responsible for more victims than the long drinking-bouts of old, at the close of which the drinkers rolled dead drunk under the table, the more fashionable circles of "good society" intoxicate themselves by drinking aromatic wines or old brandies, and no good middle-class hostess gives a dinner without offering her guests the traditional glass of cognac at the end of the meal.

Lastly, among the important psychological factors of alcoholism, above all among celibate workers, we desire to lay stress upon the absence of a home in which they might find rest and happiness after the day's painful toil. "It has been said that the cabaret, or the bar of the gin-palace, is the 'poor man's parlour'; the comparatively luxurious, warm, well-lit room in which he can take refuge in order to avoid the murky, confined tenement or slum bedroom in which the wife scolds and the children cry. He goes to the *cabaret* to forget his miseries, his disappointments, and to drown his cares. Alcohol is the

Lethe of modern society; rich and poor appeal to it for a little consolation. In the most luxurious hotels, in the humblest lodgings, in the disreputable wine-shop there is, before all, the marvellous elixir which gives to each, for a few minutes or a few hours, the illusion of happiness. (Tournan.)”

This factor—the absence of a home, of a family—can but assume a more aggravated form; for it does not affect only the bachelor or the unhappily married worker. With the current of feminist ideas which is impelling women more and more to seek work away from the home, the home and the family will be cherished less and less; and at the close of the day husband and wife, each returning from the workshop or the office, meeting in the cold, slovenly tenement—the resources of the couple being increased by the wife’s wages or salary—will go to the *cabaret* together, there to seek rest and distraction.

The attractive centre of the home, the child, is on the way to disappear—here is yet another social plague which we shall presently consider; and the child alone might have rivalled the *cabaret*. With the sterile wife who will be the achievement of feminism, the victory of alcohol threatens to be complete.

CHAPTER IV

THE CAMPAIGN AGAINST ALCOHOL. WHAT HAS BEEN DONE; WHAT NEEDS TO BE DONE; WHAT IS GOING TO BE DONE

The example of water-drinkers; the effect of Temperance Leagues, conferences, and pictures; anti-alcoholic education in the school and the barracks; the law relating to drunkenness; the prohibition of absinthe; the limitation of licences: this, at present, represents the campaign against alcoholism. And it is not enough.—Popular education is disappointing, and the influence of legislation is illusory.—There is only one possible and effectual means of combating alcoholism: namely, the absolute prohibition of all alcoholic drinks other than the so-called hygienic beverages.—The United States have applied this measure to more than half their territory. Why should it not be applied in France?—There are several explanations of the timidity displayed by the authorities. The chief of these is that the State profits by alcohol.—The State could continue to profit by it by allowing it to be used for lamps, stoves, motors, etc.—In place of the radical measure of prohibition, what does the State propose? An increase of the duty upon alcohol, and a monopoly of industrial alcohol. And alcoholism will remain as prevalent as ever.

ALCOHOLISM being a voluntary intoxication, the campaign against this intoxication must be directed against the will, and all possible motives of action—imitation, fear, and lastly constraint—should, on

principle, and under various forms, lend their quota of influence to the struggle.

If we consider the measures, private or public, which have been adopted in order to combat the increasing plague of alcoholism, we shall find that they belong precisely to these three classes of motives.

We must further recognize that the campaign in question is particularly difficult, because of the strictly private character of the evil to be fought. Only one person is in question, namely, the person who is soaking himself in alcohol; and he is fully persuaded that he cannot harm anyone but himself, provided he will even go so far as to admit that the evil is a real one. On the other hand, the drinker, even if he could no longer obtain drink out of doors, could still indulge his disastrous passion in the privacy of his home.

The first efforts directed against alcoholism in France were due to private persons, who carried on a propaganda in favour of water-drinking. We know that imitation is all-powerful as a motive of action, and there is no doubt that the water-drinkers have very fortunately increased. For one thing, the complaints of the wine-sellers, who accuse the medical profession of having spread this new fashion, are very eloquent in this connection.

The only fault we have to find with propagandists of this class—though in principle we agree with them, for we hold that wine is to some extent dangerous, and that it is preferable to abstain from it when abstention is expedient—is that their demands are exaggerated when compared with the effort which

they entail, and that for this reason they are not likely to produce any effect beyond the limits of a rather restricted circle.

The propagandists have also tried to exploit fear, and have taken measures to make the dangers and evil effects of alcohol widely known in every class of society. Temperance leagues have been formed (*ligues anti-alcooliques*), which, by means of lectures, leaflets, and picture-posters, have preached the crusade of health. In schools and barracks an anti-alcoholic education has been organised.

In this connection certain physicians have certainly rendered great services, distributing anti-alcoholic instructions in the hospitals and dispensaries, and, in conversation with their patients, endeavouring to inspire them with a dread of the poison.

All these efforts are highly meritorious; but if we are to confess the truth, they do not appear to have yielded such results as one might have expected from them. The drinker is sceptical and suspicious. He does not wish to believe in the dangers of alcohol. These dangers, moreover, are not speedily manifested by visible and tangible symptoms, such as those of syphilis; they take a long time to mature, and to the ordinary observer they remain somewhat problematical. All that the drinker is willing to see in all the advice pressed upon him is that people want to deprive him of his chief pleasure; moreover, he is always convinced that he does not commit such excesses as those of which he is shown the dangers. In fact the mentality of the drinker is the mentality of a child; and this characteristic becomes more marked as the action of the poison on his brain progresses.

We must not, however, despair of the activities of

the leagues. In the United States and the Scandinavian countries the temperance societies have exerted a very great influence. In Norway, in 1912, there were 258,384 total abstainers, and in Sweden 500,000. In England there are 5,000,000 abstainers, belonging to 392 temperance societies.

At one time the public authorities felt that they themselves ought to do something to check alcoholism, and on the 23rd January, 1873, an Act relating to drunkenness was passed. The intention was good, but the manner in which it was formulated was illogical. For drunkenness is not alcoholism; it might be completely abolished, yet alcoholism would continue to ravage society. We may add that this law has remained almost a dead letter, and that the agents of the Government have almost everywhere become accustomed to tolerating public displays of drunkenness. This is perhaps regrettable as a matter of public order, but it is of no great importance as regards alcoholism. If we wish really to influence drinkers we must begin by decreeing the internment of all incorrigible drinkers in special asylums, as has been done in Sweden, Norway, Switzerland and the United States. But we have halted at the first step on the right path, which we ought to travel to the end.

Let us be just, and mention two fresh efforts of recent date.

The first is represented by the Act of the 9th November, 1915, which will prevent, or at least we hope it will prevent, the further multiplication of retailers of drink. This law prohibits the opening of new establishments for the sale of spirituous liquors, and permits of the removal of old establishments

within a radius of 150 metres only, provided they re-open within a year of the date of their closing.

But the regulation of these establishments is still rudimentary; it does not prohibit the sale of liquor at certain hours, nor to children, women, and soldiers, nor the sale of liquor on credit; nor does it forbid the retailer to keep an accessory shop, or to introduce attractions, or to employ, for the sale of liquor, women other than those of his family.

The second recent effort, which we record with satisfaction, is represented by the Act of the 16th March, 1915, which prohibited the manufacture and sale of absinthe and similar liqueurs.

At first sight this law would seem to represent a great advance. Unhappily the advance is only apparent, for the expression "similar liqueurs" lacks preciseness, and thanks to this lack of preciseness the retailers continue to sell a number of drinks as dangerous as absinthe, which will inherit the customers for the latter drink. Alcoholism will have suffered nothing by the change.

Further, the law should suppress the sale of concentrated essences and extracts which enable anyone who pleases to prepare his absinthe for himself.

In short, all that has hitherto been done to combat alcoholism is absolutely insufficient. Generation upon generation must elapse before the results obtained by the temperance leagues are appreciable, if they are ever so; and as for the recent laws, they are so much "eye-wash," for the benefit of the public. They walk round the question instead of delivering a frontal attack; they seek to run with the hare and hunt with the hounds—that is, with the drinker and

the wine-merchant; and, above all, with the legislator and the elector.

Since it is recognized that the fear of alcohol, inculcated by the education of the public, is unable to obtain the desired result, we must, without hesitation, employ constraint.

Radical reforms are always the best. They make straight for the goal, and they attain it; and they are not less readily accepted than reforms of a timid and ineffective kind.

It is admitted that alcoholic drinks are toxic. Very well: let alcoholic drinks be suppressed, with the exception of those known as "hygienic drinks"—that is, wines, beers, and ciders.

Would it be impossible to apply such a measure? In the United States it had already been applied in nine of the States, and in half the districts of 16 other States. At the moment of writing absolute temperance is imposed upon fifty million inhabitants of the United States, occupying about 76 per cent. of the territory of the Union. Recently the advocates of temperance demanded of Congress a measure of absolute prohibition, and they obtained 197 of the 256 necessary votes.

But, it will be said, such a measure would not be accepted in France. Are the citizens of the great American Republic less jealous of their liberties than the citizens of the French Republic? On the other hand, we know of no population more docile than that of France, and the administrative abuses which it tolerates without a murmur often exceed all measure.

At the beginning of the war the prohibition of the sale of alcoholic drinks would have been accepted

with enthusiasm, everyone being ready to make all necessary sacrifices. But this psychological moment was foolishly or criminally allowed to pass, and it must be admitted that the matter would be more difficult to-day; not that the people would oppose any obstacle; but the poison-merchants have raised their heads again; the members of Parliament are bound hand and foot by their most influential electors, and it would be impossible to count on a Parliamentary majority in favour of a radical measure.

On the 29th February a Deputy put before the Chamber the following proposition: "In no place where intoxicating liquor is sold shall any person be allowed to sell, to be drunk on the premises or to be taken away, otherwise than as an adjunct to food, any spirituous liquors, liqueurs, or aperitifs, other than those with a vinous basis or of a less strength than 23 degrees." This proposal received only 83 votes among 530 voters. It was useless to insist.

Yet at the beginning of the war, on the 22nd August, 1914, a ukaze prohibited the sale in Russia of vodka and all other alcoholic drinks. It is true that this prohibition, which was very well received, was intended only for the duration of the war, but the Tsar—it was perhaps his only good action, but it assuredly was not to be despised—declared that he had decided permanently to suppress the sale of vodka by the State.

And what were the all but immediate results of the total abolition of alcohol in Russia? There was a most notable improvement in the public health, and an increase in the productiveness of labour; the deposits in the savings banks rose from 1,673 millions of roubles on the 1st September, 1914, to 2,195

millions on the 1st September, 1915, and continued to increase regularly by 100 millions per month; factories were built for the industrial consumption of alcohol, and nearly 44 millions of gallons were exported. (Report of the Russian Ministry of Finance.)

Of course the first act of the Revolution was to re-establish the sale of alcohol, in which the miserable "Reds" proceeded to soak themselves, which, better than anything else, explains their delirium.

There is no longer any chance of obtaining the prohibition of alcoholic liquors in France, and this for two principal reasons. In the first place, the great majority of politicians are subject to the orders of their electors, and the wine-merchants have become the most influential electors in France; secondly, the State itself profits by the sale of alcohol.

We will not enlarge upon the first point, since it would involve us in considerations which have no connection with medicine or hygiene. Our readers, and the electors of France, can supplement our remarks by their own reflections.

But it is easily demonstrated that if the public authorities refuse to deal with the drink problem in a radical fashion in order to husband the resources of the State they are making a grievous mistake.

There is one very simple means of rendering the trade in alcohol more profitable, while prohibiting its sale as a beverage. Let the State release it for use in internal combustion engines, instead of allowing human beings to drink it.

We know that alcohol may be utilised for lighting purposes, for heating, in motor-cars, and above all in the manufacture of chemical and pharmaceutical products, alcohol being employed either as a raw

material or as a solvent in the preparation of a very large number of these products.

Now the facilities of all sorts which the industries of Germany enjoy for the employment of denatured alcohol have contributed to the extraordinary development of the German industrial companies whose products used to invade both France and England.

The German manufactories of chemical products, for example, contrived to sell their goods so cheaply that they used to provide the French houses with goods intended for French customers at a price below the cost price of the products as produced by the French manufacturers.

Lighting by means of alcohol is all but unknown in France; but heating by means of this fuel might easily become general. In 1913 more than 10,000,000 gallons of alcohol were burned in France in all sorts of apparatus: chafing dishes, small stoves, heating stoves, salamanders, soldering and blow-lamps, blow-pipes, hot-irons, foot-warmers, etc., etc.

If alcohol were sold at the price of petroleum and one could count on the stability of that price, it is certain that the use of alcohol stoves, etc., would rapidly become more extensive, and that they would gradually replace petroleum stoves.

We know that the flame of alcohol, which does not give any light to speak of, becomes a good illuminant when the alcohol is enriched by a hydrocarbon, such as benzol, and that there are excellent systems of intensive lighting in which this illuminant is utilised.

In Germany alcohol as a public illuminant has been found the most economical of all next to incandescent gas.

Alcohol may also be used as a domestic illuminant, either enriched, or as a source of heat merely, the light being emitted by incandescent mantles.

But before all else the motor-car would absorb large quantities of denatured alcohol. It has been proved that alcohol may with advantage replace petrol in internal combustion motors. Its lower calorific power is largely compensated by a higher dynamic yield, and taking it all round the alcohol motor is theoretically superior to the petrol motor.

At the present time it is estimated that the abatement of the price of denatured alcohol would enable automobile locomotion to absorb, within a short space of time, some 15,000,000 gallons yearly.

In Germany, in 1913, 37,940,000 gallons of denatured alcohol were consumed, which corresponds to a consumption of about half a gallon per head. In France the average was only $3\frac{1}{4}$ pints.

It is therefore certain that the employment of alcohol for domestic and industrial purposes could be very greatly increased; and it remains for the public authorities to suppress the vast tangle of administrative red-tape which prevents this development.

It should be noted that the Germans have the same motives as ourselves for developing the industrial use of alcohol. These motives are those that underlie the war upon alcoholism and the war upon petroleum and petrol, foreign products, which might to great advantage be replaced by alcohol, a home product. The utilisation of the potato is an important problem in Germany, for its production is so abundant that neither human consumption, nor stock-raising, nor pig-keeping, nor the manufacture

of starch will suffice to absorb it. Germany was therefore compelled to turn her attention to the employment of alcohol in industry, and we shall be forced to do the same in France, if the increase of duties, in default of a more radical measure, should reduce its consumption as a beverage, and if we are obliged to find each year an outlet for 13,000,000 to 15,000,000 gallons of alcohol, under penalty of ruining the beet-growing industry.

By selling at a loss denatured alcohol, the price of which never exceeded 40 pfennigs per litre (about $2\frac{1}{4}$ d. per pint or $1/6$ per gallon), at a strength of 90° , and by raising the price of potable alcohol, in such a way as to make the latter bear the losses caused by the alcohol intended for industrial purposes, and by the increased cost of raw material due to bad harvests, the German system has after all solved, in a fairly practical if not radical fashion, the problem which we are considering, namely, the reduction of the quantity of potable alcohol consumed, and the increase of the industrial consumption of denatured alcohol, by lowering and fixing the price of the latter product.

