

**HEALTH PROBLEMS IN
ORGANIZED SOCIETY**

**HEALTH PROBLEMS IN
ORGANIZED SOCIETY
STUDIES IN THE SOCIAL ASPECTS OF
PUBLIC HEALTH**

BY

SIR ARTHUR NEWSHOLME, K.C.B., M.D.

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TO MY WIFE
COMRADE IN 45 YEARS OF WORK

PREFACE

THE addresses and lectures collected in this volume have been given during the last few years at various American Universities or to Medical or Public Health Societies in England. In some instances the substance of two or more lectures has been condensed into a single chapter. When there has been previous publication, this has been indicated,—as well as the date and place of the lecture—at the beginning of each chapter.

The retention of the lecture form has necessitated a certain amount of repetition, though this has been minimized by erasures and cross-references. But I do not regard some measure of repetition as undesirable, especially when, as has happened, similar points are stated from a new angle of vision. This holds good to an exceptional extent for the physiological side of preventive medicine and for the three diseases,—alcoholism, tuberculosis, and venereal disease,—which I have taken throughout as my chief illustrations of the great possibilities of saving of life and improvement in the national health.

There runs through each chapter, as its burden, the social aspect of the problem under consideration. I am convinced that—although we are still ignorant as to effective means for preventing respiratory infections including influenza, and are only at the beginning of possibilities for preventing cancerous growths—a very large proportion of the total sickness and mortality before old age is entirely preventible ; and that the accomplishment of what is practicable depends, more than on any other factor, on extension

of our sense of personal and communal responsibility, followed by corresponding action. Hence the repeated stress which is laid in chapter after chapter on the ethical side of public health work. With a view to reduction of sickness and death, it is even more important to secure for each child his fullest possibilities of mental and moral development and training than to pursue and extend the extremely important work of research into the still hidden secrets of disease. Research into what is still unknown and practice of what is known—needing conduct which depends on character—together will banish a vast amount of poverty and suffering from our midst.

The last two chapters give a sketch of the all-important population problem. I have not hesitated to show my own bias in regard to disputed matters. In doing so I merely act like those who adopt opposed views. But the main plea in these chapters is for a suspension of judgment on problems of innate racial or family inferiorities, in respect of which there exists no satisfactory basis for dogmatic statements. There is at the present time real danger that in place of obsolete dogmatisms of superstition we may suffer from a dogmatism in the biology of human life which will embody an uncertain mixture of science, of "half-baked" science, and of pseudo-science.

ARTHUR NEWSHOLME.

DUPPAS HILL, CROYDON.

July, 1927.

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HEALTH PROBLEMS IN ORGANIZED SOCIETY

CHAPTER I

THE GROWTH OF THE PREVENTIVE IDEA IN MEDICINE ¹

IN trying to give in this lecture ² a bird's-eye view of the stages in the development of the Science of Medicine as influencing that part of human happiness which depends on health, evidently only the "high points" can be indicated. This partial survey may, however, help towards a realization of the depth of ignorance from which we have partially emerged, of the vast progress already made, and of the greater possibilities opening out for future workers in preventive medicine. Let me say at once that although research in many directions is needed, a vast mass of knowledge is already available, which if it be applied is competent to reduce the amount of sickness in our midst by at least one-half and to diminish premature deaths, that is, deaths before old age, to at least a corresponding extent. Increased application of our present knowledge in personal life and in public health administration is thus even more important than advance in knowledge.

The first doctor was the first man; for he can scarcely have escaped from accident and from sickness, and must have adopted such measures as his limited intellect suggested. But his knowledge was almost negligible; and as generations succeeded generations and myths grew, it is

¹ The subject of this chapter is dealt with more fully in my *Evolution of Preventive Medicine* (Williams & Wilkins, 1927).

² A lecture given in the University of Michigan, Ann Arbor, U.S.A., in May, 1926.

not surprising that he began to associate disease and other calamities with the maleficent influence of angry gods and that in this way the priest for long ages became also the physician. Running through ancient medicine there is the conception that whatever happens is the result of a plan preconceived by a spiritual power, and either attempts were made to appease or divert divine or satanic wrath or an attitude of stoical and inactive submission was adopted to an assumed predestination. That this doctrine has continued through history is evidenced, for instance, by Martin Luther's belief that the devil is responsible for the origin of all diseases, and even by some contemporaneous beliefs.

The belief in the curing of scrofula or "The King's Evil" by the touch of a king, the Lord's anointed, is part of the popular belief, under the influence of clerics, that healing is the direct work of God: and we realize the slow progress of science when we recall that Boyle (born 1627), the precursor of modern chemistry; Halley (born 1656), astronomer and mathematician; Isaac Newton (born 1642), and Christopher Wren (born 1632), all believed in the efficacy of the King's Touch.

Alongside of the belief in the supernatural origin of disease ran the belief in witchcraft. This was shared by Shakespeare; and the Parliament that made Oliver Cromwell Protector of England, hanged, drowned or burned many women for witchcraft; also we know that the children of the Pilgrim Fathers put witches to death in New England.

The first advance in scientific medicine meant fight against these superstitions; and fighters to this end were not wanting many centuries before the Christian era. Hippocrates (born about 400 B.C.) gathered up all that was good in ancient medicine. He recognized that disease is a natural, not a supernatural process. He first also clearly stated the great healing power of nature, the *vis medicatrix naturae*. The Hippocratic teaching which ascribed diseases to natural and intelligible causes and which recognized nature as the chief physician was a brilliant anticipation; but only an anticipation.

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As time went on medicine gradually released itself from subjection to the superstition of the priests. But although this occurred to an increasing extent, the lack of scientific knowledge continued to give scope for superstition in medicine, and the divorce of medical practice from superstition cannot be said to be complete even now. Among views widely held may be mentioned, for instance, the doctrine that disease is non-existent, as taught by so-called Christian scientists; or that it can be cured by faith, a belief which, although absurd and mischievous in its crude entirety, has, in view of the close interdependence of mind and body, a range of utility becoming increasingly recognized in medical practice.

Hippocrates and Ambroise Paré (born A.D. 1510) alike regarded plague as a special divine punishment; and Paré specially refers to the need to humble ourselves, like David of old, under the Divine hand.

In the Middle Ages saints were invoked and religious processions were organized in aid. This went so far as to apply the principle of the division of labour to the saints. Thus ¹

"St. Sebastian cured the plague; St. Petronal, fever; St. Macurine, frenzy; St. Maire, the scab; St. Genow, the gout; St. Clare, sore eyes; St. Appolonia, the tooth-ache."

So recently as the middle of the nineteenth century, when Great Britain was invaded by cholera, the Prime Minister, Lord Palmerston, was waited upon by a Scotch deputation urging him to arrange for a national day of fasting and prayer to avert the spread of this terrible disease. Lord Palmerston's answer while not irreverent was strictly practical, for he advised the deputation to go home, to arrange for the removal of all filth accumulations, to take every sanitary step that was possible, after which the question of a day of fasting might be considered. This recent illustration serves to remind us that the stages of human enlightenment overlap, and that one portion of

¹ "History of the Medical Profession," by Wm. Farr. (*The Medical Annual*, 1839.)

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any given community may be centuries behind another in realization of the facts of science.

The persistence of ignorance as to the nature and causation of disease in mediaeval days led next to the assumption that there was some connection between the stars and disease. This view was held by Hippocrates and six centuries later by Galen (born A.D. 131); and in the Middle Ages the view that disease was of divine origin was gradually replaced by astronomical explanations. Epidemic diseases were attributed to occasional malign conjunction of the seven planets moving in their orbs, the conjunction engendering corruption of the air; and it was especially held that putrid diseases always prevailed when Mars and Saturn came into contact.

Roger Bacon ¹ (1214-84), probably writing about 1268, said:

“Purgations, venesections and other evacuations and constrictions, and the whole of medical practice are based on the study of atmospheric changes due to the influence of the spheres and stars. Wherefore a physician who knows not how to take into account the positions and aspects of the planets can effect nothing in the healing arts except by chance and good fortune.”

But doctrines of disease based on ancient authority began to be attacked. The spirit of inquiry and doubt spread like a ferment, and the ancient doctrines were gradually undermined, though owing to lack of scientific investigation this process was not completed until the nineteenth century.

The authoritative teaching of Galen and Aristotle could only be upset by increased knowledge: and the birth of Vesalius in 1514 marks the dawn of the scientific era. He practised dissections on the human body, and embodied his facts in his work *De Corporis Humani Fabrica* (1543), which marks an epoch in the history of anatomy.