It is very probable that we shall adopt some such system in France. The Commission for Fiscal Legislation instructed to examine the scheme and the proposed law relating to the control of alcohol has indeed adopted a system which it recommends as mobilising the Treasury for the war upon alcoholism; a system to which it naturally attributes all the qualities requisite for attaining the desired end.

This system involves raising the general consumer's duty to 500 francs per hectolitre (about $18/2$ per gallon) of pure alcohol, while abolishing the octroi

duty, or to 400 francs without touching the octroi, which in Paris amounts to 165 francs.

It also includes a Government monopoly of industrial alcohol, intended to assure an outlet for the whole output, and to safeguard the agricultural interests threatened by the certain (?) decrease in the consumption of potable alcohol.

The monopoly, it must be admitted, would not be without advantage from a hygienic point of view; for while, if absolutely necessary, the purity of alcohol could be guaranteed by the permanent inspection of the distilleries, it would incontestably be easier to divert industrial spirit from employment as an intoxicant if it were wholly in the hands of a State department.

The suppression of the scandalous privilege of the private distiller, or *bouilleur de cru*, would be the necessary corollary of the system adopted. No doubt the State monopoly would not be extended to natural brandies, but the regulations affecting them ought to undergo profound modifications.

In the first place, the increase of duty would not make it permissible to maintain the privileges which the private distillers enjoy. Not only has their privileged position made for the drunkenness of the rural population, but it also causes the Treasury a loss which may be estimated at some £28,000,000 annually, a loss in part due to fraudulent evasion of the customs. Now this fraud is all the more alluring as the rate of duty is higher; so that the distillers' privilege could not co-exist with a duty as high as 400 francs per hectolitre, or 14/6 per gallon—almost double the present duty. The most obvious result of such an increase of duty, if it was not accompanied

by the suppression of the privilege, would be an increase in the number of persons enjoying the said privilege. It has already been ascertained that the progressive increases of the duty have resulted not only in a larger number of private distillers in the districts where this privilege is of long standing, but also in their appearance in departments where the practice of distillation was formerly unknown. The Côtes-du-Nord and Morbihan, where the practice of distilling is of recent introduction, already contain 9,500 and 11,000 *bouilleurs de cru* respectively!

The new scheme, whose essential elements are the State monopoly of industrial alcohol and the suppression of the privilege of the *bouilleurs de cru*, includes also a certain number of accessory regulations, whose value, from the hygienic point of view, appears worth consideration, at least at first sight.

In the first place, with regard to the manufacture of essences, the Government has been inspired by the advice given by the Academy of Medicine and the Conseil Supérieur d' Hygiène, and proposes the prohibition of certain essences employed in the fabrication of liqueurs and aromatic wines (thuyone, benzoic aldehyde, aldehyde and salicylic ether), together with the limitation of the total content of the essences whose use is authorised to 0 gr. 50 per litre of the product.

It may be noted here that at the present time certain brands of curaçoa contain as much as 2 gr. 25 of essences per litre, while in kùmmels the amount of essence per litre may amount to 2 gr. 10, in bitters 1 gr. 50, in menthe 1 gr. 30, in anisette 1 gramme, and in green chartreuse 0 gr. 75.

The Commission, less courageous than the

Government—without any very apparent reason—proposes to allow as much as 400 milligrammes to 2 grammes of essences—the latter strength being confined to liqueurs containing only essences of orange or carraway or cumin, on the pretext that these essences have never given rise to abuses, or at least do not *appear* to have been condemned by the hygienic experts. (See M. Tournan's Report, already cited, p. 204.) Moreover, "these liqueurs are, we are told, the object of an important export trade, and great care must be taken not to place obstacles in its way." This last phrase strips us of our last illusion, for we had hoped for a moment that the principal object of the proposed reform was to combat alcoholism!

This reform, which is a half-and-half sort of affair, appears to be chiefly a fiscal measure, its hygienic proposals being merely so much camouflage.

We do not hesitate to stigmatise it as timid and inexpert, for it is based on considerations relating to the development of the use of industrial alcohol, which seemed to promise such profits—together with the monopoly—that the prohibition of liqueurs might be considered without any risk of impoverishing the Treasury.

The Parliamentary advocate of this proposal, estimating the hygienic results of raising the duty, considers that the increased duty would have the result of decreasing the consumption of potable alcohol, which would fall from 36,850,000 gallons to some 22,000,000 gallons. But this is by no means proved, for of late years wages have risen to such an extent—and had risen even before the war—that the amount

consumed will probably be maintained at the old figure.

It is true that the same writer states that in England, during the last forty years, each increase of the tariff has resulted in a diminution of the quantities paying duty, so that in spite of the increase in the tariff the yield of the tax has remained almost constant. The last reform, which in 1890 increased the duty at one stroke from 18/10 to 25/10, is reported to have caused the consumption to fall from 22,369,490 gallons to 14,979,410 gallons.

This is true; but since then the consumption has risen. By 1912—three years after the increase of duty—it amounted to more than 17,600,000 gallons.

Further, if we ask what has happened in France, where the duty has been raised on several occasions, notably in 1871 and 1901, we do not find any persistent decrease of consumption as a result of this measure. In 1871 the consumption amounted to 4.95 pints per head; the duty was increased to 150 francs per hectolitre ($5/6\frac{1}{2}$ per gallon), and by 1875 the consumption had returned to 4.96 pints per gallon. In 1901 the consumption was 6.2 pints per head; the duty was increased to 220 francs per hectolitre (8/- per gallon), and by 1903 the consumption had increased to 6.23 pints per head.

There is no doubt that every increase of duty causes a momentary disturbance of equilibrium in the matter of private expenditure, and this disturbance is manifested, for a few months, by a restricted consumption.

But matters quickly adapt themselves. If alcohol is dearer, this means, to the artisan, that living is dearer. Strikes intervene; wages are increased; and

the increase of wages, without in any way improving the position of the worker, goes to enrich the State—and the wine and spirit merchant, who always increases the price of his wares by a sum larger than that of the super-tax. It is the same old story: and the same thing will in all probability happen over again with the reform now promised as a panacea.

After a few years, perhaps after a few months, it will be found that the consumption of alcohol has resumed its upward tendency; and the Treasury, which will need money worse than ever, will congratulate itself, while the hygienists, as always, will lament; and the same discussions will recur, until once again the duty is increased.

And alcoholism will continue its ravages.¹

The drinkers of alcohol will not fail to be grateful to their mandatories for their benevolent foresight.

¹ Since these lines were written the question of the control of alcohol (*le Régime de l'Alcool*) has been under discussion in the Chamber of Deputies; and legislation has been introduced which would establish a control still inferior to the modest provisions which we have suggested.

This law ratifies, it is true, the monopoly of alcohol. The State will have the monopoly of purchasing all industrial alcohols; that is, alcohols which do not proceed from the distillation of wines, ciders, perries, residual waste, lees, and fruits; and we are promised that it will concern itself with extending the industrial uses of alcohol.

The speakers who took part in the debates on this law were for the most part extremely emphatic as to the mischief done by alcohol; but when it was a matter of deciding whether industrial alcohol should or should not be permitted as a beverage, out of 485 voters only 43 voted for the negative motion (14 March, 1918)!

It is true that the Chamber decided that the price of this alcohol, when sold for internal consumption, should not fall below 1fr. 50 per litre of pure alcohol—about 8½d. per pint!

The arguments invoked in favour of retaining industrial alcohol for internal consumption deserve to be put on record. The speakers feared lest the consumers should go short of their favourite poison. France produces only some 1,210,000 gallons of natural alcohol, and the consumption of alcohol after the war was estimated at 22,000,000 gallons. There would thus be a deficit of 50 per cent., which would obviously be very annoying for the consumers of alcohol.

As for the privilege of the *bouilleurs de cru*, there was no discussion of the matter. Their position, however, will be more advantageous than ever.

On the whole, then, nothing will be altered. This, alas! is just what we foresaw.

BOOK IV
STERILITY

BOOK IV
STERILITY

CHAPTER I

THE DEPOPULATION OF FRANCE

France is the only country which has hitherto been afflicted by the malady of depopulation.—The evil increases year by year.—The cause is not an excessive mortality, but an insufficient natality.—For a hundred years the birth rate has been steadily falling; it is now lower than the death rate, which is itself as low as can be expected.—Although unequally distributed in the various provinces, the evil is none the less general. Barely a score of departments can at present boast that their population is slowly increasing.—The war has still further aggravated the evil, and in a very great degree.

FRANCE is becoming depopulated.

The depopulation of our country is indeed a malady, and one of the deadliest of maladies—more serious than those which we have been considering—for it threatens the very existence of France, and the danger is immediate.

Tuberculosis, syphilis, and alcoholism—these are chronic social maladies, to which a nation cannot succumb until it has been a long time sick, when it may sink under the weight of accumulated degeneracy.

Depopulation is an acute disease, for it is enough to prolong the graphic curve of the evil for a very few years to discover a point, which will be nearer as the curve is steeper, at which the nation will have lost its rank in the world. As a nation it will actually be extinct.

The evil is great enough in the case of a country whose population is stationary, for not to advance, in the midst of peoples who are advancing—and this is the case with all the peoples that surround us—is in truth to fall back.

Depopulation is at present a malady peculiar to France.¹ No doubt the growth of the population has, during the last half century, suffered a certain abatement in almost all European countries; but this abatement cannot in any way be compared with that which characterises the French population.

During the last century the normal increase of the French people has steadily fallen off: and during the last twenty years we have witnessed a symptom whose serious nature we cannot disregard: the number of births has been so far reduced that it has barely made up for the number of deaths.

To-day the fatal boundary-line has been crossed. We are no longer standing still even; we are absolutely falling back.

“In 1700,” according to M. Bertillon, “the only countries which wielded a considerable political influ-

¹ It has been credibly reported that the death-rate has exceeded the birth-rate in Germany and Austria during the latter period of the war: though as yet we have no very reliable figures. This, however, if true, is due chiefly to malnutrition, and when some system of exchange is once more at work in Europe it is probable that the population of the Teutonic States will recover its old rate of increase; though the infantile mortality may remain slightly above the normal for a generation or two.

ence formed a total of fifty millions of inhabitants, of whom forty per cent. were French. France possessed the largest population of any European monarchy, and was therefore the most powerful from the economic and military point of view.

“By the close of the 18th century the situation was less favourable. The German population had increased more than that of France; moreover, Russia had become a considerable power. In the total population of the Great Powers—then 96 millions—France could now boast of only 28 millions of inhabitants, or 27 per cent.

“Since that time the foreign nations have greatly increased. Moreover, Italy has been created. In Europe to-day France accounts for only 12 per cent. of the populations of the Great Powers. But this calculation is no longer accurate. The United States are bearing an ever-increasing part in the trade of Europe, and they have just given proof that they intend to bear their part in international politics.

“In the total thereby increased France counts only for 10 per cent.”

These remarks, which, one would suppose, referred to the present day, were made by M. Bertillon in 1899. From that date the evil steadily increased until 1914, when the war resulted in an acute aggravation of the trouble.

What are the causes of this serious depopulation?

Is there more disease in France than in other countries? By no means. The death-rate in France is not high; it is even lower than in other countries of the same latitude.

Of every 1,000 inhabitants, 32 die annually in Spain, 27 in Italy, and only 22 in France.

Among the most favoured countries are Belgium, with 20 deaths per 1,000; Holland, with 21; England, with 19; Ireland, with 18; Scotland, with 18; Denmark, with 19; and the Scandinavian peninsula with 17.

It will be seen that the difference is not great and it certainly is not sufficient to explain the malady from which we are suffering.

The cause of this malady is indeed quite other than an excessive mortality. It is simply an insufficient birth-rate.

For a hundred years the birth-rate of France has been steadily falling, and to-day she is of all countries that in which it is lowest. France is also the only country that is steadily undergoing depopulation.

From 1806 to 1810 there were in France 33 births per 1,000 inhabitants. For the period 1851-1860 there were only 26, and in 1900 only 21. Thus, in a century, the birth-rate had fallen by precisely one-third, constantly approximating to the death-rate, and at last, at the beginning of the 20th century, meeting it and falling below it.

The evil, moreover, is prevalent throughout the country. Although all the departments do not suffer from it equally, they are all affected by it.

In 1886 the population was decreasing in 29 departments only; in 58 it was still increasing. Ten years later, in 1896, it was decreasing in 63 departments, and in only 23 was it increasing.

Pas-de-Calais, Finistère, Vendée, Haute-Vienne, Morbihan, Le Nord, Les Landes, Lozère, and Corrèze are now almost the only departments in which, during the last few years before the war, the birth-rate was still ahead of the death-rate.

On the other hand, Orne, Lot-et-Garonne, Gers, Tarn-et-Garonne, Aube, Eure, Yonne, and Sarthe are peculiarly afflicted by this evil, and the births represent only 20 to 60 per cent. of the deaths.

In 1825 the annual excess of births over deaths in France was 6·7 per 1,000 inhabitants; in 1850 it had fallen to 5·0, by 1885 to 2·5, and by 1900 to 1·3 per 1,000.

During the same period the same surplus increased in Germany from 8·0 to 14·7; in Austria from 7·4 to 11·5; in Holland from 10·5 to 15·0; and in Italy from 6·1 to 11·0 per 1,000.

In England, where for some years a slight decrease of natality has been manifest, the surplus birth-rate still stood at 11·6 per 1,000 in 1910, as in Sweden and Norway.

We should note that the other nations, while far from being afflicted with the evil of depopulation, display, nevertheless, an abatement of the splendid increase of their natality.

Thus, in America the statistics show that the number of children born in the families of men who have attended centres of higher education has decreased from 56 per 1,000 in 1800-1810 to 20 per 1,000 in 1870-88. It is probable that this remarkable decrease is not peculiar to the well-to-do classes, but that it extends to the whole population.

However this may be, the misfortune of one class cannot cure the misfortune of others.

In France the war, which, as we have seen, has aggravated all the social maladies, has certainly affected the depopulation of the country.

The latest statistics relating to the movement of the population in France, published in 1915, refer to the

first six months of 1914. We see by these that the number of deaths, during this period, was 357,256, and the number of births 331,398. Thus, during the first six months of 1914 France had already lost more than 25,000 inhabitants!

Dr. Thuillier (in the *Revue de Médecine et de Chirurgie*) endeavours to show how we may estimate the demographic disasters of the war. He reckons the monthly average of deaths during hostilities at 75,000, and that of births at 30,000; the difference between these two figures giving a deficit of 45,000 per month, or 540,000 per annum: that is, more than half a million.

And here are some reliable figures which show that these dismal prophecies are by no means exaggerated: In Paris, in March, 1916, from the ninth to the thirteenth week of the year, the excess of deaths over births attained the unheard-of figure of 2,245 (4,546 deaths and 2,301 births). If we take the quarter from July to October (from the 27th to the 39th week) there seems to be an improvement: the excess of deaths over births is only 1,040 (7,544 deaths and 6,504 births); but if there are fewer deaths per month there are also fewer births, since these amounted to no more than 2,168 per month. Now what was the situation when times were normal? During the quarter July to October, 1913, there were in Paris 8,566 deaths and 10,837 births, or 3,612 births per month.

In 1916 the deficit of births appears to have been 17,000 for the capital alone.

In 1918 the monthly average of mortality in Paris was, in January, 1,000; the average of natality did

not exceed 600. For February the corresponding figures were roughly 800 and 600.

There is no need to-day, we imagine, to insist on the disastrous consequences of this evil, which has so grievously afflicted France.¹

Not only does the French population, since it fails to increase, lack the necessary force of penetration to expand outwards and utilise its splendid colonial domain; but we have seen, alas! with what difficulty it has been able to defend its own territory.

Of course—and this is a situation of which we all of us, to-day, understand the full danger—the number of foreigners settled in France has of late years undergone a rapid increase. From 392,814 in 1851 it had increased to 1,300,915 in 1891.

No European country nourishes such a number of foreigners. And nearly all these foreigners, as M.

¹ Even if the natality were to cease to decrease from now onwards, the *absolute number* of births would not remain stationary, as is often supposed; owing to the inevitable reduction in the number of marriages it would still continue to diminish.

Here are the figures given by the "National Alliance for the Increase of the French Population":

"The average age of marriage in France being 27 years, the 622,000 young people married in 1912 were born in the neighbourhood of the year 1885, during which year 924,000 births were registered. So 924,000 births were required to give rise to 311,000 marriages, the proportion being almost exactly 3 to 1.

"Now in 1912 there were only 650,000 births; so in 27 years time, in 1930, we shall have only some 250,000 marriages.

"If the fertility of the young parents has not altered, there will be born, in that year, only 600,000 children; these, when they are grown up, will give rise to only 200,000 marriages, and so on. In 80 years the number of marriages and of births will have diminished by one half. And France will be lost!

"If we reflect that the French natality has diminished by more than 100,000 in 10 years, although the number of our marriages during this period has remained almost stationary, we shall perceive what a terrific falling-off there may be to-morrow, under the combined action of a decreasing fertility and a smaller number of marriages. The number of our births may well decrease to half its present figure in the course of 30 or 40 years!

Bertillon remarks, come to settle in France not to spend money, but to gain it. According to the census of 1891, there were only 65,664 who belonged to families living exclusively on their unearned incomes.

“The condition which we are approaching,” wrote M. Bertillon in 1899, “is that of the factory, near Nancy, of which M. Debury speaks. The owner is a German, captain in the *landwehr*; the manager is a German, also a captain; all the workers are Germans and German soldiers. When the *landwehr* is called up the factory is closed. Frenchmen are permitted only to pay the police who guard it, and, if it suffers any damage, to pay compensation!”

There was a time when people rejoiced over the large number of foreigners naturalised in France. We know to-day the worth of these naturalisations, and by what good Frenchmen our population found itself enriched. The Germans naturalised in France remained Germans, and we know what part they played in the Great War.

CHAPTER II

THE CAUSES OF THE FALLING BIRTH-RATE

Depopulation is the result, not of natural sterility, which is not more common in France than in other countries, but of voluntary sterility, or rather the voluntary restriction of the birth-rate.—In France it is the case with nearly eight married couples out of ten that they do not wish for more than one, two, or three children, although they might have twice or thrice as many if they wished.—The great number of abortions, which equals the number of births in our large towns, confirms the voluntary character of this low natality.—What are the causes of this peculiar mentality of the French household? M. Bertillon attributes it to the father's ambitions for his son.—Like foresight, economy and the love of luxury and pleasure may also play an important part. The most obvious influence is that of the modern feminist ideas, which take the woman out of the home and lead her to compete with man in all departments of his activity.—Woman, wishing to assimilate herself to man, has realised that she will succeed in so doing in proportion as she suppresses maternity, which, for the adepts of feminism, has become a blemish.

WE have seen that the depopulation of France cannot be attributed to an excessive mortality, and that it is only the result of an insufficient natality.

We must now inquire as to what may be the causes of this low natality. It has been steadily diminishing for something like a hundred years, but more especially during the last twenty-five years.

And to begin with we must inquire whether the

low birth-rate of the French people is due to the frequency of sterility, for if so we might attribute it to pathological causes, or a special degeneration, whose nature we should have to investigate.

Now the proportion of sterile households is much the same in all countries; it varies from 16 per cent. in France, as in Germany. And this fact might be foreseen, since all civilised countries suffer as France does from the evils that might affect their fertility.

Absolute sterility, such as might be attributed to a tainted heredity, to individual degeneration, cannot therefore be held responsible.

If the population of France is diminishing it is not because there are too many households which have no children; it is because there are a great many which have not enough children.

In round figures, in nine millions of French households there are five millions—more than half—which have only one or two children. If we add to this group the households with three children—and this number of children is still insufficient to ensure a satisfactory growth of the population—we find that we can point to only 2,300,000 households of normal and sufficient fecundity as against 6,700,000 of restrained and insufficient fecundity.

This is the true cause of the depopulation of France. Not sterility, but insufficient fecundity. Now if married couples are able to produce one, two, or three children it is plainly evident that they are fertile couples, and that they might as well, if they would, have four, five, or six or more children.

We are therefore, as all the evidence goes to show, confronted by a comparative sterility, or more exactly a voluntary sub-natality.

And this fact of the voluntary restriction of the fecundity of the household is of capital importance, for this fact, being duly established, will be the pivot of all the measures which we shall pass in review when we come to examine the remedies proposed in respect of depopulation.

Let us then remember these figures—that there are in France nearly eight households in every ten which refuse to produce more than one, two, or three children.

Another fact which still further confirms this doctrine of a voluntary sub-nativity is the steadily increasing number—increasing as the number of births decreases—of abortions. According to the best gynecological authorities, the number of abortions is, in the larger cities, practically equal to the number of births.

We are of course speaking here of abortions deliberately provoked, of actions which are voluntary, as is the restriction of the rate of conception. We are speaking of crimes, which are most commonly committed to repair errors, oversights, or omissions, which happen to endanger the private decisions that have been formed relating to the size of the family.

For it must not be thought that abortions are destined chiefly to hide moral faults or to save delicate and compromising situations. Very often today these abortions are procured by married women, legitimately pregnant, in order to keep to the rate of natality agreed upon for the household.¹

¹ M. Mesureur has furnished some suggestive figures for the year 1913—the latest which are reliable—relating to this “massacre of the innocents.” These figures were obtained in the Paris hospitals.

Having reached this stage of our inquiry into causes, we are now led to seek for the motives which can have determined so many households to restrict the number of their children. At first sight this inquiry seems to present peculiar difficulties, since it must entrench upon a region in which ideas, opinions, feelings, instincts, and influences, conscious and unconscious, mingle and conflict with one another, reinforce and neutralise one another, forming, as a whole, a fabric of extreme complexity, which it is extremely difficult to unravel.

Nevertheless, let us see what we can do.

M. Bertillon attributes the decrease in the birth-rate to the father's ambition for his son. If we examine the distribution of the birth-rate among the different French departments, we shall at once perceive that the richer the department the lower the birth-rate. Normandy, the valley of the Garonne, and Burgundy, countries of inexhaustible wealth, are the least humanly fertile regions of France. On the other hand, Brittany, Lozère, and Aveyron, which are very poor countries, are among the regions where the birth-rate has suffered least. It is the same in Le Nord and Pas-de-Calais, which are departments largely industrial, where poverty is very prevalent.

These facts might be interpreted thus: In regions where people think of their wealth (that is, where there is wealth to think about), there are few children

About 5,000 women were admitted for miscarriage or abortion, either before or after the expulsion of the products of conception. During the same period there were 17,000 accouchements. These 17,000 accouchements represented an expenditure of £68,000; the 5,000 abortions cost £20,000; yet for one interrupted gestation there were $3\frac{1}{2}$ births. The expenditure in the case of abortions or miscarriages is therefore in proportion considerably greater than for normal accouchements.

born; in regions where people do not think of their wealth (because they have none) there are plenty of children.¹

M. Chervin, moreover, has shown that in the rich and sterile department of Lot-et-Garonne (rich in harvests, sterile as to men) the richest communes are those where the births are fewest, while the poorer communes display a less wretched birth-rate. Thus, in the rich districts, the richest inhabitants are the least fruitful. Similarly, in the poor districts, as M. Arsène Dumont has shown, it is the poorest inhabitants who are the most fruitful.

In Paris itself M. Bertillon has observed similar results. If we rank the twenty arrondissements according to the class of population which inhabits them, we find that their birth-rate diminishes uniformly with the average wealth of the arrondissements.

Thus the very poor arrondissements produce 108 children for every 1,000 women between 15 and 50 years of age: the well-to-do arrondissements produce only 72, and the wealthy no more than 53. The richest arrondissement of all, the VIIIth, produces 34 only, or one third of the number of children born in the very poor arrondissements.

The sole cause of these variations, says M.

¹ There is another possible interpretation of this fact. When families are large inheritances are divided; the children start life without capital or property. Where they are small the children have a good start in life. It is to make this possible that families are restricted. The process works both ways. At the same time, there is no doubt that the ability to make money and the ability to exercise restraint go together. As far as prudence and forethought for the children are responsible for depopulation, the situation can only be bettered by social and economic changes—perhaps of a revolutionary character—which will enable every industrious man to enjoy reasonable wealth.—B.M.

Bertillon, is anxiety about money. People reflect that if they have children they must have money with which to educate them; above all, the family fortune must be shared, in order to start the sons in life and provide dowries for the daughters. And when the children inherit it must be shared again;¹ and this would be intolerable. Conclusion: they take care not to have any children.

The man who encumbers himself with a numerous family not only undertakes a very heavy burden; he also inflicts a burden upon his children. Wishing to avoid this evil, he dreads the second child more than the first.

In support of his thesis M. Bertillon cites the following observations of M. Lancry's: Fort-Mardick, near Dunkirk, is a commune constituted by Louis XIV. on the following principles, which are still in force to-day: Every newly-married couple, when one of the pair is a native of the commune, and if the husband is a naval inscript, receives in usufruct (only in usufruct, that is the essential point) 22 ares (rather more than half an acre) of land, and a pitch upon the beach for net-fishing. The commune received from Louis XIV. a total of 125 hectares of land (308 acres). What is not distributed in usufruct is let at £200 for the benefit of the commune. The married couples who are granted land can cede their allotments only to their children. In no case can the allotment be divided. It is therefore safe from creditors. It is inalienable, indivisible, and inextensible. The result is a fairly prosperous population who are yet com-

¹ The law of primogeniture does not obtain in France. Every daughter who hopes to marry must be provided with a *dot*, and the sons are favoured equally.—B.M.

pletely free from any anxieties as to inheritance. They live, in a sense, outside the civil code. The result is that marriages are frequent, and as early as the naval service will permit; illegitimate births are exceedingly rare (1 in 90). On the other hand, the legitimate birth-rate is extremely high; it amounts to 43 per 1,000, which is surpassed, in Europe, only by Russia. But—and this is not the case in Russia—of these 43 children, born living, 33 attain the age of 20 years. From 204 inhabitants in 1729 the population of Fort-Mardick had increased, by 1896, to 1,672 inhabitants.

M. A. Dumont has described a similar phenomenon in a very different region of France. At Fouesnaut, in Finistère, every man who returns from military service proposes to a landowner to grant him, for a long term, a lot of uncultivated land. He reclaims it and settles on it, marries, and has many children; for he has no reason to be anxious in respect of his offspring.

Thus it seems that even in France, as soon as people cease to be anxious to preserve their fortunes (that is, not to break them up), the birth-rate is greatly increased.

M. Bertillon remarks that French Canada offers an incomparable field of experiment. The province of Quebec is inhabited by a population principally French, animated with the true French spirit of industry and economy. But the law permits full liberty of testament, and the notaries of the country declare that the fathers of families make general use of this liberty. They leave nothing to their daughters (holding that it is for the son-in-law to provide for the needs of the family) and nothing to those of their

sons who have received a liberal education, and have become doctors, lawyers, priests, etc. (holding that the education which they have received constitutes a sufficient patrimony); and among their other sons they choose that one who appears best fitted to continue their labours, agricultural or commercial; and it is to him that they leave their property and the succession to their affairs. The result of this state of things is that among the French population of the province of Quebec the birth-rate amounts to 48 per 1,000, which is more than double the French rate, and which even exceeds anything to be found in Europe. This high birth-rate is evidently due to the fact that the French Canadians do not perceive, as do the European French, a relation between the number of their children and the preservation of their fortune.

France, for that matter, is not the only country in which the law prescribes the equal division of property; but it should be remarked that of the countries in which the same law exists several, notably Switzerland and Belgium, are suffering from a diminishing birth-rate. France being more than any other country a land of small peasant-owners, it will be understood why it is more than any other a provident and economical country.

Such is the theory of M. Bertillon; and we cannot deny that his arguments are impressive.

We think it can hardly be denied that the providence of the parents plays a very large part in the restriction of the birth-rate: but it is equally difficult to admit that this providence can be the only cause of the sub-natality of France.

To begin with, the restriction of the birth-rate very largely overflows the regions where this providence

should be operative. On the one hand, we see it in wealthy circles, where the motive invoked is hardly admissible; and at the other end of the scale it is becoming seriously prevalent in poor circles where economy and providence have scarcely any material on which to exercise themselves.

We are well aware that in these latter circles an immediate thriftiness, in default of providence, might be operative, and that the increasing cost of living might cause people to dread the advent of more mouths to feed. But it would seem that this motive, under a slightly different form, is operative principally in the strictly well-to-do classes, where the resources of the household are just sufficient to enable it to maintain a certain level of appearances—always, of course, superior to what it normally ought to be—and in which the arrival of another child, the second or third, would force the couple to reduce their sumptuary expenditure.

The necessity of exchanging a smart-looking flat for larger but rather less fashionable-looking premises inspires many a middle-class family with the greatest terror. The wife, in this altered mode of existence, sees a downfall to which she cannot resign herself; and it is she, it appears, who in the majority of cases opposes the arrival of the additional member of the family who would bring about this unendurable downfall.

We believe that the wife is, indeed, most often the member of the family responsible for the restriction of the birth-rate.

M. Bertillon has indicted the ambition of the father for his child. The mother must be condemned for reasons which are perhaps much less creditable.

The love of luxury and pleasure, hardly compatible with a numerous family in a position of average prosperity, and a very moderate liking for the cares and fatigues of maternity, before and after the birth of the children—these are some of the reasons which render the latter undesirable.

And here we are naturally led to consider a question which has always been neglected by the demographers and psychologists who have inquired into the causes of depopulation; namely, the influence of modern *feminism* on the birth-rate.

This word feminism, by which we mean the current of modern ideas which is impelling women to enter into competition with men in every department of external activity, is a word very badly chosen. In reality we ought to speak of *hominism*, since the tendency of the movement is to turn woman into a being who is as little as possible distinguishable from man.