About the same time Paracelsus (born 1493) roused men against the dogmatism of the schools, creating a spirit of revolt against tradition in medicine, as Luther did in religion. One statement of his is worth quoting:

¹ Quoted from Dr. E. T. Worthington's *History of Medicine*.

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“ Before the end of the world a great number of effects, reputed to be supernatural, will be explained by causes entirely physical.”

With advancing knowledge came an increased anxiety to discover the causes of disease. Hippocrates was a forerunner in this also. In his tract on *Airs, Waters and Places*, he laid stress on the influence of situation and exposure, of seasons, of winds, of water and soil on health, and said :

“ He seems to me the best physician who is able to know in advance.”

In fact his school of thought appear to have held fast to observation of the actual conduct of disease as a guide for the physicians, thus anticipating the English Sydenham (1624-89), who was the great apostle of this essential teaching in medicine.

It has been noted that different stages were simultaneously represented in the struggle of medicine to escape from the bondage of superstition and from the even more serious shackles of fixed doctrines of disease. Thus the Hippocratic teaching as to the natural origin of disease was followed by the resumed association of disease with religious superstition. Such see-saw movements were inevitable so long as the basal sciences of anatomy and physiology were almost completely uncultivated, and while post-mortem examination of the end products of disease was almost unknown. There were, however, a few anticipations of modern scientific knowledge, and one of them may be mentioned at this point.

The introduction of antiseptic and aseptic surgery has been the most beneficent discovery of the nineteenth century : and inasmuch as by its means a vast number of lives have been saved, and it has been rendered possible to cure diseases in parts of the body which previously could not be reached, it stands foremost in that part of preventive medicine which is concerned with the cure of disease. It is interesting to note that even this discovery was partially anticipated by mediaevalists.

Suppuration was commonly regarded as a normal event

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in the healing of wounds and injuries; and many now living can still remember the period when "laudable pus" was spoken of.

Dr. G. K. Hindley¹ has written an interesting study of Theodoric, born in Italy, A.D. 1208, who combated the teaching of Hippocrates and Galen as to the normality of suppuration. This teaching was adopted by H. de Mandeville, but on his death the new view was forgotten or neglected, and for 600 years suppuration continued its deadly work, until the researches of Pasteur and Lister introduced a new era. Paracelsus proclaimed that wounds for the most part would heal if left alone. He added:

"Cautiously the Surgeon must take heed not to remove or to interfere with Nature's balsam, but protect and defend it in its working and in its virtue. . . . It is the nature of flesh to possess in itself an innate balsam."

But for 325 years after this the long night of dirt and suppuration remained unbroken, until in 1867 Lister made his first experiments in antiseptic surgery.

Vesalius, as already noted, brought to anatomy the principle of exact observation. It was William Harvey (1578-1657), who rendered modern medicine and through it preventive medicine possible by his discovery of the circulation of the blood in 1613. His discovery, although its acceptance was slow, went far to undo the endless elaborations of the Galenic doctrines. Galen, it is noteworthy, had appealed from earlier doctrines to nature, and in the irony of events it was the dogma of Galen which withstood the acceptance of Harvey's teaching. The general attitude of opposition to anti-scholastic discovery was illustrated in Galileo's fortunes (1564-1642). His endorsement of the Copernican doctrine led to his having to recant and state "Perish all physical science rather than one article of the Faith be lost"; but he is said to have muttered, immediately afterwards, referring to the earth's movement round the sun, "E pur si muove" (And yet it does move).

¹ "Aseptic Surgery in the Fourteenth Century" (*Nineteenth-Century Magazine*, October 1915).

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An earlier thinker, Abelard (born 1079), had enunciated as a first principle of science: "Dubitando enim ad inquisitionem venimus, inquirendo veritatem percipimus."

Science depends on inquiry and on the demand for verification for each statement, and is thus opposed to all initial doctrine. John Hunter's advice to William Jenner, when beginning his investigation into the protective influence of vaccinia against small-pox, was "Don't think, but try"; which perhaps may advantageously be modified into "Think, but always try."

Harvey had thus acted. He had subjected his ideas to experimental test and rejected everything not confirmed by these tests. But although Harvey's discovery was the indispensable first step towards making scientific preventive medicine possible, the work was necessarily incomplete. While appreciating that the circulation resulted in the production of animal heat, he did not know how this heat was produced. His great work consisted in demonstrating that the movements of the blood did not merely give an irrigation supply, as taught by Plato and Aristotle, but a definite circulation; but the rapidity of the circulation appears to have "convinced him that its purpose could not be the nourishment of the tissues."

Soon after Harvey's death, John Mayow (in 1681) published his conclusion that respiration and circulation were analogous phenomena, and that the blood was purified in the lungs. In 1774 Priestley by heating red oxide of mercury isolated "dephlogisticated air," and next year showed that a mouse could without danger breathe this gas. Lavoisier (born 1743, executed 1794) showed that oxidation is a synthesis. He combined mercury and oxygen, and concluded that as an animal cannot breathe in the residual nitrogen, air owes its vital property to oxygen. He also showed that when oxygen is consumed carbonic acid gas is produced; and thus established the complete theory of respiration.

Harvey and Lavoisier, then, made modern physiology and hygiene possible.

It is significant that Harvey's work on the circulation

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was published in Hamburg in 1628, after fifteen years' delay for fear of consequences. His discovery had but little influence on the medical practice of his day, the nature of respiration not being understood, and the process by which blood passed from arteries to veins being unknown.

Sydenham, a contemporary of Harvey (1624-89), was unrivalled for careful and accurate observation of the phenomena of disease. But, referring to Harvey and the experimental school, he made the following remarks, which teach us a lesson as to the uncertainty of our judgment on current phenomena :

"We may know the larger organs of the body, but the minute structure will always be hidden from us. No microscope will ever show us the minute passages by which the chyle leaves the intestine or show by which the blood passes from the arteries to the veins."

The progress towards preventive medicine so far sketched consisted in the gradual diminution of superstition and the even more gradual undermining of the belief in theoretical doctrines of disease. The future triumphs of science were made possible by the physiological and chemical discoveries relating to circulation and respiration. What preventive medicine was practicable before physiology and anatomy were practically studied? Hippocrates and his followers realized the importance of the natural elements of climate and weather on health, and the Greeks were not only great dieticians, but they also cultivated games and exercises and bathing to an extent and in a manner from which we can still learn much.

The use of purgatives was well known. So also emetics were employed not only as an aid to gluttony, but also to rid the system of peccant material. The Romans had elaborate systems of water supply and sewerage. In Homer there is reference to sulphur as a disinfectant ; and in mediaeval plagues there is record of fumigation of streets and towns by large fires. But for the prevention of epidemics and for accurately directed efforts to control disease, we have to wait until the eighteenth and nineteenth centuries, when scientific knowledge gradually became available,

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and when also men's consciences had become more sensitive than ever before to the sufferings of humanity. Until then we must accept Bacon's dictum that medical men moved in a circle with "much iteration and small progress."

The words of Milton—

Not to know at large of things remote
From use, obscure and subtle; but to know
That which before us lies in daily life,
Is the prime wisdom—

also embodied the attitude of the majority. But gradually knowledge of the sciences of physics and chemistry, as well as of physiology, grew, and observers learnt to study the phenomena of nature and disease without bias or pre-conception.

It is studies on such lines which have made modern scientific medicine possible and especially the great achievements and greater possibilities of preventive medicine. The discovery and removal of causes and of antecedent conditions associated with causes of disease—if, as is doubtful, the two can be separated—is progressively taking the place of empirical action. In attaining towards this end, experience has repeatedly shown that the strategy of indirect attack may often be the most successful. What, for instance, could appear more remote from practical life than the question why a crystal of tartaric acid should sometimes take one shape and sometimes another? And yet in attempting to answer this question Pasteur was led to study fermentation generally, and to discover the relation of micro-organisms to both fermentation and infection, with the results writ large in the modern history of medicine and surgery.

It is noteworthy that Robert Boyle, who died in 1691, had observed with the prevision of genius:

"He that thoroughly understands the nature of ferments and of fermentation shall probably be much better able than he who ignores them, to give a fair account of certain diseases (as well fevers as others) which will perhaps be never properly understood without an insight into the doctrine of fermentation."

Some forty years elapsed between Galvani's observation that a frog's muscles twitched when brought into contact with pieces of metal, and the time when Faraday found that a current of electricity is excited if a magnet is brought near a coil of wire; and it required another forty years before this knowledge was applied widely in the service of the community. Faraday himself laughed at the idea of electric lighting; though on another occasion, when asked the use of the experimental observation just noted, he wisely retorted: "What is the use of a new-born baby?"