As a result of a conception of the purpose of woman differing entirely from that of the Orientals, who consider that her function is solely to produce children, the evolution of the Western civilisations, which long ago created the "lady"—a creation for which it does not perhaps deserve unlimited congratulation—is now in travail with a new order of being, which, in spite of morphological differences corresponding to profound physiological differences, is tending socially to resemble man in all particulars.

To begin with, the same legal rights were claimed for the woman as for the man; and we hasten to recognize that this was no more than elementary justice. But presently, in the shadow of these legitimate claims, a doctrine was developed which was presently

transformed into an active campaign, the underlying idea of which was that woman should compete with man in all the spheres hitherto reserved for masculine activity, and that this new state of affairs would happily result in the disappearance of feminine purity, and of prostitution, which is its inevitable result.

It was the Golden Age (for woman) whose advent was announced. Philanthropists, who certainly meant well, but were perhaps short-sighted, incited women to make an assault upon all the masculine professions; from the universities and the laboratories to the factories and workshops, all doors were quickly thrown open to them.

We are speaking, of course, of the situation before the war. Since then, by the force of circumstances, the situation has been enormously aggravated, and the new situation which has resulted will prove to be not the least difficult of our after-war problems.

However this may be, the feminists consider, with some justification, that they have won a great victory.

Generally speaking, as a matter of fact, in the new spheres open to her activities, woman has done well. Despite the undoubted difference between the quality of her intelligence and that of the masculine intelligence, she has developed abilities which have enabled her to enter upon the branches of learning, the professions and the trades hitherto reserved for masculine activity. Served by a good memory, great application, and a violent desire to succeed, woman has often proved herself to be a very apt scholar, a very good employee, and a very good worker. She was quickly proclaimed the equal of man; and some, no doubt out of chivalry, exaggerating in the manner to

which the journalistic style has accustomed us, have declared that she is man's superior.

We will not be discourteous. Let us accept the verdict. After all, that is not the point at issue.

The result of these successful experiments was that women, having tasted a novel activity which offered them un hoped-for resources—which emancipated them, on the whole, from masculine control, affording them glimpses of a new morality, a yoke less heavy than that of our current conjugal morality—have acquired a taste for the game, and, if we may so express ourselves, have promptly shaken down into their new rôle.

But they cannot wholly become men. There is still one serious obstacle, which has sometimes brutally reminded them of their natural function: maternity.

To lose one's figure, to suckle children, to tend them and rear them: these are highly troublesome tasks, which are hardly compatible with laboratory research or the exigencies of a business connection, or assiduous attendance in the office or workshop; and it seemed to those who were confronted by these opposing demands that it was necessary to sacrifice one to the other.

It seems that the decision was not in doubt. Since the child was the real, the only obstacle to the new virile existence of the new woman, there was nothing for it but to sacrifice the child: and, on principle, maternity was suppressed.

Do you think this an exaggeration? But who has not heard young girls—in all classes of life—declare, with an absolute absence of shame, that they would marry willingly enough, but that *they were not going*

to have children? And how many young men are there who would have to admit that this mutual agreement was the first condition of their marriage?

The feminist doctrine was prevalent at first in cultivated circles, but to-day it has become democratised. The war, with the employment of women in the public administrations, the factory, and the workshop, has illustrated in a striking manner the theory of feminism and the replacement of men by women. Let us hear what these men-women have to say of maternity.

This is precisely the point which our propagandists of feminism had not foreseen, more especially the politicians, who are always eager to exaggerate, and who now afford us the strange spectacle of men seeking to reconcile incompatibilities, proposing remedies for depopulation and in the same breath recommending the opening of fresh outlets for feminine activity.

Our worthy philanthropists had forgotten only one thing, which is that woman, by her nature—and to this we must always return in the last resort—is above all a uterus, and that all her functions gravitate about the important function of this essential organ.

When the uterus performs its functions it absorbs the whole activity of the woman; and this activity can only be expended in a virile fashion on the condition that the uterus is in repose, with all the accessory functions which are the corollaries of its activity. And it must not be supposed that maternity entails only a simple disablement of a few months' duration, which, after all, cannot seriously incapacitate a woman. To begin with, pregnancy refuses to accommodate itself to a host of activities which demand muscular effort, and keep the woman on her feet; then

the period of giving suck makes its special demands, and the same with the tending of young children. If all these functions are not exercised by women, can they be fulfilled by men?

Of course, from the standpoint of personal dignity and justice, woman is strictly the equal of man. It should not be necessary to make the assertion. But from the standpoint of the social functions there is not similarity but only an equivalence between man and woman.

Need we then insist that the woman and the man cannot exercise the same function in the community?

By virtue of her nature, which is to be a mother, the woman should remain in the home, and the care of her children—above all if she has the number she ought to have—will to a great extent suffice to absorb the whole of her activities.

External activity befits the man. Formerly, in the prehistoric ages, it was his part to go fishing and hunting, in order to provide the woman and the children with the necessary food. To-day, although they assume other forms, the fundamental nature of his activities are still the same. Scientific research, the exercise of the liberal professions, industrial and commercial occupations, and the toilsome labour of the fields, all equally strenuous activities, each in its own way, which absorb the whole man, demanding his absence from the home, are the equivalents of the hunting and fishing of old. Their object is to assure the material life of the family.

But in order that the family shall fulfil its social function, without which no society is possible, the home must exist and the home can exist only by virtue of the presence of the woman and her children.

But if the feminist doctrine continues to gain ground, the woman, before very long, will regard maternity as a derogation, marking a return to the state of nature; and no argument will have any effect upon the new feminist mentality.

The uterus is on the way to becoming a blemish; woman will conceal the fact of its existence, being unable to suppress it; and already she has made good progress in this direction. We have nowadays the "strike of the abdomen"; it has been publicly advocated of late years in lectures and speeches which have been loudly applauded.

Sterility, then, appears to be the logical consequence of the feminist doctrine, which tends to transform woman into a sort of third sex, a monstrous and unexpected creation of our modern civilisations.

The influence of this disastrous doctrine has manifested itself to begin with by a deficient birth-rate. It has affected women who have had children, but have firmly resolved to make an end of this unprofitable function, in order to adopt others of a more lucrative nature.

It will manifest itself more and more frequently in future by complete sterility, as a result of the loudly expressed determination of many of our young girls, in all classes of society.

It must be largely responsible for the terrible increase in the number of abortions, of which we have already spoken.¹

¹ It is a remarkable fact that among the many writers who have spoken of depopulation, and among the speakers who discussed it before the Academy of Medicine in 1917, M. Hayem, President of the said Academy, was the only one to mention feminism among the causes of the evil. So great is the power of fashion, and of words!

Feminism does not merely incite the woman to remain sterile. By the mere fact that women work away from their homes the

Providence, thrift, the love of luxury and pleasure, and feminism: such are the principle factors which may affect natality, restricting it, and even suppressing it.

To complete our argument we ought to mention the weakening of religious conviction, which has been reckoned among the causes of depopulation. But this influence is so impossible to verify or estimate that it is very difficult to form an opinion of it. "Statistics, wrongly interpreted," writes M. Bertillon, "would even seem to indicate the contrary, for the Faubourg Saint-Germain, although sincerely pious, presents a much lower birth-rate than Ménilmontant, although a third of the interments there are civil." Is genuine, active faith actually rare in our days? Has it not always been comparatively rare? Some people readily blame the separation of Church and State, and the measures taken with regard to the religious congregations; but we know that in all ages persecutions, even the most deliberate, have only exalted faith. Consequently, if faith is growing cold we can but see in this phenomenon a change common to all beings and all ideas which are subject to age and decay.

mortality of the children of those that remain fruitful is considerably increased.

Miscarriages also are seven times and premature deliveries are six times as frequent in wage-earning women as in women who are not forced to work for a living.

There is therefore no doubt that pregnancy is imperilled by the work of the mother.

As for the necessity of putting the child out to nurse, by confiding it to baby-farmers, or feeding it with the bottle, this is the cause of a terrible infant mortality, approximating to 500 per 1,000 (36,000 per annum).

M. Triboulet, in the *Presse médicale*, 23 July, 1917, claims that the mother should receive two months' maternity benefit after the birth of a child, and that she should suckle it, receiving special benefits to enable her to do so.

To speak frankly, we do not believe that religious convictions, although we do not deny their importance from the point of view which we are considering, are capable, in many families, of contending successfully with the manifestations of self-interest which we have described.

In any case, these various factors—and we do not profess to have analysed all of them—form a coalition which is tending to destroy us. Consciously or unconsciously, they are combining among themselves, acting one upon another, and forming that lamentable mental complex which we must seek to change by all possible means; a process all the more precarious in proportion as the malady is more complex in its causes and its symptoms.

CHAPTER III

REMEDIES

The remedies proposed for depopulation are, like the causes of the evil, of three kinds: moral, economic or fiscal, and penal.—To make an effort to stem the tide of feminism—which is the contrary of what the Press and the administrative departments are doing at present; to introduce the plural vote, in accordance with the number of children; to extend the liberty of bequest; to institute and multiply public manifestations of interest and respect to be accorded to large families; such are the principal measures of a moral order which should be applied.—The fiscal or economic measures consist in imposing a special, direct tax upon celibates and unduly small families, and in applying the same principle to the death duties.—An ingenious form of taxation to be applied to dwindling families.—Bounties might also be granted in the case of large families. But this system is liable to serious drawbacks.—In France at all events the evil is so great, and the need of a remedy so urgent, that all available expedients must be tried, even those that appear less likely to prove least effectual.

“FRENCH families, on an average, have three children born alive, and in German families the average is rather more than four. Is it impossible,” says M. Bertillon, “to persuade the French family to produce one or two more children? We do not believe it is impossible.”

The remedies for depopulation which have been

proposed are very numerous, and their very number is doubtless a sign of their indifferent value. However, we shall expound the principle of some of them; for if we do not decide to apply them all, as Jules Simon wished to do, in order to make sure of applying that which will be effectual, yet we ought assuredly to decide upon some complex reform which would correspond with the complexity of the problem.

We have seen that the causes of sterility and sub-natality are of three kinds: moral, economic, and criminal—feminism, providence, and abortion.

We shall not insist at any length upon the remedies which might be applied to the moral causes, for any attempt to influence the nation's morals appears to us somewhat illusory.

Feminism in particular is the fashion at present. The Press exalts it; it is a springboard for aspiring politicians and a bait to catch votes. Against such a tide of opinion nothing can be done; the more so as the Government has deliberately set foot upon the fatal path, believing that it is acting in a democratic manner.

Now that the doors of the Universities, the public administrations, the liberal professions, and the workshops have been thrown open to women, it must be admitted that it would be very difficult to refuse to allow them to enter.

Moreover, a war of unprecedented dimensions has been waged, which has made it necessary to replace men by women in every branch of trade and industry; so that feminism has in a few years made advances that a century of conflict might not have won for it.

How will they welcome the return of the men on demobilisation, and their own return to the domestic

fold—all these clerks and officials and workwomen, who appear to have acquired the greatest liking for their new functions, by which they have been emancipated and endowed with fresh courage? This is a problem of which we cannot foresee the solution; but the solution must assuredly be such as will lead to that moral change which we cannot hope to produce by means of laws and regulations.

In the meantime it is a spectacle not devoid of irony to see our Academies, our Parliament, our Government investigating with great solemnity the causes of depopulation, and the remedies to be applied, while at the same time they are favouring the feminist doctrine and doing all they can to facilitate its progress.

Among the remedies of a moral order we must, however, mention certain possible measures, without counting too much on their efficacy.

I recommended years ago—and the idea has recently been revived—the institution of a plural vote, its value to be in proportion to the number of the voter's children. Thus a man with no children would have only one vote at his disposal, while a father with three children would have four votes, and so on. This plural vote, while it would add to the importance of the fathers of numerous families, would further have the advantage of giving stability to institutions, by assuring a preponderance of votes to electors who would be conscious of their responsibilities and interested in the maintenance of order.

The extension of the liberty of bequest might possibly prove a highly efficacious measure. Since French families fear above all things to split up their wealth, that is, to destroy it, the laws which force

them to do so should be profoundly revised, in the direction of liberty. Fathers of families must not be driven to make these disastrous calculations which are interpreted by the production of a single child.

Lastly, the public marks of interest and respect to be accorded to large families should be determined upon and multiplied. In Madagascar General Gallieni instituted a "Children's Festival," and in France a few measures of this kind have been introduced, either by the Cabinet, or by the Municipalities, which award medals to mothers having the largest number of children, or savings-bank deposit certificates to school-children who have a large number of brothers and sisters. Such schemes should be multiplied extensively. As a complement to all these measures, the best object-lesson would be for the State to reserve all favours at its disposal for large families.

It is, we must confess, a somewhat incredible fact, but in a large number of Government establishments two scholarships are not given to members of the same family, although, of course, a scholarship will be given to an only child. Allowances for lodging, residence and removal should be in proportion to the expenses of the family.

M. Jayle asks even the Academies and the faculties of the great colleges to admit only members who have at least three children, or who have reared three children to the age of twenty-one. "If the present members of these various bodies have not done their duty to the race as parents, they can easily find wards among the orphans made by the war."

At first sight it would seem better to rely upon remedies of a fiscal nature. Since we have to con-

tend with habits which have their origin in personal interest, it would seem that when the pros and cons are considered it should be enough, if we wish to tip the balance, to throw in the question of cost.

Again, if we come to consider ways and means, we ought to seek for the method which will obtain the greatest effect at the least cost. Let us see what the economists and psychologists have to offer us from this point of view.

M. Bertillon proceeds from the principle, to which we can make no demur, that the fact of rearing a child should be considered as a form of duty to the State; in reality, in order that a family may acquit itself of this duty, it must rear three children.

Consequently, all families having more than three children should be completely exempted from all taxation, which could be done—for about two million families—by imposing a super-tax of 20 per cent. on the other ten million families. It would, moreover, be equitable to impose this super-tax on a sliding scale, rendering it inversely proportional to the number of children.

A simple calculation shows that the Treasury would gain by the process, as in losing 2,112,210 fiscal units it would recover 2,450,112.

A similar measure, of course, should be applied not only to the tax upon property but to all direct taxation. In any case, one should be able to tell an insufficiently fertile family: "You have (wilfully or not) done your country a wrong. Far be it from us to punish you; but it is not just that you should profit by it. You must pay compensation."

At the present time the French family is in effect told the very reverse of this. All taxes, direct or

indirect, customs, octroi, property-tax, licenses, etc., are all higher in proportion as the family is more numerous.

To apply these equitable principles to the death duties, only children should be placed in the same situation, as regards inheritance, as would be theirs if they had brothers. For example, in the case of an only child half the fortune might be reserved to the State; in families of two children, a third part; while families of three children would inherit the whole.¹

The sums which the State would derive from the high death duties which would be imposed upon those families which had given France only one or two children ought to be reserved exclusively either for the education of poor children or, in accordance with an old scheme of M. Raoul de la Grasserie's, in order to secure a provision for the parents of large families in their old age. This pension, added to the old-age pension, would assuredly be greatly appreciated.