Perkin when attempting the synthesis of quinine incidentally laid the foundation of our knowledge of anilin dyes, and of the discoveries in bacteriology and in organic therapy rendered possible thereby.

In view of such illustrations of the unfathomed possibilities of research, we must place it foremost in the assessment of potential public health values; and we can regard with mitigated despondence our present relative helplessness in the prevention of cerebro-spinal fever when contrasted with small-pox; of poliomyelitis when contrasted with the possibility of preventing attack by diphtheria; or of our partial helplessness in the prevention of cancer as contrasted with our ability to reduce tuberculosis to a shadow of its present self, as soon as the conscience of the community as a whole awakes to a moral appreciation of this possibility, and of the heavy moral responsibility implied in postponing its accomplishment.

Consider the increased power in preventing disease which research has already placed within our reach, by the invaluable results of the researches of Pasteur and Koch and the many other investigators who have added to our knowledge of the natural history of various infectious diseases. Listerism based on this scientific knowledge has literally saved hundreds of thousands of lives, and restored health to many more who in the absence of antiseptic and aseptic surgery would have continued a life crippled or suffering as the result of removable disease or defect.

Sir William Gull used to say that the right way into the medical profession was through the Museum of the Royal

College of Surgeons and not through the Apothecaries Hall, by knowledge of anatomy and pathology and not of drugs, a statement which, although now too limited, sets out the first rational step towards the understanding of disease processes. We can now state further, that by physiological, bacteriological and bio-chemical investigation and experimentation, our *defences* against the enemies of health are being improved, while an *offensive* warfare against the agents of disease is being pursued. On the side of medical zoology this is especially true. The names of Theobald Smith, of Manson, of Ross, and Walter Read typify triumphs already secured, as does also the great work against ankylostomiasis; and as a distinguished physiologist, Dr. W. H. Howell, has expressed it:

“If only adequate support can be found to provide workers and facilities we may look forward to a practically complete mastery over such forms of life (insects that infest our bodies, flies and mosquitoes, fleas, ticks, and lice) so far as they are inimical to our lives or our possessions.” (Dr. W. H. Howell, on *Scientific Research and Public Health*, 1921.)

Both in the prevention and in the improved treatment of disease we have been largely dependent on advances in branches of science, not directly related to medicine. The improvement in our means of diagnosis of disease has been very fruitful. We are immensely indebted to means of physical or chemical diagnosis, beginning with Laennec's introduction of the stethoscope, and the more recent additions to our ability to diagnose given by Röntgen rays, by the Wassermann and Widal and allied tests, and by the resources of a modern bacteriological and chemical laboratory.

Our new knowledge of the influence of movements of air, of direct sunlight and of various foods on the treatment and the prevention of disease, especially of rickets, are momentous advances in hygiene, and are particularly important because they represent not only increased power to treat and to prevent disease, but also because they provide the means for raising the general standard of physiological life. They are the forerunners of advance in knowledge which,

partially at least, is changing the practice of medicine. Instead of resting solely on pathological and clinical knowledge it is being based more and more on increasing insight into the laws of physiology. But preventive and curative medicine can never be satisfactorily divorced, for the early and adequate treatment of every form of disease will always be an important means for preventing further disease.

Every physician within the scope of his own medical practice also should become a medical officer of health. This is emphasized in the following extract from an official report of my own :

“There is needed a reconstruction of the training of each medical student, which will make preventive medicine in its widest sense an integral part of his training, and will ensure that before he begins practice he has definite instruction in the application of the whole of his knowledge to preventive purposes. The past conception by the public of the relation of medical men to the community—apart from the special case of medical officers of health—has been mistaken. The doctor has been regarded as a help when serious or acute incapacitating illness occurs, and he has but seldom had the opportunity of giving advice in the earlier and more controllable stages of illness. His training has been conducted on the assumption that his chief rôle should be on present lines, with the result that most medical practitioners enter into practice with a too scanty knowledge of hygiene and preventive medicine, and have to learn slowly in belated experience the influence of environment on the health of their patients. The teaching of medicine should be much more largely physiological and hygienic than at present, and such subjects as food values, the hygiene of infancy and child-birth, the physiology of breast feeding, and the influence of environment on the health of their future patients should be the subject of careful training—especially in regard to housing, feeding, clothing, and conditions of work. Were this done, the ideal condition, in which each medical practitioner becomes a medical officer of health in the range of his own practice, would approach realization.” (Annual Report of the Medical Officer to the Local Government Board, 1917-18.)

Many medical practitioners already fulfil this ideal. In the early history of public health in England Poor Law medical officers, in attendance on the impoverished in their dwellings and familiar with their home conditions, became

part-time medical officers of health. But the attempt to combine prevention and treatment proved unsuccessful, because these officers visited only a small proportion of the dwellings of the poor, because they were not trained in preventive work, and because the good seed of preventive work was choked by the increasing demands of lucrative private practice. In connection with the medical work of the future, curative as well as preventive, it is not beyond the range of human ingenuity to provide schemes for the provision of district medical officers (health and clinical) who will be adequately trained in public health work, and linked up closely with the hospital and dispensary unit for their area.

This will cost money. But sound health is our greatest personal and national asset, and disease is always more expensive than health. "Who winds up days with toil, and nights with sleep" has "the forehand and vantage of the king," if the latter suffers in body or mind. The real wealth of a nation does not consist in its money, in the volume of its trade, or in the extent of its dominions. These are only valuable in so far as they help to maintain a population—and not only a portion of it—of the right quality; men, women and children possessing bodily vigour, alert mind, firm character, courage and self-control. This ideal can never be realized unless and until the medical men of the future train themselves for and devote themselves to their essential share in its fulfilment.

We are all concerned in the efficiency of every member of the community, from an economic as well as from a humanitarian standpoint. Can we be satisfied while a large proportion of the population do not obtain medical and ancillary assistance to the extent of their needs?

If communal provision has been recognized as a duty for police protection, for sanitation, for elementary education, should it not likewise be admitted as a necessity to provide against the more subtle and maleficent enemies of health which in no community have hitherto been completely combated?

In the preceding pages I have described especially the

earlier struggles of the art of medicine towards the light. This has been done deliberately, not only because the later stages of development of medicine, both curative and preventive, are more familiar to us all, but also because this earlier history inspires hope and confidence in the future.

In conclusion I will briefly refer to two important aspects of preventive medicine, the importance of which is happily being realized now more than ever in the past.

The first of these is the increasing realization of the intimate relation between success in preventive medicine and in the control of our chief social evils. The problems of housing, of education, of opportunities for amusement and recreation, of poverty and destitution, of gambling and alcoholism, of crime and delinquency all have important bearings on public health; and like every other problem the true method of approach to their solution—and thereby the solution of many of our public health difficulties—is by the *case method*. Each individual, when aberrant from the normal, is a problem needing individual investigation, and possible causal factors need dissecting out from the tangle in which they are usually found, with a view to the discovery of the most potent, and the suitable application of curative and preventive measures. The great error of the past has been that we have been satisfied with an incomplete analysis, from which it has followed that imperfect and mainly palliative measures are alone practicable.

A second and most hopeful feature of modern Public Health is the increasing realization that character is a supremely important factor in securing success in preventive medicine. This is further discussed on pages 34 and 146 and its evolution on page 182. Even when we consider the relatively narrow aim of preventing disease, it is the diseases the prevention of which depends on socially moral conduct against which so far the least success has been secured. This, of course, is especially true of the venereal diseases; but the remark holds good for other branches of preventive medicine, and particularly for the prevention of tuberculosis. Does anyone doubt that, if public health authorities, voluntary social workers, educators, employers, patients them-

selves and their relatives, were all possessed of the knowledge which hygienists possess, and were ethically impelled without exception to act consistently and persistently on that knowledge, tuberculosis in another generation instead of being, like venereal disease, one of the four or five greatest scourges of mankind, would assume a relatively unimportant place among human enemies? If this statement is correct, the moral and spiritual attitude constitutes a chief hope for the future; and this attitude is only possible if it is cultivated. The study of psychology and its application in the training of the young can afford essential aid to the development of the necessary control over instinctive tendencies and adult selfishness (page 193). A study of human emotions and the cultivation of their control is indispensable for ideal human life; and it is highly desirable that public health and education authorities should combine in the general cultivation of higher standards of life. Sexual hygiene would then take its place with other branches of teaching directed towards self-control as affecting health. The joint responsibility of education and public health authorities for adolescents extends to the provision of adequate recreative facilities; and in this connection there is opened out a vast sphere of communal activity which can be made to bear abundant fruit in improved morality as well as in better health.

The possibilities of character training are enormous, not only in the special directions suggested above, but also even more in the daily training and diversion of the egocentric impulses from infancy onwards, and in the necessary clashing between animal appetites and the conscience, or intuitive self-analysis, which in children brought up satisfactorily "hath a thousand several tongues" of guidance and warning. All this implies struggle and conflict in life. It appears inevitable that in man's slow ascent, the price of higher satisfaction is some crucifixion of spontaneous desires, and we can, I think, aver that in making up our ledger of happiness the gain is on the side of higher ideals and conduct. There must be sacrifice in some measure for all. For the anti-social whose egoism and

selfishness block the way of hygienic and moral progress this sacrifice must be more or less obligatory, for the majority it represents a real gain in fullness of life.

All the avenues of progress converge towards a higher standard of health: and speaking from our present point of vantage we can express our immense obligation to the engineers and sanitarians who have given us satisfactory drainage and sewerage and a safe water supply: to the bacteriologists and other laboratory workers who have increased our powers of recognition of special diseases and added to the possibilities of immunization against disease; to the epidemiologists, who have traced the course and source of various epidemic invasions, and given exactitude to our preventive measures; to our teachers in all spheres of life who have gradually inoculated the public with more enlightened views of hygiene; and to our administrators, to them above all, in so far as they have acted on preventive knowledge already available,—for the varied measures adopted, especially in our crowded towns, for controlling disease and for rendering industrial life freer from risks. The continued and extended work of all these is necessary if the possibilities of the future are to be realized; and we have a further field to cultivate, the ethical as applied to preventive medicine, which I think is more promising of abundant fruit than any other branch of public health work.

CHAPTER II

SCIENCE AND SOCIAL PROBLEMS ¹

SCIENCE for our present purpose may be defined as the accurate knowledge of phenomena and their causation ; and the application of this knowledge is the chief means for securing human efficiency.

In dealing with the too prevalent human inefficiency and failure, we have a double problem, individual and communal ; and our hope of social amelioration lies in securing accurate knowledge of the factors producing both social and individual inadequacy for the work of life and in removing these factors. In seeking for the causes of evil we cannot afford to overlook either physical or mental factors ; and it implies an imperfect realization of the factors involved if we leave character out of the reckoning. No completely satisfactory improvement in human conditions can be secured which omits from consideration any one of those aspects of human nature.

To take two illustrations. We are finding that a large part of the mass of insanity in the community arises from toxæmias and infections. Probably more than one out of every ten admissions to our lunatic asylums is of patients whose insanity is due directly to the virus of syphilis which, given the absence of sexual promiscuity, would rapidly cease to be spread. The same illustration shows the importance of character as an element in social efficiency. Mental hygiene cannot be discussed in this chapter ; but an essential element in the prevention of syphilis consists in the successful building up of the powers of inhibition—in other words the creation of right habits—beginning in infancy and in the toddler's stage of life.

¹ An address given at a Conference on " Science and Labour " organized by the British Science Guild, May 31, 1924.

The close inter-relation between conduct and the science of health is seen also in our national habits as regards alcoholic drinks. These are improving; but, nevertheless, these habits can be classed with syphilis, with tuberculosis, and with cancer as the four greatest causes of social misery and disease. Three of them can be removed from our midst, by efficient and adequate action, and yet, knowing the extent of the evils and their causation, we fail to act adequately for their removal! The wastefulness of this neglect is seen in the fact that the alcohol consumed per head of the population in Great Britain in 1923 was estimated to cost £7 2s.; or, assuming that of the ten million families, one million have no drink bill, it averaged £35 per annum for each non-abstaining family. Two of the greatest needs for the children of the community are improved housing and a larger supply of milk. But the beer drunk costs more than the milk which is drunk; and the money which would enable most members of the wage-earning community to pay an economic rent without any Government subsidy is diverted to what at the best is a luxury, and in a vast number of cases is a chief factor in the causation of poverty and disease.

Two favourable points emerge in considering our social problems on their human side.

1. There is a general anxiety to help to lighten the burden of social misery—already lightened as compared with the past, though still grievously heavy—a burden making successful family life, on which civilization is built, difficult or impossible for a large portion of the population. The social conscience has been aroused.

2. We are ascertaining,—and this knowledge is becoming a conviction,—that the greater part of our social misery is avoidable if only we are willing to substitute rational causal attack on it for the empirical treatment of its symptoms.

Our chief social problems centre round poverty and disease, and these two are so closely interrelated that cause and effect act and interact in recurring circles embracing every part of our social organization.

I propose to consider chiefly that *vast amount of poverty*

in the sense of destitution which *can be obviated by preventing sickness*. In all probability more than half our total poverty, including the poverty incidental to widowhood and orphans, is due to sickness. As stated in the Report of the Royal Commission on the Poor Laws, "One-third of all the paupers are sick, one-third children and one-quarter either widows encumbered by young families or certified lunatics."

The relief of poverty at the best is an inefficient and expensive remedy. It is seldom adequate and it *has few preventive elements*; while the prevention of poverty by the prevention of the illness causing it, and by early and satisfactory treatment of such illness as fails to be prevented, is the one efficient, as well as in the long run the one economical plan of campaign.

How have these general principles been applied in our three great national services of Poor Law, Public Health and Insurance?

So far as *Public Health* is concerned, I do not propose to repeat the oft-told story of its many triumphs. It is especially concerned in the removal of the causes of sickness and in securing the conditions which favour an improved standard of health. That it has still vast work to do is indicated by the simple fact that only 36 out of every 100 deaths occur at ages over 65. Every death at earlier ages means that the debt of the individual to the community has been incompletely paid back. The magnitude of this economic loss is further shown by the fact that 39 per cent. of total deaths occur at the working years of life, 15-65.

How far are the Poor Law and Insurance helping Public Health? So far as the sick are concerned Poor Law organization has been greatly improved, especially in our large towns, though even in these there is still commonly inadequacy of both medical and nursing staff. At the present time about 98 per cent. of the population who receive Poor Law relief are the sick and infirm, the aged and children. But the essential defect of the Poor Law is that it only operates when destitution has already arrived. Alleviation of suffering,—relief,—and attempt at cure of an established

evil are sacred functions, to which in a civilized community we are bound to devote all needed effort ; and there will always remain scope for measures to alleviate unpreventible sickness, or sickness for the prevention of which our preventive measures are not yet organized or completed. Prompt and efficient treatment of sickness again is a means for expediting recovery, and thus has important preventive elements. But *the fundamental principle of the Poor Law as regards sickness*, and also as regards all forms of "unmerited poverty," *is objectionable*. Relief is available only when disease is already established and has become associated with destitution ; and the Poor Law system brings to bear on sickness, though in recent years to a greatly mitigated extent, mischievous deterrent influences which are only justifiable for the idle able-bodied, or those who are destitute without being ill.

Sickness is a thing apart, and for the sake of national efficiency as well as of our common humanity, its treatment ought to be adequate, prompt and skilful, for everyone, without any social or economic distinction, so far as essentials are concerned. Nothing short of this can continue to satisfy the intelligence or the conscience of the community. To continue to mix up this administrative problem with that of dealing with vagrants and the able-bodied destitute, is an anachronism which has long survived the period of enlightenment at which we have arrived.

This delay in securing the *needed divorce between the treatment of sickness and the Poor Law organization* is a factor in preventing increased application of measures for removing the causes of vast masses of sickness, as well as in inhibiting prompt treatment before destitution, in one or other particular, necessitates appeal to Poor Law help.

The remedial action indicated is well known. It is agreed by every political party in the State that the treatment of disease, so far as the State makes itself responsible for it, is a function of the Public Health Authorities ; and yet this responsibility continues to be scattered among various local Authorities, Public Health, Poor Law and Insurance Committees, having no official relation with each

other, acting in large measure independently of one another, their efforts defective in many directions, redundant in other directions, and only one of them possessing the executive power to diminish and prevent the sickness which they are called on to treat.

We are nationally prepared to supplement, and ere long we shall be supplementing, apart from Poor Law provisions, the income of the widow with children, who without such help cannot satisfactorily rear her children.¹ It is in the communal interest to do so. But the major duty is that we should make more strenuous effort to reduce the risks of accident, sickness and death which necessitate these pensions. Probably one-third of the total sickness and something like a fifth of the total deaths in Friendly Society experience are due to pulmonary tuberculosis, a disease against which our efforts social, industrial, medical and hygienic are still half-hearted and partial.

Similarly we give milk to needy mothers and infants at child-welfare centres, and to school children suffering from malnutrition; but there is an almost complete lack of practicable machinery to prevent a large share of the family income in some of these families being spent on beer or whisky. A large proportion of crimes of violence, of sexual crimes and vice, and much of the neglect of mothers and children bringing burdens on public funds, are due to the intemperate habits of a minority of the population. The improvement of our social habits is evidence of the higher standards of the majority of the population in regard to this evil.