The objection has been made to the fiscal measures proposed that they would not demand sufficiently large sums of money from those households that had not the charge of children. These sums, says Dr.

¹ This, after all, would only be a revival of the "caducary" laws of Augustus; laws so-called because when an inheritance was to be shared the legacy which would have fallen to a celibate was declared "caducus," or void. On the other hand, if the legatee was married and childless he had a right to only half his share of the inheritance. Only fathers of families received their full due.

This law was passed in the year 723: that is 31 B.C. Its consequences were truly remarkable; for the number of Roman citizens, which before the law was passed was 4,063,000, had increased, ten years later, to 4,233,000, and twenty years later to 4,937,000.

On the death of Augustus that law was abrogated owing to the pressure brought to bear by the wealthy citizens who found it displeasing that they were compelled to have children in order that they might inherit. From this moment the population of the Roman Empire began to decrease, and when the Barbarians appeared later on the Romans had not soldiers enough to check the invaders.

P. Gallois, ought really to represent the cost of rearing a child. And he gives a formula which enables us quickly to calculate this tax for any family subject to taxation.

The formula is this: $\frac{l m}{2 n}$. Here l is the amount of the rent, m the deficit in children, and n the number of people occupying the house, flat or tenement. The coefficient of the denominator, 2, is derived from the fact that it takes two persons to produce a child. Each household owes three children to the State, so that each member of the household owes only one and a half children.

To determine the factor m , the State would consider that the man ought to have one child at the age of 30, 2 at 35, and 3 at 40 years. As for the woman, she should bear her first child by her 25th year; her second by her 30th, and her third by her 35th year.

This is how the calculation is made: A man of 42 and his wife, aged 34, have one child. There are therefore three persons in the home. Their rent is £48. The calculation is made separately for husband and wife.

The husband, according to the above rule, ought to have three children. He has only one, so he lacks two. The formula then gives us:

$$\frac{l m}{2 n} = \frac{48 \times 2}{2 \times 3} = \text{£}16.$$

As for the wife, who is 32 years of age, she ought to have two children. She has only one; so she owes one. The formula then becomes:

$$\frac{l m}{2 n} = \frac{48 \times 1}{2 \times 3} = \text{£}8.$$

The two amounts are then added. The household will have to pay £24, representing the cost of rearing the lacking children.

With the sums thus obtained the State would be able to grant relief to families having several children. Adopting the figures of the separation allowances granted to soldiers' families, it would allow 3fr. 50 per child per week, or 12s. per child per month.

We have given insufficient thought, says M. Gallois, to the terrible disturbance which will be caused at the end of the war when all allowances are stopped. On the one hand, it must not be forgotten that one of the great causes of the Commune, in 1871, was the discontinuance of the 30 sous a day allowed to the population of Paris during the seige. On the other hand, the State cannot continue to pay all the war-time allowances. By continuing to pay the sums allotted for children it would be adopting an excellent measure of conciliation, while at the same time it would be applying an effective remedy for depopulation.

The question of the tax to be imposed upon decreasing families has recently assumed a slightly different form, both in Parliament and in the discussions of certain learned societies. Instead of a tax upon infertility, a premium upon natality has been suggested.

Speaking in the name of a special Commission appointed by the Academy of Medicine to investigate the question of depopulation, and the remedies to be opposed to this dangerous malady, Professor Charles Richet concluded that if sub-natality has become alarmingly prevalent in France it is because of the ever-increasing providence of parents, who do not

wish for children because children are costly to rear and educate, and because the more children they have the greater their expenses.

Accordingly, this all but unanimous determination of the French people can be combatted only by granting a handsome grant (which will, however, still be inferior to the outgoings) to compensate the parents for the pecuniary expenditure involved by the birth and maintenance of a child.

This gratuity, which, according to M. Richet, should not be less than £40, would serve to protect the child, on the one hand, during the uterine period of its life, and, on the other, during its early infancy: which would diminish the number of weakly and ailing children.

However heavily the financial burden might press upon the unprolific classes of society, this grant for pregnancies and births would only go a little way towards restoring the equilibrium of expenditure between unprolific families paying few taxes and prolific families paying heavy taxes, despite the service which their fertility has rendered their country.

Families having only a few children, says Professor Richet, at the close of his remarkable report, should help those which have many children. This measure, which is necessary to prevent the extinction of the French nation, is in strict conformity with the most elementary equity. The national interest requires it and justice demands it.

Moreover, says M. Richet, the application of such a measure would not really be such "bad business," seeing that the Frenchman whose birth would thus have been bought by a payment of £40 represents,

when he is an adult, by his labour, an annual sum of £80. And M. Richet estimates that if this idea were adopted France would have a population of 80 millions in thirty years' time.

To these proposals of a fiscal nature various objections have been made.

For example, it has been pointed out that as regards population quality is superior to quantity; a strange objection, for a small quantity does not ensure quality. On the contrary, the care with which the only child is surrounded often results in assuring the survival of a complete degenerate. On the other hand, if quality is precious in time of peace, it is quantity that is of value in time of war. Without quantity a nation is liable to enslavement.

It has also been said that it would be better to give a bounty for the child living at the end of a year rather than for the new-born child; and there is certainly something in that. It is not enough to procure the birth of a child; it is a matter of elementary prudence to ensure its survival.

It has further been objected that a grant of £40 per child would be a financial impossibility in the present condition of our budget. To this Professor Pinard has replied by asking whether the state of our finances at the beginning of the war permitted, in the eyes of our actuaries and economists, the pecuniary sacrifices which were and are necessary from the standpoint of national defence. Yet it is the thousands of millions spent on our armaments and munitions which, with our heroic soldiers, has saved France. Only hundreds of millions can give us that other victory: the victory over depopulation. And if we do not obtain this victory the first will be useless.

A criticism of M. Guéniot's is more serious, and deserves a little consideration.

According to M. Guéniot the system of bounties would be radically insufficient to solve the vital problem of the birth-rate :

Firstly, because it appeals and can only appeal to the poorer classes, excluding the rich and well-to-do classes who represent two-thirds of the population of France.

Secondly, because the grants, however large they might be, would still be much inferior to the expenditure involved by the birth and maintenance of a child ; hence the family (if we confine ourselves to the pecuniary aspect of the matter) could only regard it as a disadvantage, despite the bounty, to increase the number of its children.

M. Guéniot is of opinion that the repopulation of France can be fully accomplished only by the co-operation of all classes of society, from the highest to the humblest, with the help of moral influences (the influence of example ; large families in the ruling classes ; the influence of patriotism and duty ; the influence of religion) ; and of measures of all sorts : hygienic and medical, administrative and legislative, which men who are specially competent have many times recommended, during the last fifty years, as likely to be efficacious.

In confirmation of his opinion as to the non-efficacy of bounties as an organised system, M. Guéniot makes the following remarks, which have all the value of an arithmetical demonstration. Can the difficulties of making both ends meet be done away with by a grant of £40 or even £80 ? Let us take £16, which is obviously a low estimate, as cover-

ing the annual expense of a child; then the maintenance of the child until its fourteenth year will demand an expenditure of £224. Even if the bounty were increased to £60, is not the difference considerable? £164 is no trifle for a poor family!

Consider, on the other hand, the household of a clerk making £100 per annum. He has two children, and, thanks to the bounty, he adds two more to the first two, but at a cost of twice £164—that is, £328; and the more he increases the number of his offspring the more his financial responsibilities will increase. What material advantage would he derive were he to allow the bounty to affect his decision? Absolutely none.

And this is a simple calculation which any interested person can make. How, after this, can we believe in the virtue of bounties as the sole remedy for depopulation?

Let us, however, admit that in the necessitous classes a grant of £40 would be a considerable assistance, and one which the household would gladly welcome. But how far would the birth-rate profit by it? Practically not at all, since without the incentive of a grant these very poor people already give us as many children as they can produce. It would simply amount to relief—well placed, but no more than relief.

On the whole we readily agree with M. Guéniot's criticism. There can be no question of proposing a single remedy for the malady of sterility or sub-natality; we must employ all the remedies; all the moral influences, as well as all the fiscal measures; and each of them will doubtless be able to correct the dominant weak point in this or that defective mentality.

It would be unwise to regard a method as ineffective because at first sight it appears ridiculous. A current of thought is often set up by an imponderable influence. Besides, we must act, and act quickly, for the life of the nation is at stake.¹

Lastly, there is one further resource: the criminal prosecution of the crime of abortion; for although abortions are not in themselves sufficiently numerous to explain the depopulation of the country, they are nevertheless so common that the progress of depopu-

¹ We may profitably cite the recommendations and indications of the Repopulation Commission (Sous-Commission de la Natalité):

"In France," writes M. Jacques Bertillon, the spokesman, "the population thinks more of the income obtainable from capital than of increasing its capital, and the income from this capital undergoes a progressive reduction, while taxation and household expenditure are continually increasing, the result being that the progress of natality is checked.

"Direct taxes upon consumption, customs duties, and many indirect taxes are, for many families, a positive penal exaction. People have fewer children when the expense of rearing them is heavier. The intervention of the State in the sphere of private effort, the creation of monopolies or privileges, and commercial, fiscal or financial measures affecting the distribution of labour and capital, exercise a depressive influence upon the growth of the population.

"As abatements can only affect direct taxation, which is by far the less heavy burden, above all for poor families, it is only just that in compensation for the much heavier expense entailed by indirect taxation, and by food taxes, grants should be awarded to heads of families having more than three children on their hands.

"Expenses should be balanced as equitably as possible between large families and persons without children: 1, by the abatement of taxes, in proportion to the number of children; 2, by the creation of a special tax to be collected from childless persons and to be shared among the large families in proportion to the number of children.

"In France, at the present time, the fathers of families are unjustly over-taxed, and for this reason they have a right to abatements, 'or to compensation, whose amount should be in proportion to the number of their children. If a tax upon income were voted without the introduction of considerable abatements in favour of large families, an injustice would be consecrated which would unfavourably affect the birth-rate, already lower than the death-rate' and which might prove to be a fresh cause of depopulation.

"The public authorities should assist large families when they are poor, above all when they have a widow at their head."

lation would be very greatly impeded, and would cease to be alarming, were it possible to suppress them.

Is this resource of any practical value? We shall consider this question in the following chapter.

CHAPTER IV

THE CAMPAIGN AGAINST ABORTION

There is abortion before conception and abortion after conception.—In order to deal with the first kind, apart from the moral influences and the considerations of an economic order which we have examined in a previous chapter, an energetic offensive should be opened against the Malthusian or anti-conceptual propaganda.—Against voluntary abortion after conception, which is a crime, the law may be invoked.—But this crime is referred to the jury, which is always extremely indulgent with regard to it. It may seem that there are reasons in favour of making abortion a misdemeanour punishable by the police.—But this measure would by no means solve the problem, for the abortions which become the subject of prosecutions are very few in number; from our point of view they are negligible.—A woman who has procured an abortion could hardly be denounced by anyone but her physician, and the duty of a physician would absolutely debar him from such a course.—The principle of medical secrecy is unassailable. Even if we admit that the physician is compelled to observe secrecy only as regards his own patients, a woman in hospital for abortion must be regarded as the patient of the hospital physician who is treating her.—How is this difficulty to be overcome? By deliberately renouncing prosecution of the woman guilty of abortion, and by endeavouring to reach the accomplice who has induced her to procure abortion, and who is in reality morally and materially responsible for the crime committed.—This prosecution of the accomplice is dependent upon many uncertain factors.—In the meantime we must

content ourselves with two measures whose efficacy would be considerable: the organisation of lying-in hospitals where secrecy would be observed, and the moral reform of the profession of midwife.

ABORTIONS are of several kinds. And first of all there are abortions before conception. These are in reality the abortions which we have been considering in the foregoing chapters. It is these abortions that are responsible for voluntary sterility and sub-natality. We have already considered the remedies to be applied.

But while reviewing the individual causes and the personal motives of these abortions we have said nothing of the external factors which provoke them. Yet these are not to be neglected, and should be combated by suitable legislation.

Thus we should use all the legal means at our disposal to suppress the so-called Malthusian or Neo-Malthusian propagandas, the cynical newspapers which teach them, and the unscrupulous persons who corrupt the population by books and pamphlets in which are described the means of restricting natural fecundity.

It is urgently necessary to take the most energetic measures against the sale of articles capable of preventing pregnancy; to prohibit the sale or distribution of remedies, substances, or articles of any kind destined to procure abortion before or after conception, even when these articles are probably ineffectual.

Let us pass on to abortion after conception. We do not of course intend to speak of abortions of an accidental or pathological nature, nor of those provoked by the physician or surgeon in those cases—which are however extremely rare—when abortion is

necessary in order to save the life of the mother, imperilled by the mere fact of pregnancy.

We have in view only the abortion deliberately provoked with the object of ridding the woman of a coming child: an abortion which is always an individual murder and a crime against the nation.

Before proceeding to point out how this crime may be punished, it would of course be humane to indicate how it might be possible to prevent it.

Now there is no doubt whatever that a great number of abortions would be avoided if procreation were no longer, for the woman, a burden or a disgrace.

As for procreation considered as a burden, we have only to refer the reader to the previous chapter, where this question has been precisely treated: and as for procreation dishonouring the woman, we must admit that we absolutely do not know of any means of modifying the morals and ideals which are current to-day, and of replacing the idea that procreation dishonours a woman by the idea that the woman who is about to be a mother outside the bonds of marriage is honoured by her maternity. It is incumbent upon each one of us to make an effort in this direction; to persuade both himself and his household; and women, by abandoning their conventional severity in this respect, might do much to effect the desired reform. We can but suggest, in passing, that herein they can play a noble part, wholly humane and patriotic.

In the meantime, while we are waiting until this moral reform is brought about, is it possible to take stringent measures against voluntary abortion?

Of course, we have the weapon of the law, but the

law is not applied, or is applied imperfectly. As we know, the crime of abortion is always referred to a jury, and the jury, in the majority of cases, exhibits an extreme indulgence towards this crime.

The remedy for this state of affairs would be to make abortion and incitement to procure abortion penal offences punishable by severe penalties, varying from one to five years' imprisonment and fines varying from £20 to £400. This, by the way, has already been voted by the Senate, after a first reading, and in agreement with the Government. Let us hope that on this point the Chamber of Deputies will share the opinion of the Senate.

But if the crime of abortion is to be punished it must be known; and it is here that the real difficulties of the problem begin.

For, indeed, except in cases of gross scandal, where public notoriety points to the guilty persons, how should the crime of abortion be made known? Obviously, in the great majority of cases, by the physician who is called in to treat the woman who is suffering from the results of abortion.

Now it is absolutely inadmissible that the physician should violate the secrecy of his profession, and denounce the suffering woman who has called him in.