Education in its widest sense has worked miracles, when the term is used to include not only intellectual instruction, but also the training of the individual in behaviour in the varying circumstances of life. But as a communal problem, there remains for a minority of the population the need for compulsory restriction of consumption of alcoholic drinks in the general interest of the community; and to the extent that the majority demand this it ceases to be compulsion, except for the minority who continue to cause a vast amount

¹ See page 152.

of avoidable suffering by their intemperance. For several centuries restrictions on the sale of alcoholic drinks have been demanded in this country and have been adopted in varying degrees ; and continuance and extension of these restrictions become increasingly practicable as the alcoholic habits of the majority improve and the evil results of alcoholic excess become more limited in their distribution. Such restrictions are among the most urgently needed public health reforms ; and diminution of crime, of vice, of accidents, of sickness, of orphanhood and widowhood, would be the prompt result of action on the lines indicated. (See also pages 137 and 197.)

The defects of our Poor Law medical system having been indicated, we may now turn to our *National system of Insurance* for a further illustration. The Poor Law system has failed because of the evil administrative link between destitution and sickness, sickness *per se* having no claim on assistance. In this respect National Insurance was an important step forward. Every insured sick person can claim medical benefit, as well as temporary partial maintenance during the continuance of disabling sickness. Insurance against sickness is a social service of proved value, as shown in the long-continued experience of Friendly Societies, in whose hands it has been also a valuable means of promoting thrift. Since it was merged into a service which is national in extent it has lost some of the value it owed to mutual co-operation and to the encouragement of thrift ; and the overhead charges and complications, under the present system of distribution of insured persons, have been excessive, while much of the old co-operative spirit has disappeared. To the extent to which this has occurred the moral value of compulsory insurance has become little greater than that of taxation.

I am not concerned here with the difficulties on the administrative side of insurance which will need to be faced. These relate among other things to the excessive cost of the system, due to the present conditions of administration ; to the constant tendency towards the " segregation of good lives " ; to the absence of any geographical or occupational

distribution of the insured ; and to the non-correspondence between the monetary allowance in sickness and the duration of the need for this.

The struggling and the sick in the societies in which they are most numerous need most and get least, which is contrary to the spirit of all public health work ; inordinate and extravagant book-keeping and correspondence are involved in the present non-geographical distribution of members in societies ; and chaos of insurance administration is ensured by the fact that insurance committees are local, while societies of insured are not similarly localized, and the further fact that insurance committees are not organically related to public health authorities.

On the medical side, is insurance as now organized a handmaiden of public health ? It is a safe proposition that although *insurance* in itself is a valuable provision for contingencies, it is *harmful to the extent to which it conduces to contentment with the status quo* and to failure to provide means for diminishing the evils insured against which insurance partially provides.

As illustrating the chaos which is associated with the National Insurance Act, insurance committees were definitely precluded from entering into agreements with Poor Law Guardians for hospital provision. This restriction was not associated with or followed by the necessary proposals for transferring Poor Law infirmaries to public health authorities, and thus unnecessary suffering has been inflicted on Poor Law and insurance patients alike. Many of these hospitals are now "highly equipped general hospitals supported by the rates," and their more general utilization is urgently needed. Ere long this is likely to be secured.

Reference has been made to the impotence of the National Insurance Act, in present conditions, as an instrument for the detection and removal of excessive disease. Section 60 of the Act of 1911 was intended for this purpose ; but its uselessness was emphasized when the Act was a Bill, by those competent to protest, including the writer. Insurance committees in their present isolated position have no expert advisers in hygiene ; they have no means for making

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statistical or epidemiological investigations ; and in most instances the absence of geographical or occupational classification of the members for whom they arrange treatment makes such inquiries impossible. It was furthermore obvious from the beginning to those experienced in administration that an organization for making such investigations distinct from and perhaps intended to be antagonistic to public health authorities was almost necessarily futile.

CHAPTER III

VALUES IN PREVENTIVE MEDICINE (A) ¹

I PROPOSE to submit some considerations bearing on the several departments of public health work, as they present themselves to one who for more than forty years has been engaged in assessing the relative value of public health possibilities and in promoting their realization in actual work. In such a survey only some outstanding factors can be reviewed.

Let us first consider what we mean by values. What are the ends which we seek, and how far are they attainable? Evidently clear ideas are needed, if our time, work, and money are to be wisely directed.

We must first of all bear in mind the distinction between problems of public health and problems of public health administration. We still have to lament that a majority of the catarrhal infections, including bronchitis and most forms of pneumonia, influenza and encephalitis lethargica, have not in any satisfactory sense become practical problems of public health administration, and that for cancer our possibilities of prevention are sadly restricted. We shall therefore agree in the view that continued and persistent research into the laws of health and into means for the control of disease has prime value in preventive medicine. Such research is in progress in a thousand centres of investigation; and we can hopefully anticipate that increasing possibilities of health will accrue from them.

Meanwhile, our disappointment at our lack of control over influenza is counterbalanced by our victory over small-pox; our failure to prevent poliomyelitis and encephalitis lethargica is rendered less dismal by the possibilities of

¹ An Inaugural Address given at the American Health Congress, Atlantic City, May, 1926.

completely controlling diphtheria demonstrated by American hygienists; and the fact that tuberculosis and syphilis can be reduced to a shadow of their present selves, so soon as every member of the community is prepared to do what can be done, should lead us to anticipate that, possibly ere long, cancer will be classed with tuberculosis and syphilis as a completely controllable scourge. When this state has arrived our statistical position will be something like this:

The abolition of tuberculosis and of syphilis will mean the removal of the two great evils which produce something like one-quarter of all present deaths before old age. The further subtraction of cancer would mean that one-third, probably more, of all deaths would then be relegated to the physiological cessation of life in ripe old age.

Meanwhile there already exist unexhausted and sparsely utilized but immense potentialities of public health administration; and experience and all available scientific knowledge prove that we have within our reach the opportunity and privilege of removing at least half of our present sickness and of the premature mortality which occurs, i.e., mortality before old age. We can, in fact, everyone co-operating, secure for the majority of the population that their "age is as the lusty winter—frosty but kindly."

The three main objects of public health work are:

1. The prevention of disease.
2. The enhancement of health.
3. The cultivation of the complete being of man, in order that physically, mentally, and morally, there may be the highest self-development of a well-balanced nature.

If any one of these three conceptions of our work is omitted, a stunted and imperfect result necessarily follows; and in my view every branch of public health work affecting the individual should be judged by its competence to assist in the realization of this triple idea.

In attempting to assess values in public health work, actual and potential, one is impressed with the historical changes in values.

Mobility of Values.—Consider the many branches of work now included in an average sanitary administration, and

ask how many have been added in the last thirty years. In England, between 1908 and 1918, three fundamentally important services were added to official public health work, viz. maternity and child-welfare work, anti-tuberculosis work, and anti-venereal work. Some work on similar lines had been started previously, but only within the last twenty years have definite departments of work been organized dealing with these fundamentally important problems. In another generation additional branches of work will doubtless be organized, as new possibilities of health and health work open out, but this will not depreciate the value of the very varied work already being done to protect the public health.

Looking backward even further we may recall that Sydenham, the prince of clinical physicians, a contemporary of William Harvey, was certain that "no microscope will ever show us the minute passages by which the blood passes from the arteries to the veins"; and a century later a distinguished Philadelphian physician ridiculed Oliver Wendell Holmes's demonstration of the contagiousness of puerperal fever as "the jejune and fizzleless vapourings of a sophomore writer," preferring to regard cases of this disease as the result of "accident or Providence." The present outlook always seems absurd or at least imperfect when it becomes historical; for error is the necessary companion of imperfect knowledge. As Duclaux has put it, "it is because science is sure of nothing that it is always advancing."

Already there have been mentioned three of the special branches of public health work in which the greatest good to mankind can be or is being secured, viz., work for the children, anti-tuberculosis work and anti-venereal work. In assessing the relative value of these three great special branches of work, one remembers that tuberculosis kills more than half of its victims at the working years of life, 20-65, and incidentally is a chief producer of dependent widows and orphans; and that syphilis and gonorrhoea also are the real cause of probably more adult deaths (from cardiac disease, from insanity, and many other terminal

conditions) than is tuberculosis in all its forms. Together these lethal diseases are the chief pathological agents in scattering inefficiency and death among the adult workers of our population of both sexes at ages when their utility to the community should be at its maximum.