There are, however, those who have not hesitated to propose this measure, and M. Cazeneuve has demanded that physicians or midwives called as witnesses in a prosecution for abortion should be required to tell the truth under oath. On this point the Academy of Medicine was very rightly immovable, declaring with great emphasis that the secrecy of the medical profession could not and should not be

infringed, and that no legal obligation could be superior to the moral obligation.

Might there not be some means of circumventing the difficulty? Some have sought to do so by observing that while the physician owes secrecy to his patient he does not owe it to those responsible for her death or for the complications which have endangered her life.

We really do not know why the Academy rejected this proposal, which was supported only by Professor Pinard.

The doctrine that professional secrecy is due to the patient alone is in other connections a matter of current practice, as M. Gallois has shown by a number of examples.

Thus, the physician employed by an Insurance Company is not obliged to observe secrecy in respect of the patients whom the Company requires him to examine: on the contrary, his duty is to conceal nothing that relates to the results of his examination.

It is the same in the Army and all the great administrative departments, where the medical officers must inform their superiors of the diseases with which the patients entrusted to their care are afflicted, and whether their affections are incompatible with service, or dangerous to the collectivity of which they form a part.

In all these cases, it should be remarked, the patients have not chosen their doctor; they are not the patients of a given physician; they are sick people subjected by order to observation by a physician appointed by a superior authority, and he is not under an obligation to defend their interests.

It should also be remarked that except in the case of the Army the patients are not compelled to accept the conditions imposed upon them, but that their acceptance is, after all, the result of a contract freely entered into.

Would it be possible to extend this argument to include the women under treatment in hospital for abortion? Apparently not. To be sure, the hospital doctor is not a physician chosen by the patient; but the presence in hospital of such a patient is a matter of necessity, which she cannot evade except by endangering her life, and the physician to whom she confides her secret affairs is under a very real obligation to defend her interests. Moreover, if women suffering as a result of abortion knew that they were liable to be denounced in hospital, they would refuse to enter the wards, and would run the risk of dying in their own homes for want of proper care. The result of such a measure would therefore be disastrous.

The upshot of all this is that we must abandon the idea of prosecuting the greater number of the women who procure abortions, so that the individual punishment of the crime of abortion cannot enter our calculations in respect of the campaign which we have in mind.

And this throws a little light upon the verdicts, commonly so lenient, of the juries which have to try persons accused of abortion.

Nevertheless, it is possible to get round the difficulty.

A woman—with very rare exceptions—does not of herself procure an abortion. She has almost always an accomplice; and it is really this accomplice who

bears the entire material responsibility for the crime, if not the moral responsibility.

Now if it is impossible to denounce the woman it is certainly not impossible, through the woman, to reach her accomplice.

This is no doubt what the Society of Legal Medicine had in mind when it proposed this formula: "The law should specify that the physician, who is always exempted from testifying when his conscience debars him, shall be free to furnish evidence to repress injustice without incurring any penalty; moreover, that he must do so against those who procure abortion, in respect of whom he is not bound by any professional obligation."

It must be confessed that all these conclusions are lacking in precision; and we have a feeling that the profession of "angel-maker," as the Parisians call it, is not yet seriously imperilled.

The campaign against abortion still remains to be organised.

In the meantime it is of urgent importance to resort to a palliative which might have the happiest results. I am referring to the organisation of secret maternity-hospitals, which has been recommended by M. Bar.

It is indeed an urgent matter to provide pregnant women who desire to preserve secrecy as regards their pregnancy and accouchement with proper accommodation. If such existed, many women who, dreading scandal, have recourse to abortion, would not hesitate to allow their pregnancy to run its course.

The woman, suggests M. Bar, should be able, without having to reveal her identity: 1, to enter at any moment of her pregnancy an asylum where she could

conceal her condition; and 2, to enter a maternity hospital at the time of her accouchement.

Now, although the second of these conditions is realised in the Parisian maternity hospitals, the first is not, and our legislators have not provided any asylum of the kind required.

Under the actual conditions the woman who wishes to conceal her pregnancy, is practically unable to find any asylum, although in reality a refuge ought to be offered to the unhappy woman, whose state of moral depression renders her prone to discouragement.

It is therefore urgently necessary to make an end of this state of affairs. As long ago as 1891 the Academy of Medicine, at the instigation of Le Fort, expressed a recommendation that there should be established, in each department, at least one asylum appointed to receive women during the last months of their pregnancy; that any woman, if she so desired, should be received under conditions which would ensure absolute secrecy as regards her reception and stay in this establishment, and her accouchement; and that it should be forbidden to make any administrative inquiry into the domicile and identity of pregnant women or women in childbed in the wards of hospitals.

To-day it becomes necessary to repeat this recommendation, and M. Bar has requested the Academy of Medicine to accept the following proposal: "In each department there should be established at least one asylum appointed to receive pregnant women during the last months of their pregnancy, where any woman, whatever her social situation, might, if she desired, on payment of money or otherwise, be ad-

mitted under conditions which would assure her of secrecy. Also the public maternity hospitals should receive without inquiry any woman applying to lie in who refuses to make herself known."

So much for the woman, and so far it is excellent. But we must no longer neglect the accomplice who incites or assists her to procure abortion.

We know that in France the accomplice is, in the great majority of cases, a midwife, and since a large number of midwives have given proof of their moral delinquency, it is obvious that the profession should be differently recruited, while its moral training should be improved.

Needless to remark, it would be necessary strictly to supervise all advertisements, prospectuses, and placards which give the addresses of dubious dispensaries or so-called consulting-rooms, which are in reality mere laboratories for abortion.

As a corollary of such supervision, and in order to facilitate it, the Assistance Publique has requested that the profession of midwife should be strictly limited to the practice of normal accouchements. It is evident that the pretended attentions which the midwife vouchsafes her patient are very often the preliminaries to abortion.

But perhaps something more may be done.

It should be possible to improve the moral standard of midwives by raising the standard of their training, and by making it more difficult to obtain a certificate. The number of midwives would at once diminish, and their material position would be improved, which would to a certain extent place them beyond the reach of criminal suggestions.

Moreover, they might be more efficiently utilised,

if they were distributed in the different departments according to the number of births, and assured of a pension.

Having reached the end of this chapter, we must confess that if at the outset we had some hope of seeing the crime of abortion, whose disappearance would of itself suffice to increase our birth-rate, prosecuted, punished and suppressed, we have hitherto discovered no certain means of achieving this result.

On the one hand, we have seen that in the vast majority of cases it would be necessary to abandon any hope of proceeding against the crime of abortion in the person of the woman who has evaded maternity, since she cannot be apprehended except on the accusation of the physician, which accusation is inadmissible; and, on the other hand, we have shown that if we wished to proceed against those who procure abortion we could in reality discover these criminals only by the denunciations of their victims, on whom it would be foolish unduly to rely.

As we have seen, in the hope of somewhat improving this lamentable situation the establishment of secret maternity hospitals has been proposed. But these would affect only those women for whom pregnancy is a disgrace, not those for whom it would be an insupportable burden; and the number of the first category is probably small as compared with the number of the second.

The restoration of the proper ratio between natality and mortality is rather a matter for these last, and this must not be forgotten.

Lastly, the profession of midwife must be reformed. But apart from the midwives, and if they were all

impeccable, there would still remain those "lady specialists" whose lucrative occupation would probably still continue.

CONCLUSION

FROM the foregoing pages we may conclude that the civilised races are a prey to complex degeneracies, arising from the hereditary taints of syphilis, tuberculosis and alcoholism, and that all these morbid inheritances mutually aggravate one another in a vicious circle.

Sterility, voluntary or otherwise, is one of the results of this degeneracy; it is, as it were, a sort of natural defence against the degradation of the race, and all the physical and mental suffering which results therefrom.

As we have seen, the gravity and the nature of all these scourges are perfectly understood; we have exactly measured their extent and we have the tale of their misdeeds.

But an inquiry into the remedies to be opposed to them is, we freely confess, more than a little disappointing; not that the remedies are not clearly indicated; but the application of them seems to bristle with difficulties of every kind, the most serious of which is our terror of radical measures; yet only these could be of any avail.

Are the social maladies for this reason incurable? Can they be the maladies of old age; the pretexts which Nature, so to speak, offers to the aged, that they may quit the stage?

We do not believe that we have yet reached this

stage. In any case, it would be finer to die on our feet, fighting. One remembers the motto of Charles the Bold, the leader of the League of Public Welfare :

“No need of hope that we may undertake ; no need of success that we may persevere.”

By the Translator

THE SOCIAL MALADIES IN ENGLAND

Modifications due to Social, Psychological or other factors—Tuberculosis in England—Its prevalence—What measures are taken against it—Their imperfection—Its origin—The Council School and the Picture Theatre—Preventive measures—Treatment—Fear of the Disease—Carelessness as regards contagion—“Consumption in the family”—Education the remedy—The deadly frying-pan—Cheap underclothing—Syphilis in England—Prostitution—How caused—Remedies—Abstinence—Sexual education—Ignorance and insufficient fear of disease—Prostitution and alcohol—Education—Alcoholism in England—Remedies—The great cause of alcoholism is degeneracy—Vicious circles—The breaking of vicious circles—Sterility—The problem with us is not what it is in France—Quantity and quality—The great danger of neo-Malthusianism—The campaign against it in America—Results of the campaign—Voluntary sterility in England—Terrible results of abortion—Difficult to proceed against because usually self-procured—The fertility of degenerates and the sterility of the higher types—From Revolution to Bolshevism—The future of civilisation—Feminism—The future lies with women—Wanted, a new religion—The need of clear thinking and resolute propaganda.

OWING to social, political, psychological, or geographical factors, the problems which confront us in England, in respect of the social maladies, are not in

all respects the same as those with which the French sociologist has to deal. It will be as well, therefore, briefly to review the four maladies of which this book treats as affecting the British people in particular; to consider their extent, how far they threaten our future, what is being done to combat them, and what might be done.

The problem of *tuberculosis* presents but few special aspects. As far as this disease is concerned, indeed, we may consider ourselves comparatively fortunate, for, common though the disease may be, the death-rate from tuberculosis in England and Wales is one of the lowest in Europe; the actual number of deaths, in 1918, from all forms of disease being 58,073.

But the morbidity is high. Multiplying the above figure by 20, which is the ratio furnished by the official statisticians, we obtain a total of 1,161,460 persons suffering from the disease; the majority of whom, perhaps, are centres of contagion.

A few years ago nothing worth mention was done to check the spread of the disease; and even to-day the organisation of the anti-tubercular campaign is wretchedly inadequate. Compulsory notification of the disease, for Great Britain only, was introduced in 1912. But who is "compelled" to notify it? In many cases the sufferer or his relatives will shrink from doing so, fearing the inconvenience or expense entailed. And the great majority of cases do not come under the notice of the physician in their early stages.

Sanatorium treatment is provided by the State: but this is not much more efficient than notification. To take insured persons first: the Insurance Committees

are supposed to provide sanatorium treatment wherever required. As a matter of fact the funds for the purpose are insufficient; and in many cases patients—rightly or wrongly—leave the sanatorium at the earliest opportunity, do not return if the disease relapses, and discourage others from undergoing treatment, alleging, justly or unjustly, discomfort, or unduly harsh discipline, or coarse food. (In this respect sanatoria differ enormously—but should not do so). As for uninsured persons of the same class, the Insurance Committees *may* provide treatment for the dependents of insured persons, but as the funds are insufficient for the latter there is usually nothing left for the former. As for patients who are neither insured nor dependent upon insured persons, the County Councils *may* provide treatment for them. But as persons receiving any sort of benefit from the State are usually treated like criminal paupers, and subjected to endless and irritating formalities, the tendency is to avoid treatment rather than to claim it, or to become an out-patient of a hospital or dispensary. For soldiers and sailors treatment is provided by the Soldiers' Sanatorium Benefit Fund. And for the middle classes, who supply the brains of the country, our doctors, lawyers, engineers, schoolmasters, clergy, and a great part of our politicians and administrators; and who, moreover, pay most of the taxes; for them the State, as usual, does—nothing.

So far, then, the prevention and cure of consumption are very poorly organised. What is done is not done thoroughly; and too much is left undone.

To begin with, what is actually done to prevent contagion? Obviously propaganda is required: a campaign of education. How often do we see

placards about the streets, asking us not to expectorate in the open? How often are public spittoons provided in the streets, or in railway-stations, waiting-rooms, etc.? And where warnings are exhibited, is the reason for the admonition ever clearly explained?

Contagion commonly occurs—for the first time, at all events—in early childhood. Council schools and picture-halls are clearing-houses for pulmonary germs. The children of poor families go to school in charge of the eldest sister, with one large, unspeakable handkerchief among the lot. As each child requires it—and all, needless to say, suffer from chronic nasal or bronchial catarrh—the sinister rag is brought into requisition. After use the youngest, as likely as not, exploits its possibilities as a plaything, dragging it along a filthy pavement. At school the “little mother,” out of sheer habit, uses it to polish the nose or lips of any child within reach who needs attention. “Class” is a period of suppressed snuffling, hawking, and wheezing, which becomes acute as each lesson comes to an end. The same sounds, as of a catarrhal menagerie, may be heard at the “pictures,” during the “children’s matinées,” whenever a moment’s intermission permits the poor little victims to become conscious of their discomfort. The back of the hand or the sleeve will serve if the handkerchief is mislaid or non-existent; and so, in play, each child infects his fellows. The constant absorption of poisonous mucus ruins the digestion, tries the nerves, and stupefies the brain. Of these children, how many fall victims to phthisis? How many to bronchitis and broncho-pneumonia, the first time they get thoroughly chilled? How many, in later life, can stand exposure to the elements without

disaster? Our training-camps killed thousands before ever they got to the trenches.

Here nothing but education can avail. Propaganda—persuasion—fearless, lucid, well-expressed, is the duty of the State. By means of newspaper advertisements, by means of leaflets left in every home and given to every child, by means of brief, intelligible “talks” in school, the working-classes, young and old, must be persuaded of the existence of pulmonary germs, must learn how they are acquired, and how conveyed to others, and how deadly is mischief that they cause—how great the suffering, loss, and waste—and must be convinced that hygienic homes and habits are not only their duty but their *interest*. School clinics should be a reality, not a paper scheme only half enforced; smears or cultures should be prepared and inspected, “carriers” placed in special quarantine classes and properly treated, and all confirmed cases should be isolated in comfortable sanatoria.

So much for prevention. Now for treatment. This includes two problems: (1) the provision of sanatoria; (2) the means of inducing the sufferer to enter them.

The first problem is purely financial; and it is really no problem at all. If we can spend eight million pounds a day in killing aliens we can afford a small fraction of that sum to save the men, women and children of our own race. It is as Dr. Héricourt has told us, merely “good business” to do so.

The solution of the second problem is equally simple. It is not practicable to examine every inhabitant of the country periodically and kidnap him if he shows signs of tubercle. The only alternative

is to make sanatorium treatment *attractive*. Instead of puzzling a sick man with badly drafted application forms, he should be qualified for immediate admission upon examination at a public clinic. Instead of being treated as a nuisance, a pauper, a criminal, a child, or a lunatic, he should be met with courtesy and kindness, and treated like a reasoning being and a responsible citizen who is asking for what is his right and duty. Life in the sanatorium should be made pleasant in every possible way: it should be a delightful holiday. If this is done—and it is only a matter of recruiting the right sort of doctors and nurses, rejecting the ill-bred and consequential, and inculcating the right spirit—there will never be any difficulty in persuading the sufferer to apply for admission.

While he is under treatment, the patient's dependants must receive an adequate allowance. It is Society's fault, not his, that he is afflicted; Society must foot the bill.

Education, as we have seen, is the great preventive. Education, too, must be relied upon to ensure treatment. It may not at once be apparent, but it is true, that education is called for also as an adjunct to treatment.

For one of the great factors of the successful curative treatment of tuberculosis is *cheerfulness*, and the conviction that the disease is curable.

Physicians have an idea that the consumptive is always hopeful. This may be true of the wealthier classes, and in the later stages of the disease. But in the working-class world many a sufferer has been killed by sheer panic or despondency rather than by consumption.

At the present time a fixed idea prevails among the poorer classes that consumption is inevitably fatal; and that the man who coughs up a spot of blood is doomed. Sometimes the first slight hæmorrhage is followed by absolute moral and physical collapse, and death follows within a few months. The patient has frightened himself to death; or his relatives or neighbours have practically killed him by their head-shaking and dismal prophecies.

Equally mischievous in many cases is the belief that tuberculosis is hereditary. It not only depresses; it prevents the adoption of the strenuous measures of hygiene which might otherwise isolate the evil. I remember some years ago my landlady in a small river port spoke to me in great distress about her son—a fine healthy young fellow of twenty-three. His father had died of consumption, a few years before. Lately he had caught a slight cold. The cough (I had heard that cough—it was purely nervous: no man with sore lungs could have endured it for a moment) had persisted; he had “seen blood” (the result of continually coughing and smoking shag). He had thereupon thrown up his job as a house-painter and had taken resolutely to drink. To all her remonstrances he replied that he was doomed, and was going to have “a short life and a merry one.”

I turned him over to a charming lady, gay, wise, and courageous, a chronic sufferer, who had several times been solemnly given up by the doctors. Every time, however, courage and a sensible regimen had induced the disease to resume the latent form. She treated the young man to a “straight talk”: assured him that he was perfectly healthy: that consumption

was not hereditary; that his cough was nervous; that his attitude was unmanly, and that if he persisted in it he would either die of drink or really contract tuberculosis—for the house had never been duly disinfected. The cough stopped then and there, and a day or two later the young fellow was back at work.

Why had he been convinced that consumption was hereditary? In the same town an old medical practitioner had lately died, out-living two wives and eight children, all of whom died of consumption. He had been a "carrier," or rather a chronic sufferer from a very attenuated but highly contagious form of the disease. He had infected both his wives, and one by one, over a long period of years, the children he had brought into the world only to kill by his ignorance or heedlessness had acquired the disease from him and died: without a fight, believing themselves doomed, as the children of consumptive *mothers!* Yet the mothers were originally healthy.

The result was, of course, that the whole neighbourhood was profoundly convinced that consumption was an hereditary scourge. Lives were lost every year that education would have saved.

The State cannot be accused of having utterly neglected the weapon of education. But it has used it ineptly. If as much determination and common sense were given to hygienic propaganda as is devoted to the floating of a war loan we should not be a "C₃ nation," threatened with military weakness and commercial defeat.

Before we leave the subject of tuberculosis, let us glance at one peculiarly British defect. If "feeding-up" and fresh air are the accepted cure for tuber-

culosis, malnutrition and bad air are among its chief exciting causes.

Malnutrition is more often due to badly selected food, or food of poor quality badly cooked, than to any insufficiency. Those who do not know the "poor" would be amazed to find how enormously the working classes over-eat. One of the causes of this vice is greed; another is cheap food; but the principal cause is bad cookery.

It would be difficult to speak too severely of the absolutely vile cooking of the average working-man's wife. She has commonly two ways of cooking meat. It is "stewed"—that is, boiled to a tough, stringy mass with vegetables, including plenty of onions: or it is "fried" or "stewed in the pan"; which means that it is reduced to the consistency of shoe-leather by throwing it into a frying-pan containing a little boiling water. In other cases all the salts are boiled out of the vegetables and the water poured away.

This tasteless or onion-flavoured stuff has little food value. Such "cookery" is ruinous to the teeth, the stomach, and the nerves; it is one of the chief causes of alcoholism, and it is undoubtedly responsible for many cases of tuberculosis.

Our council schools ignore the fact that they are dealing with a population which is, to begin with, of inferior or backward stock—for the "lower classes" are the remnant of the conquered races—Mediterranean, Pict, Celt, Iberian, Saxon, Angle—who have sunk into servitude beneath successive waves of conquering Romans, Danes, and Normans—and which, alas! is largely diseased and degenerate. The curriculum, purely theoretical, is utterly useless, and the little that is learned is forgotten within a year of

leaving school. If girls were taught to scrub, sew, wash, cook, and care for children, and instructed in the facts of sex and child development, they would still be able to understand half the words in the bilingual newspapers, which, because they never learned any Latin root-words, are largely unintelligible to them, and they might conceivably make tolerable wives and mothers.

As for bad air—the plebeian distrust of open windows is proverbial. The reason for the prejudice is not so generally understood. Working-men wear under-vests or shirts of cheap “mixture,” largely cotton. This becomes easily soaked with sweat, and once damp remains clammy and sodden. Such clothing is in itself one of the chief causes of tuberculosis. An open window is one thing to a man with a newly-washed body clad in warm dry wool; to a man with a clammy, unwashed body wearing cold, clammy underclothing an open window in a germ-laden house means draughts, colds, rheumatism. As the working-classes very generally sleep in their underclothing the windows remain closed at night also. The remedies are—cheap wool, and education. Again, the State must realise that Victory Loans are not the only things that can be advertised; and that a narrow scholastic curriculum is not education.

The *problem of syphilis* is exceptionally difficult and serious in England because of the policy of prudery, hypocrisy and suppression which has hitherto made all open discussion of sexual problems impossible. Children grow up in utter ignorance of the real facts or the vast importance of sex: what knowledge they do obtain is incorrect, and smirches the mind, so that the more fastidious reject even that.

Such a policy of obscurantism results, in healthy, growing children, in morbid curiosity; finally, very often, in obsession. Ignorant of the dangers that confront them, boys and young girls contract diseases of whose existence they are barely aware, avoid treatment, and are ruined for life. General practitioners have in the past refrained from telling their patients the grim truth, so that they have married as soon as they were considered, or considered themselves, free from infection.

Of late certain novels, and such plays as Brioux' "Damaged Goods," have sought to ventilate the question; but so profound is the ignorance of certain classes that in many parts of England not one woman in ten clearly realised the purport of Brioux' play.

The great machine for propagating syphilis and infecting the general population used to be the Army. Attempts were made to enforce the registration and medical examination of all prostitutes in garrison towns and naval ports. They were abandoned partly because they were not very efficient, and partly as a result of a sentimental campaign due to the fact that suspect but actually respectable girls were occasionally examined.

The system might be made effectual, but as Dr. Héricourt has shown us, it invites the most terrible abuses.

Ordinary police vigilance and education seem to have been more successful. The official statistics of venereal disease in the Army are as follows :

Ratios of Admission per cent. per annum for Venereal Disease in the Aldershot Command, London District, and United Kingdom.

		Aldershot.		London.		United Kingdom.
1885	...	32'17	...	33'94	...	27'54
1897	...	13'00	...	16'52	...	12'75
1900	...	8'44	...	13'22	...	8'59
1905	...	7'99	...	17'65	...	9'05
1910	...	5'00	...	13'70	...	6'50
1913	...	2'98	...	9'56	...	5'09

It will be seen that the rate of admission in the Army has been enormously reduced. This is due chiefly to education, largely in the matter of prophylaxis. But in 1885 it will be noted that every three years the entire British Army was infected. Those men were the fathers of the present generation. It is little wonder that in some parts of England 40 per cent. of recruits had to be refused, in 1914, as physically defective.

In the Indian Army matters were even worse. The curve of admissions runs up into a peak, showing the terrible ratio of 58 per cent. for the year 1895. Prompt measures, steadily applied, have gradually reduced this figure to 5'2 per cent. for 1910.

As regards the general population, the figures relating to the death-rate from venereal diseases are utterly unreliable, since medical men are becoming increasingly unwilling to register deaths as due to such diseases. The opinion of the Commission on Venereal Diseases was that the prevalence of syphilis has not markedly decreased of late years, although

with new methods of treatment its manifestations are less violent.

The extraordinary reduction obtained in the Army before the war, and in the Australian and American Armies during the war, point to the fact that prophylactic treatment should be as far as possible generalised by education and the establishment of clinics.

So much for prophylaxis after coition. But the true method of preventing venereal disease lies in another direction—in the prevention of prostitution.

The real facts of prostitution are seldom faced; perhaps because they are not flattering to our national self-esteem, and because they confront us with that disheartening bogey of the sociologist—a vicious circle.

First, as to the supply. Some pious persons believe the prostitute to be a highly vitalised woman of violent sexual passions, who leads a “gay” life because it is to her taste.

Nothing could be further from the truth, as regards this country. (In France the type is not unknown, though the abnormally thrifty type is commoner.) The prostitute is nearly always a degenerate, under-vitalised, often under-sexed, and in some degree mentally deficient.

Four chief factors are responsible for recruiting the profession. These are (1) starvation; (2) laziness or anæmia—the two are almost synonymous; (3) a vulgar love of finery; (4) the conviction that a “fallen” woman *must* “go on the streets.” The action of these factors is usually mixed.

The first factor sends an occasional prostitute back to the streets oftener than it makes a new recruit.

The first steps require a certain recklessness which the starving seldom possess.

Laziness: This recruits many girls from shops and factories. They see other girls go the easy way. Apparently a life of rest, leisure, ease, and pretty clothing awaits them if they are willing to cast themselves adrift from respectability. The healthy girl has healthy passions; the idea of chance promiscuity disgusts her. The under-sexed girl is less fastidious.

As a rule, those who yield to this factor, or to the love of finery, are more or less mentally deficient.

Recent investigation has shown that from 40 to 60 per cent. of the children attending the primary schools of London are mentally unable to profit fully by the curriculum. Only the laziest of these—mentally and physically—that is, the most deficient, would as a rule become prostitutes. The rate of mental deficiency or dullness must therefore be even higher among these last.

The conviction that a "fallen woman" *must* go on the streets is responsible for the degradation of practically all those women who become prostitutes as a result of seduction.

Being mentally lazy, the prostitute is of all women most conventional. It is the conventional who lapse on to the streets. The idea of their own degradation hypnotises them.

Servants, shop-girls, farm servants, village girls, etc., who have been seduced belong to this class. Very often the parents are responsible. The fact of seduction is discovered; the culprit is turned out of doors with a direct reminder that respectable people will henceforth have nothing to do with her. Only the mentally sturdy resist the suggestion.

If there is a child the need of maintaining it may drive the mother on to the streets. If she bears it in a rescue home or hospital she becomes aware that her fellow sinners fully expect her to be "gay" in future. If she goes to an obliging "lady friend" the latter is often only too willing to put her feet on the primrose path.

Very often the mistress or employer of the servant or shop-girl is more to blame than the seducer. The world of "virtuous" women form a trade union that has no pity on blacklegs. Any change of morality in the direction of freer sex relations would make it more difficult for unattractive women to establish themselves as respectable parasites; and mothers would find it more difficult to get rid of their daughters.

Very often the difference between the "fallen" woman and the respectable matron is only that the former has been more generous, less calculating. There is no great virtue in an official registration; and the woman who brings a healthy child into the world has deserved well of her country. It is horrible that a woman who knows the pains and fears and joys of maternity should turn upon a friendless girl for whom they are aggravated or marred by financial disaster.

The result of charity, however, is not always encouraging. Any woman who is brave enough or enough of a practical Christian to befriend an "unmarried wife" is shunned by her neighbours. Even her beneficiary may insult her. I remember a case in which a servant, greatly troubled about the payment of maintenance for her child, confided in her mistress. The latter was extremely kind and helpful,

and tried to restore the girl's self-respect. To her horror, the girl eyed her with a leer, saying: "It's easy to see as how you've been in the same box yourself, else you wouldn't be so feelin'!"

The general feeling in respect of such matters is a terrible indictment of the respectable women. I have heard such say complacently: "There must be bad women: if there were not, no woman would be good." It is a fact that the trade union of "virtuous" women is made possible by, and requires, prostitution. That is its condemnation, for nothing could be worse than prostitution and its results.

Now let us consider the *demand*. It is almost axiomatic that the prostitute is not attractive to the healthy sober man. She is of an inferior class; unbeautiful; uncleanly in her habits; she is undersexed, often devoid of sexual appetite; she is out of health, if not actually diseased; and she invariably drinks. Apart from a few unfortunate men or boys whose tastes have been utterly debased by a bad education or vicious companions, such a woman is disgusting to any man when sober, unless he is obsessed by sex and rendered desperate by suppression.

Early instruction in the facts of reproduction, and a careful suggestion of the wonder, dignity, importance, beauty, and romance of sexual selection, together with free social intercourse at all ages with those of the opposite sex would enormously reduce the demand. Still more would proper instruction in the dangers of venereal disease and the folly of speaking to a strange woman when partly or wholly intoxicated. For while alcohol does not increase desire, it does decrease caution, and throws a glamour over the unbeautiful. The drunken man is not fastidious.

But the great prevention of venereal disease is, of course, early marriage.

Writing for French parents, who are too much given to acquiescing in the dangerous sexual adventures of their sons, Dr. Héricourt rather strains the facts in one respect. While abstinence does no physical damage to young men,¹ it is capable of causing terrible moral distress, and in many cases an absolute physical and mental obsession.

A reform in the direction of early marriage, if marriage is to mean the setting up of a household and the rearing of children, must be preceded by a radical economic reform. But would such marriages be successful? Very young people are not fitted for the responsibilities of family life. Moreover, such marriages would be the result of mere propinquity, or chance encounter, or of an exasperated appetite; the man or woman thus chosen might differ in every respect from the husband or wife who would be chosen five years later.

It is probable that the real solution lies in the direction of easy divorce; perhaps of a special kind of early marriage; extra-domestic, not involving house-keeping or child-bearing, and only permanent when it proves to be suitable. Mr. Bernard Shaw has suggested something of the kind. Or with the advance of feminism sexual relations may become freer.

Here, at least, nothing can be expected from the State. Some years ago a novel was published which dealt with this problem. A young man, whose best friend had acquired syphilis and committed suicide,

¹ To women, of course, enforced celibacy is actually physically harmful.

was yet on the point of incurring the same danger, maddened by the obsession of a suppressed function. The woman who had brought him up from childhood, being still young and comely, and equally a victim of enforced celibacy, offered herself to save him. Most open-minded people welcomed the book as courageous and healthy in its tendency. It was seized and burned by the police, and the possession of a copy was made an offence.