Relation of Child to Adult Health.—This being so, it may be suggested that child mortality, in which social utility in a limited sense is merely in promise, has relatively small importance. It is even persistently said by those who can never be made to understand that in the battle of civilized life the wounded and disabled in action are always more numerous than the killed, that child mortality is a useful selective agency; though it can be shown that in actual life the causes producing excessive child mortality are the chief causes of adult inadequacy to the tasks of adult life. We may indeed summarize the situation by formulating the aphorism:

Public health measures directed to improving child health are more fruitful than any others in securing adult fitness for useful life.

Rickets.—Rickets is one example which is worthy of more detailed reference. The importance of this disease, both as an enemy to child health and as a source of extreme danger in subsequent childbearing by women, is even yet inadequately recognized. It is a very common disease, and we know that it greatly increases the danger to life when other diseases occur to which children are liable. Whooping cough, measles, and diarrhoea are especially fatal to rickety children; and the prevention of rickets will mean the saving of hundreds of thousands of children whose lives are now sacrificed to these diseases. Furthermore, rickets is the cause not only of pelvic deformities but also of deformities of spine and limbs, and it is generally associated with a low average height and weight and with impaired intellectual development for any given age.

The exact connection between rickets and the occurrence of excessive catarrhs followed by adenoids is perhaps doubtful, but there is no doubt that the sunbaths and cod-liver oil which prevent rickets will also greatly reduce the

occurrence of catarrhs, and so further reduce the toll of deaths from catarrhal affections and the adult inefficiency in those who survive. This is not the complete story of the mischief wrought by rickets. Rickets is the chief agent producing pelvic contraction and deformity, with resultant difficult and complicated parturition, often necessitating operative aid or even Cæsarean section. If our present excessive puerperal mortality is to be reduced it is indispensable that ante-natal clinics should be made available for a large part of the total childbearing population, skilled medical advice being given to anticipate and prevent complications in childbirth. In such clinics a chief object will be the early recognition of pelvic contraction and the management of parturition in accordance with the findings.

But how much better would it be to begin twenty or thirty years earlier the prevention of that large part of mortality in childbed due to rachitic deformity of the pelvis; to begin it during the first post-natal year of the future mother's life, and it may be added during the future mother's ante-natal life! It is within the power of preventive medicine practically to banish rachitic pelvic deformities and thus greatly to reduce puerperal mortality. True we may not be able to measure results in the health officer's reports of next year; but reason and science demand an intensive campaign in favour of the demonstrated means for preventing this serious disease.

There is no valid reason why in every area active anti-rachitic measures should not be started, with the well-founded expectation that action on these lines will not only eliminate rickets, but will also reduce the catarrhal infections which have hitherto proved so intractable.

We may now enunciate a second aphorism:

A sure way of decreasing childbed mortality is to make cod-liver oil a regular item in the dietary of the mother during the first year of her life.

But we have not exhausted this question of the interrelation between infant health and adult health. Reference has already been made to tuberculosis and syphilis as two

arch-enemies to life and health in adult life. In the first three years after birth they are even more so; and no scheme of child hygiene work is satisfactory which does not include within its activities the prevention of these infections, conjointly with the work in the ante-venereal and anti-tuberculosis divisions of public health administration. Much tuberculous infection in childhood has been due to infected milk, and we are being increasingly protected against this. Much more continues to be due to the exposure of each child, especially in tuberculous families, to serious risks from tuberculous adults, before partial immunity against infection has been acquired. A chief problem of the anti-tuberculosis campaign and of child-welfare work alike is how to minimize this infection during the first three or four years of life. The share borne by syphilis in causing serious loss of child life and also various forms of mental defect and feeble-mindedness in children, is being increasingly realized.

We can therefore advance a further generalization, namely:

A public health problem is commonly another problem in disguise.

It is only by appreciating the close inter-relation indicated by this aphorism and by acting upon this knowledge that we can hope to secure satisfactory results in the diminution of disease and the enhancement of health.

The close interlocking of public health problems is further illustrated by the essential dependence of the health of the child on that of its mother. This has already been illustrated in the case of rickets. But apart from what can be done in infancy to protect the future mother's health and life, many other measures are still needed to safeguard the mother's health before, during and after childbirth. As public health workers, we cannot say that we are doing a tithe of what can be done to this end. An analysis of the deaths during pregnancy and associated with parturition shows that they are largely preventible; *but they are not prevented.* It is scandalous that in England three, in some parts four or even six, mothers die for every

1,000 infants born alive ; while in America the position is even worse. It is not that either country cannot afford to take the necessary measures. It must be that we are ignorant or careless or callous, or that we are singularly inefficient in " selling " our special knowledge to the public. It is our duty to see to it that no reason for inactivity shall remain except persistent hardness of heart.

The facts cry out for reform ; and every motive associated with the sacred work of maternity is implicated in the needed reforms. And yet it remains unnecessarily true that child-bearing continues to be a dangerous occupation ; and that, in fact, it causes as many deaths among women at child-bearing ages as do all the industrial accidents of men at the same period of life.

This is not all. The greater part of infant mortality occurs within a month of birth ; in addition an even larger number of infants are still-born, for whom, given more favourable conditions, life would be possible. Much of this extremely heavy but avoidable loss of infant life and of the associated injury to mothers, sometimes fatal, is caused by the injudicious and improper management of parturition ; and the remedy consists in the provision of satisfactory skilled ante-natal care and intra-natal care for every mother. Nothing short of this should be consistent with our ability to sleep quietly in our beds, once we have realized this gigantic evil. Will the urgent reform needed permit in any country the practice of midwifery to be continued by " handy women " and midwives, for whom adequate training fails to be provided ? For those above the poorest class midwifery too often is practised by too busy medical practitioners ; and what is needed, especially for the poor, is a trained maternity nurse to watch in every parturient woman the normal course of parturition, who will call in —if necessary at the public expense, as in England—a skilled medical accoucheur when needed. The essential need for safe childbearing is skilled medical diagnosis ante-natally, and the reform here foreshadowed, far from diminishing the need for medical aid, will necessitate the expenditure of public money for this purpose, and to

ensure that for the very poor, satisfactory maternity nurses may be everywhere available.

Of course the cry of "socialism" will be raised in connection with any such proposal. How prone we are to convert words into bogies! This is a specially pernicious form of bogy; for the inaction resulting from this outcry means the continuance of a vast mass of avoidable suffering and death in the most precious associations of life. Why free medical attendance when required in the public interest should be socialistic, and free education not, I leave the bogy-raisers to explain; but the proposed provisions need not be free, but can be provided on a mutual insurance basis to which all contribute. The essential point is that we are not justified in permitting any obstacle, much less a foolish catchword, to cause a moral sterility which inhibits action against a great removable evil.

Permit me then to add a further aphorism:

No section of the community—whether it be medical, non-medical, or concerned in public administration—can justify itself before the court of humanity in the possession of means for enhancing the public health, unless it adopts every available measure for securing the practice of these means.

Were space allowed it would be desirable to carry this statement of principle into other branches of medicine, and especially those concerned with the defects and diseases discovered in pre-school children and in children attending schools. Only brief allusion can be made to the still vast though decreasing number of cases, to mention no others, of serious dental disease, of enlarged tonsils and adenoid growths which after being detected remain untreated. Let me at this point interpolate the remark:

No systematic public health report on a community should be allowed to pass muster which does not record the proportion of defects discovered in which all possible remedial measures have been applied.

How many public health reports are able now to do this? It is sometimes urged that attempts in this direction are encroaching beyond the region of public health administration; but in England the ghost which continues to protest

that treatment is not part of prevention has been laid and seldom emerges from its sepulchre. No consistent line has ever been drawn between prevention and treatment, nor can it be drawn. And in England again—if I may once more quote the country with whose policy I am most familiar, and with some share in formulating it—the line has been abandoned. There is no need to diminish the work of private practitioners, and every extension of official preventive medicine into treatment has in fact been associated with increase of private medical work. But to contemplate in the present year of grace a policy of prevention of gonorrhoea and syphilis without the provision for the gratuitous treatment of all applicants, to think of the prevention of tuberculosis in the absence of extensive public arrangements for diagnosis and treatment of cases of this disease, is impossible; and the treatment of expectant mothers, of suckling mothers, and of pre-school and school children for dental conditions and for adenoids, for various deformities, and for other remediable conditions, is rapidly extending. We may at this stage then formulate a further aphorism:

When measures of personal hygiene and of public health have failed to prevent the beginnings of disease, it is the duty of public health administration to ensure that every individual who without this provision would remain inadequately treated, has access to forms of treatment which are needed to prevent the personal and social inefficiency following on untreated or ill-treated disease.