At the present time there is a recrudescence of prostitution and disease, owing to the mobilisation of a huge army. But many of the prostitutes are casual or occasional; they have not abandoned work in the day-time; they will not continue to live as prostitutes. Meanwhile, the spread of disease has been serious.

On the whole, however, the situation as regards prostitution and venereal disease is fairly encouraging. There seems a tendency to a rather freer morality, which, however much the orthodox may dislike it, is more natural, more dignified, and less perilous to the race than a system of suppression based upon prostitution and disease. Whatever the defects of any alternative system, *it could not be worse than the present one*. The most discouraging aspect of the current situation is the spread of disease among the general population.

As regards alcoholism the situation is bad. Alcoholism leads to prostitution and increases venereal diseases; it shortens life; it decreases productiveness. Already, owing to the insane "ca' canny" policy of the trade unions, the American worker produces three times as much as the British worker. A dry America will be soon more efficient. Our workers, while bent upon shortening the hours of work

and reducing the amount of work done, have threatened "direct action" if their drink supply is curtailed.

The economic education of the British worker is so rudimentary that he is convinced that money is wealth. He has never realised that commodities are the only wealth, and that only a highly productive country can be wealthy.

Mr. F. W. Taylor, the famous American labour expert, had under his control a machine imported from England. A gang of English artisans was engaged to work the machine. The rate of production was low; the English workers refused to raise it. If they did the employers would make more money. After preaching elementary economics to them for some years Mr. Taylor discharged them. Before long a specially trained gang of American workers was producing *ten times* as much as the Englishmen had consented to produce.

If the British worker could be converted to the necessity of intensive production, and induced to accept piecework, he would see that it is to his interest to decrease his drink bill and to cease drinking during working hours: for experiment shows that alcohol greatly reduces the capacity for exertion. Every walker or cyclist knows this. The British working-man, on the other hand, believes that he cannot work without beer. This is to confess himself a confirmed alcoholic.

The figures relating to alcoholism are truly alarming. The deaths directly due to alcoholism in the period 1902-06 were 12,184. This gives an annual average of 2,437. If to this figure we add the annual deaths from cirrhosis of the liver we obtain an annual

average of 6,400. But for one death attributed directly to alcohol how many are indirectly due to it? The alcoholic catches cold, and dies of broncho-pneumonia; he breaks a limb, and dies of pneumonia; he contracts a fever, and dies. The death-rate of the alcoholic is enormous.

Perhaps no figures are more convincing than those relating to the rejection of recruits in Sweden, where a system of local option resulted in an enormous reduction of drunkenness. This reduction is expressed in the following figures:

Rejection of Recruits in Sweden.

Years.	Per Cent.
1831-40	35.7
1841-50	36.4
1851-60	35.7
1861-70	27.8
1871-80	23.7
1881-90	20.4

Again, the reports of the Sceptre Life Association show that in the *general* class of insured persons the ratio of actual deaths to expected deaths was, in 1904-8, 80 per cent. The ratio among abstainers was 48 per cent. The death-rate of certain "temperance" insurance societies is 53 per cent. of the general death-rate.

It is most unlikely that the British working-classes would accept Prohibition. They have stated in no uncertain voice that they would not. And Prohibition is not as a rule successful; it leads to the secret drinking of vile spirits, and is a tyrannous restriction

on the liberty of the strictly moderate drinker. Probably the best results would be obtained by a law permitting the sale of spirits only upon presentation of a medical prescription; while light wines should be imported free of duty and sold at popular prices. Beers should be reduced to the strength of lagers. The removal of the duty on wines—imposed to favour our brewers and distillers—would also stimulate a most lucrative trade with France.

As for the cause of alcoholism, the great cause is degeneracy. Pleasure is defined as the mental concomitant of the natural functioning, within the limits of repair, of a fully nourished nervous structure. The degenerate's nerves are underfed. He is unhappy, restless, discontented, tormented by *malaise* or fatigue. Alcohol, a stimulant, increasing the cellular combustion, makes him for the time the equal of the normal man. His work fatigues him; he seeks alcohol. His leisure bores him; he seeks alcohol. Slowly poisoned, his nervous system becomes more and more under-nourished, and the craving increases until it becomes continual.

Degeneracy causes alcoholism; alcoholism causes degeneracy. It is a vicious circle. Similarly, voluntary sterility of the upper classes results in the preponderance of a degenerate lower class. This means higher taxation; which means more voluntary sterility.

Vicious circles can be broken only by radical measures—by the introduction of a third factor. Education and the application of all possible measures that may prevent degeneracy may break the bonds of alcohol.

We now come to *sterility*. The remedy for the

actual sterility due to venereal disease and alcoholism is obvious. But the problem of voluntary sterility is by no means the same in England as in France.

France is actually becoming depopulated, the fundamental reason being the worship of money which is responsible for her marriage-system. Her very existence has lately been threatened. It may be threatened again; and then, if her population is not larger, she may perish.

Dr. Héricourt is therefore correct in stating that for France quantity is of greater importance than quality; since in time of national peril even the unfit are mobilised.

But in England what would be the result of voluntary sterility if wisely applied? How is it applied now?

The great danger of voluntary sterility is that it is usually adopted by the very classes whose multiplication is desirable, while it is ignored by those whose reduction or extinction is desirable. It results in the selection of the unfit.

There is no particular propaganda one way or the other in this country. Books recommending the restriction of the birth-rate are advertised; appliances are freely sold. But they reach the wrong class.

Some time ago an attempt was made in America to convert the lower classes to Neo-Malthusianism. The problem of poverty and unemployment was becoming more and more terrible. Having restricted foreign trade by an insane system of tariffs, the American manufacturers were always over-producing, and "closing down." In every great city there was a vast floating population of the unemployed. And immigration was always adding to the population.

Certain reformers, alarmed at the rapid increase of the backward foreign element as compared with the Anglo-Saxon American, and hoping to alleviate poverty, started a Neo-Malthusian propaganda.

In America the "big businesses" subscribe largely to the Churches, as they do to any cause that will support them. The Churches are bound hand and foot to the millionaires.

Now the millionaires were alarmed by the Neo-Malthusian propaganda. They desired a permanent population of unemployed persons living in dire poverty as the surest means of keeping wages low. Such a state of affairs enabled them to defy the Unions.

They took counsel. They bribed the Legislatures and spoke softly to the Churches. The result was a law forbidding the publication, sale, or postage of any Malthusian propaganda; with the result that young women of culture interested in social reform were sent to prison.

As a result, the alien populations of the United States continued to multiply like mice or rabbits. And when the venom of Bolshevism has infected them the millionaires will probably rue their anti-Malthusian campaign.

The problem of France is special. Elsewhere there has been too much of the unrestricted multiplication of the inferior elements of the population. In England, a generation ago, two reformers were imprisoned for advocating restriction. The ground of objection was then immorality. Sexual intercourse not intended to produce children is immoral—it is still the attitude of some of the clergy. It is of course sheer hypocrisy: else these reverend gentlemen would

separate from their wives on the second day of the honeymoon.

To-day the objection may be raised that a populous country is strong and wealthy. Within limits this is true. But it cannot feed itself, and may be starved by an enemy.

As a matter of fact we are already over-populated and are sending emigrants to the Colonies. But that is not the question. The real objection to restriction is that it is in the hands of the wrong class—a point to which we shall presently return.

There is unfortunately one form of voluntary sterility which is practised by the lower classes, in England as in France. That is abortion. In France there is usually an accomplice. There the unfortunate national ideals of economy—to put it brutally, the worship of wealth and the tyranny of the family—have made the crime almost respectable. But in England there is a reluctance to meddle with a serious legal offence. It is true that in the North of England many chemists openly sell drugs to procure abortion, while seedy practitioners make a practice of “helping” women; and I could name a watering-place where the leading chemist sells suitable drugs, while the oldest doctor is always ready to oblige a woman in trouble. But these are local conditions: as a rule the Englishwoman has her own methods, so that it is impossible to take legal proceedings. She does not divulge the particulars to her physician, but is ready enough to confide in sympathetic employers, social workers, neighbours, etc. In many a working-class family a yearly or half-yearly abortion is as ordinary an event as the yearly birth of a child in other families. The expedients employed—from striking the

body against a sharp corner to jumping from heights, and the use of all manner of improvised implements or strange drugs—are hair-raising. And sooner or later they fail: illness alarms the woman and prevents their repetition; and a sickly, deformed, or insane child is born.

It is the woman who “goes out to work” who is the chief offender. At thirty she is old, toothless, yellow, withered. The abuse of stewed tea and abominable cookery are partly responsible; but it is chiefly abortion that turns the fresh if anæmic young girl of twenty into the hag of twenty-five or thirty.

Terrible as are the results of abortion, they are not very widespread. The lower classes are still far more fertile than the classes above them. And before we condemn Neo-Malthusianism as altogether unholy, let us return to its actual effect.

Its danger, as we have seen, is that it is wrongly applied. It makes for the fertility of the lower types and the extinction of the higher.

At any time the excessive multiplication of the lower classes is unfortunate. It may lead only to an industrial tyranny, as was intended in America. But it may threaten the existence of civilisation.

Let there be no mistake about it. The “lower classes” are not down-trodden equals; they are inferiors. They are the descendants of backward and conquered races. Inequality does not arise from our economic system; the latter arises from inequality.

It should be possible to establish legal and political equality. It should be possible to establish economic equality. If children were taught not by persons drawn from their own class, but by the very finest

types available, it is conceivable that equality of manners, or social equality, could be attained. But equality of ability, of physical perfection, of brain-power, can never be obtained save by a crossing that would debase the race. Bishops and other reformers, speaking of housing reforms, express themselves as though a healthy, beautiful generation must needs be born into a world of model dwellings. Yet they would not expect to turn mongrels into prize greyhounds by giving them a spacious kennel. The inferior cannot be made superior. But he can be made to outnumber, overwhelm, and destroy the superior. The process has already begun.

The French Revolution, crossing Germany, arrived in Russia as Marxism. A gang of outcasts—political criminals, Jews, degenerates—erected it into the doctrine of Bolshevism.

Now anyone who will take the trouble to read the published writings of Lenin and Trotsky will discover that they have, in the last resort, only two ideas. One is the "dictatorship of the proletariat"—actually the dictatorship of a small body of cunning rascals *over* the proletariat. The other is "the class war"—the deliberate murder or starvation of the whole of the upper and middle classes.

Bolshevism is the creed of degeneracy and inferiority. The diseased proletariat has become "class conscious." It has seen itself. "Class conflict" is only a phrase, a pretext; the reality of Bolshevism is inferiority's hatred of itself, and of all that makes it conscious of its own inferiority. Whatever makes it conscious of itself it seeks to destroy. We saw the process in the French Terror and the Commune. We see it now in Russia; and to the shame of Europe the

superior classes of other countries have passed by on the other side. We shall see it wherever the middle and upper classes, by restricting their birth-rate while the degenerate and backward continue to increase, become too weak to hold their own in the class war.

The position in England is one of danger. Many newspapers are curiously tender to the Bolshevik cause. Vast sums of money are being spent by the Bolshevik emissaries in our midst. Caliban is preparing his revenge.

The British working-man—and I am not now speaking of the degenerate—has lately become conscious of his own powers, as Germany became conscious of hers in 1870. He has read a few books, and is in the bumptious stage, as Germany was before the war. He is convinced that he is as good as anyone, and better.

At the same time, he is uneasily aware of his own defects, and he hates all that makes him so aware. He is dangerous because he confuses the brainworker—anyone, indeed, with a clean collar and a clean accent—with the “capitalist.” His enemy is the whole cultivated class. He is biding his time.

Bamboozled by lawyer politicians and a corrupt newspaper trust, he and his wife—whom the adroit politician gave a vote that the newspapers might lead her by the nose—have elected a Parliament of unscrupulous “interests.” Already disillusioned and indignant, he is threatening “direct action.”

The revolution may come to-morrow or twenty years hence. When it comes it will, as always, be captured by the degenerate, the outcast, the criminal; because they will be inspired by a living passion—

hate—and will know exactly what they want—the destruction of all that makes them feel their hideousness.

In country after country, where the inferior strains are degenerate, and outnumber the superior, degeneracy and poverty will revenge themselves upon civilisation. And in the process it may well be that all that has made civilisation possible, or can make it possible in future, will perish from off the earth. For it has taken all time to make us what we are; and what has once been taken from a race can never be added to it again.

Only one thing can avert the danger—the increased fertility of the finer strains. At present the situation is far from hopeful. Feminism has made it less so. Yet in feminism—or at least in our women—our only hope seems to lie. The slender girls, the slim young matrons whose chief aim appears to be to conceal the fact that they are physically adapted to nurture their young, would, we may be sure, bear children for the nation as cheerfully and pluckily as they drove motor-cars or dressed hideous wounds or toiled at the lathe or fitting-bench during the war. To enlighten them is a matter of propaganda.

They of all women must renounce sterility. And it is a question whether their less fortunate sisters should not be the object of a contrary propaganda.

But what we need—for without faith no propaganda can be long effective—is a new religion. Christianity, interpreted by Paul, a worn-out Oriental, has contained a fatal discord: it has not allowed for sex. We need a religion of beauty, of perfection. It would be a simple matter to teach children to worship perfection rather than hate it because it reveals their own

imperfection. For we cannot teach what beauty is without making plain the hideousness of egoism.

Beauty is the outward and visible sign of health—perfection—virtue. Pleasure is the perception of beauty, or some of its elements. What makes for the fullness and perfection of life, for beauty and happiness, is good; what makes for death, disease, imperfection, suffering, is bad.

These things are capable of proof, and a child may understand them. Sin is ugly and painful. Perfection is beautiful and gives us joy. We have appealed to the Hebraic conscience for two thousand years in vain. Let us appeal to the love of life and beauty which is innate in all of us. A beauty-loving people could not desire to multiply a diseased or degenerate strain, or hate men and women because they were strong and comely and able. We have reached a point where only the frank worship of life—a religion of kindness, generous admiration, and fine work—can save us from the orgy of hatred and the love of hideousness which is the Nemesis of Russian tyranny and the Industrial Revolution. The balance of the races is overset, and only the abandonment of voluntary sterility by the fit, and its adoption by the unfit—which is eugenics—can save us.

It will be seen that in various directions the social maladies confront us in England with problems not wholly the same as those which confront the French. For the solution of these problems—and on this the fate of civilisation rests—we must trust to clear courageous thought and resolute propaganda. We have the right to look to the State for a lead: but we shall look in vain if we do not think out these problems for ourselves, and elect, to represent us, men

fitted to deal with them, in place of allowing an alliance of the Bar and the Press to force upon us the secret henchmen of corrupt interests. It is for us to save democratic parliamentary government, and to avert the so-called democracy, but actual tyranny of the lowest, which would only aggravate the social maladies that threaten to destroy us.

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