Here again, whether this provision should be made through mutual insurance or provided in the same way as is elementary education, is for the community to decide. The one immovable condition is that we cannot justify the continuance of untreated disease which if we intervened would be treated. The only open question is the method by which the offer to treat untreated disease shall be given. When the medical profession and the public, through the mouthpiece of public health administration, have agreed on this vital problem, and action has been taken on this agreement, a vast improvement in the standard of national health will be realized.

Of course, it would be more satisfactory if the conditions could always be prevented which necessitate treatment to prevent further disease and its consequences ; but to rest barrenly content with this aspiration is as foolish as it would be if a health officer refrained from controlling a typhoid carrier because he could not discover the source from which the carrier derived his infection. The public health authorities and communities which allow physical disease to be discovered without ensuring treatment are responsible for a vast amount of ill-health, for the production of artificial stupidity in children, for persistent deafness and defects of vision, for various focal infections, and for much tuberculosis and cardiac disease. It is not beyond the range of American ingenuity to persuade the American medical profession to "come over and help us" in many of the directions indicated in the preceding paragraphs.

In bringing about this result it is the bounden duty of every socially minded person to become an active politician in regard to every form of local and national government, in order that the pioneer work which will always be initiated and promoted by voluntary societies may increasingly become part of each official local health organization and be supported out of general funds. We cannot rid ourselves of responsibility by standing aside and taking no part in government.

This leads to the statement of the last aphorism which I submit for your consideration. It is this :

Among the enemies of the public health against which we have had relatively little success, are those especially in which character and conduct are concerned.

As public health workers, we devote time and ingenuity to publicity work, and this does good, so long as we avoid flamboyant inaccuracies. The best educator is he who waits on and aids the development of the human mind. The basic need is to train the behaviour of the individual in the varying circumstances of life ; it is the lack of this training which is responsible for the continuance of a vast amount of preventible disease. We need to seize on morality as an economic and hygienic motive, and so to train every

growing boy and girl that each one may secure complete control over the thickly populated crowd of ancestors who are thronged within each human brain.

Character training is the most important, but the most neglected, part of our educational and hygienic work, from the cradle to the university. This is true in all branches of public health work. A sensitive conscience will prevent us from neglecting our obligation as citizens to help in securing good work in every branch of administration. It will greatly reduce the carelessness which leads to the dissemination of tuberculosis, and still more it will fortify the moral and racial motives which are needed to eliminate venereal diseases. In this instance, we are dealing with a chief passion of humanity, and are concerned with the whole problem of self-control. This cannot always be successfully taught in the presence of an urgent temptation. It should have been built up from earliest infancy by steady and wise discipline, by the use of play and of the community spirit in forming habits of control, by a cultivation of the moral and spiritual attitude which constitutes the chief hope of the future in public health as well as in other concerns of life. I instance venereal diseases in particular because these diseases are perhaps the best public health example of the need for the third end and aim of public health work formulated at the beginning of this chapter. After all, the highest object of public health work as of all social endeavours is to cultivate the best mental and moral potentialities of each individual.

There are many ways of controlling disease and improving health, the best of all being character building, with all its complex implications. But the community as represented by the persistent will of the majority also has the right to control actions which when uncontrolled are serious social evils; and in speaking of relative values in public health it would be suppressing truth did I not at this point state my conviction, based on careful and prolonged comparison between this country and Great Britain, that the complete suppression of saloons and the cessation of use of alcoholic drinks by the majority of its population, form, far and away,

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America's greatest contribution to public health ; and that if carried out in Great Britain, action directed to the same end would constitute an immense advance in public health and prosperity, in the welfare and success of family life, and in the prevention of destitution and disease.

By means of moral education combined with judicious compulsion for the laggards in civilization and morality, the sensitiveness of the average conscience and the desire to ameliorate our remaining evils are increasing ; and I do not doubt that we are progressing to a higher future in which selfishness will become less rampant in human affairs and in which the communal welfare will be the desire and aim of every unit of the population. To the pessimistic view that we are "going to the dogs" I prefer the view expressed by Tennyson as embodying the real outlook : "This fine world of ours is but a child yet in the go-cart."

CHAPTER IV

VALUES IN PREVENTIVE MEDICINE (B) ¹

IN considering the subject on which I have been asked to address you, it is evident that some aspects of it must inevitably be stressed, while others of great importance receive scant attention.

The Need for Interdependence of Public Health Activities.— To avoid the possibility of erroneous implications let me at once remind you that the health of the population is determined by the total resultant of its activities,—physical, mental and moral, and that neglect of any of the spiritual or the physical factors of health will necessarily mean a corresponding loss of efficiency. The various public health activities are related much as are the marble fragments in a mosaic pavement. If one of these breaks loose and fails to be restored, other fragments become detached and gradually the pavement is disintegrated. If we confine our review to the various existent activities of public health authorities (whether these be concerned with external sanitation and housing, with personal hygiene, or with the prompt and efficient treatment of disease) it is demonstrably true that the integrity of each portion of the public health highway influences the integrity of other portions, and that, in order to secure efficiency and continuity, all these portions must continue intact and cemented together by the active approval of an intelligent public opinion.

Having testified my appreciation of the necessity for the closest interdependence of all public health activities, I may now safely review a few outstanding points without attempting a more general review.

¹ An Address at a Meeting of the Royal Sanitary Institute, April, 1923.

Need for Accuracy in Statements.—In doing so, I would stress the importance of accurate statement in reviewing the facts as to communal sickness and mortality. Exaggeration, whether in propaganda or in claims as to results from work done, inevitably leads to disappointment and to distrust of statements made by other hygienists who are more modest and more accurate in their claims.

Let me give two illustrations, both from articles recently published by public health workers. In one of these it is announced that with a death-rate of 11 per 1,000 no improvement on an equivalent scale like that of the last twenty years can be expected. In another statement we are informed that the death-rate in England having declined from 17 to 11 per 1,000 of population, decline in the future can scarcely go below a figure of 8 or 9 per 1,000. The second statement should have been, of course, to the effect that with a declining birth-rate and a gradually increasing average age of the population, the crude general death-rate is likely to increase. But in neither statement is an attempt made to point out the fallacious character of the figures quoted, and to show that deaths in each age-period should be given per 1,000 living in that age-period, or a standardized death-rate at all ages should be stated allowing for changes in the age-distribution of the population. And in neither statement is it pointed out, as it should have been, that at all ages right up to the Psalmist's limit of life, the death-rate is steadily declining, and that the application of preventive medicine is competent to cause a continuance of this reduction for a long series of years to come.

Of course, in the literal sense of the words, no reduction of the death-rate is possible. Every person born ultimately dies; but the problem of preventive medicine is to postpone every death to old age. The indebtedness of each person to the community, which steadily increases during the first twenty years of life, will in most instances have been paid back and more than paid back in the subsequent half-century of life. How far are we from this at present? In 1921 in England and Wales, of 1,000 deaths at all ages,

211	occurred	under 5 years of age		
35	"	between 5 and 15 years of age		
162	"	" 15 and 45	"	"
231	"	" 45 and 65	"	"
175	"	" 65 and 75	"	"
186	"	at 75 years of age and over		
<hr/>				
1,000				

The primary object of preventive medicine is to transfer deaths occurring under 65 or 70 to these or to higher ages ; and when the chief causes of death before the age of 70 are considered, the possibilities of preventive medicine are seen to be still most incompletely developed, and as shown in the above figures a large amount of premature loss of life and national capital is allowed to continue.

Chief Causes of Death.—The major registered causes of premature death are tuberculosis, cancer, and pneumonia. Although syphilis is not given in this short list, it deserves to be included, if the deaths due to consequences of syphilis are added. Pneumonia and rheumatic fever, which by damaging the heart is a great cause of premature mortality, remain at present largely outside the scope of public health administration, except indirectly. Tuberculosis causes about one death in eleven from all causes, cancer one death in ten ; and we may safely assume that syphilis is as fatal as cancer, and at a somewhat younger age, while tuberculosis kills chiefly at still younger ages. It follows that in these three diseases we have the cause of at least one out of every four deaths that occur, and nearly all these deaths occur before the normal course of life is run.

Two of them, tuberculosis and syphilis (responsible for one out of every five or six deaths from all causes at all ages in the aggregate) are entirely preventible, given an adequate application of sanitary principles and of elementary sexual morality ; and yet they continue in our midst, only very partially controlled.

Tuberculosis.—Tuberculosis is an enemy in retreat, the rapidity of its defeat being delayed largely by the *vis inertia*

of health officers and health authorities and of the public, resulting in only half-hearted action on the knowledge we possess as to the means for its conquest. Fatal tuberculosis in childhood in the main is acute tuberculosis and of human source, and the most satisfactory element in our national experience in recent years is the reduction in the death-rate from child tuberculosis. It may fairly be claimed that public action against phthisis is responsible for this result. The standard of cleanliness of patients has increased, separate bedroom accommodation for patients is more often provided than in the past, and especially the amount of hospitalization of acute and advanced cases has become very great. By these means massive or protracted infection of the extremely susceptible child population has been reduced ; and we may regard this improvement as heralding still greater future reduction in the adult death-rate from tuberculosis, when the measures already begun are adopted on a more adequate scale. To secure more rapid reduction in tuberculosis persistent effort on an increasing scale is required. Failure to realize and act on this view involves profligacy of human life and waste of the economic resources of the country. Among the more urgent needs is increased efficiency in the domiciliary treatment of tuberculosis. No one familiar with the facts can avoid being distressed by the frequent lack of efficient medical and nursing supervision of home-treated consumptives, the failure to secure hygienic conditions, to obtain rest for the patient when in a febrile condition, and so on. If this urgent need were met, if the beds in hospitals for acute and advanced cases, apart from the Poor Law service, were greatly increased, and collateral improvement in industrial causes of tuberculosis were secured, we should witness a marked increase in the already steadily maintained rate of decline in the death-rate from tuberculosis ; and the earliest evidence of this increased success would be seen in a still more rapid decline of tuberculosis in children.

Cancer.—Although beyond educational work and aid in securing prompt diagnosis no wide application of public health administration to the prevention of malignant

disease is at present possible, some observations on the present position in regard to this dreaded disease are worth while. Cancer has, for many years, been the subject of protracted scientific investigation in this and in other countries; and there is evidence that additional light on its pathology and causation is beginning to emerge. At no time has the prospect of success in tracing this disease to its initial faults been so bright as now. Meanwhile two lines of action are practicable as aids to the diminution of this disease: first, education of the public in the early symptoms of the disease, with the object of securing the early diagnosis and treatment which offer the best prospect of cure; and secondly, the realization by the public of the established fact that protracted local irritation is a chief provocative agent in causing cancer.

The Central Midwives Board have done good work in instructing midwives in the early symptoms of uterine cancer. Similar instruction of other special groups will be useful; but it may be doubted whether wide publication of information as to the early symptoms of cancer will achieve the end in view. Much more hopeful is dissemination of information as to the need for avoiding local injury of tissues and especially of prolonged local irritation. Cancer is known to be especially common in workers in petroleum and tar engaged in these occupations for many years, and in the olden times in chimney sweeps. In recent years, before necessary precautions were known, it has developed frequently in workers with X-rays. These are exceptional provocatives of cancer; but what irritations are responsible, for instance, for cancer of the tongue, lip and œsophagus, which in men in this country cause nearly 14 per cent. of all registered deaths from cancer? Scalding hot drinks may be suggested as a possible agent; and I am informed that among Chinese women œsophageal cancer is almost unknown, but common in Chinamen; also that the Chinese wife eats her dinner of cooked rice after her husband has satisfied his hunger! In England at various ages œsophageal cancer in men is two and a half to four and a half times as common a cause of death as in women; and probably both indulge fairly equally

in hot food and drinks. For cancer of the tongue the excess mortality in males is terribly great, varying from eleven to twenty-seven times the death-rate in females at successive age-periods from 45 onwards. Evidently some special source of injury affects men. Probably, to a less extent, this is true for œsophageal as well as for lingual cancer. Sir D'Arcy Power (Bradshaw Lecture, 1918) has collected evidence pointing to a close association between syphilis and cancer of the tongue; and in view of this probable inference, the thorough and systematic treatment of syphilis in its initial stages and still more the prevention of syphilis must be regarded as important measures for preventing the subsequent development of cancer. Some years ago I collected evidence which showed a marked excess of cancer (localization unascertained) in the non-teetotal over the amount in the abstaining section of a large insurance society; whether alcohol was the true *differentia* between the groups may be considered debateable; but strong spirituous drinks are injurious locally as well as systemically, and if chronic toppers can be shown to have a larger incidence of cancer of the tongue and gullet than the rest of the population, it will be consistent with our present knowledge of the pathology of this disease. So likewise with excessive smoking. It is locally irritant; smoking is increasingly prevalent, and if the feminine increase in smoking continues, then, as Sir D'Arcy Power has pointed out, increased cancer of the tongue in women should begin about the year 1950, on the assumption that excessive smoking is a factor in determining cancer of the tongue.

The above statement (except in regard to the relation of syphilis to cancer) deals with problems on which one cannot go beyond surmise; but these surmises are worth consideration, and in the concerns of daily life one is justified in weighing carefully and in acting on minor degrees of probability, until further knowledge is available.

Rickets.—Hitherto I have appeared to assume that the avoidance or postponement of death is the sole aim. An even more important aim, however, is improvement of the general standard of health, though the separation, even in

thought, of the two objects is to be strongly deprecated. Over the greater part of the field of preventive medicine the measures which prevent death, prevent damage to health, and raise the physiological standard of health. Treatment and prevention are two aspects of the same problem ; in tuberculosis and syphilis they are inseparable ; and no one will affirm that in curing a syphilitic patient we are lowering the average standard of health, although a few still claim that tuberculosis unrestrained is a beneficent means for eliminating the relatively unfit from the community.

In rickets we have a disease which typifies the importance of treatment and preventive treatment in raising the general standard of health. In early life rickets is a common cause of enfeeblement, and of deformities of the limbs, spine and pelvis ; it has recently been shown by Dr. H. P. Newsholme to be associated with a low average height and weight for any given age and with impaired intellectual attainment ; it assists in producing a fatal result in attacks of diarrhoea and respiratory diseases ; and it is a frequent cause of complicated parturition, resulting in excessive maternal and infantile mortality.

For many years it has been known that cod-liver oil is the most successful means for curing this disease ; we now know that it is even more competent to prevent its development ; that this oil contains in unusual amount a protective vitamine which also is abundant in milk, cream, and green vegetables ; and that given an adequate supply of these protective substances for the expectant mother and her infant, rickets in its major developments will become a rare instead of a common disease. Experimental evidence also shows the importance of sunlight, fresh air, and exercise in the prevention of this disease, a fact not inconsistent with the dietetic origin of rickets in view of the importance of exercise, fresh air, and sunlight in aiding digestion and the assimilation of food, and the further apparent specific action of sunlight. This double line of attack on rickets being known, surely it is worth while by every possible means of publicity to make this exact scientific knowledge part of the living conviction of every woman in the com-

munity, with a reasonable anticipation that rickets instead of being the "English disease" will become almost extinct. Like tuberculosis, rickets is a retreating enemy. But in both diseases the retreat is too slow; it is worth while to convert it into a rapid *débâcle*.

The diseases on which I have touched are among the most important on which an increased expenditure of energy and effort is well worth while. Reference may be made to pages 102 and 163 respecting anti-venereal work. In a later paragraph of this chapter I allude to the supreme importance of conduct as a public health aim in the prevention of venereal diseases.

Prevention from a Social Angle.—Without discussing such diseases as measles, diphtheria, and epidemic diarrhoea, I now ask you to consider what is worth while in public health from a different angle. There are social sources of disease, which the health officers cannot afford to neglect. What are the chief social obstacles to public health? A few categorical remarks on four of these may be made:

Poverty.

Alcoholic drinks.

Ignorance.

A low standard of morality.

You may express surprise at the absence of insanitation and bad housing from my list. I fully realize the importance of these; but if the ideal were attained under the above four headings would not the housing problem also be solved?

Obviously the above items represent a cross-classification, so closely are they interrelated.

Poverty.—By poverty I mean such a lack of means as implies personal or familial inability to supply one or more items necessary for health. The economic causes of poverty stand outside the range of my remarks; but poverty due to alcoholism or to gambling has also direct bearing on the health officers' work, and through the Children Act or otherwise he may help in setting in action efforts to reduce a serious cause of suffering and disease, especially in the children of the chronic toper who perhaps never gets drunk.

It is worth while for social workers to take any reasonable action which will divert money from selfish indulgence or from speculative thriftlessness.

In 1921 the expenditure on alcoholic drinks was equal to the average sum of 3s. 7d. a week for every man, woman and child in England and Wales, and the seriousness of this fact is scarcely abated by the consideration that one half of the money is returned in taxation. This amount was four times as much as was spent on all taxes and rates for education, it was more than double the amount collected in rates in the whole country; and it was three times as much as was spent on milk. The drinking habits of the community have greatly improved; but a large portion of the national income is still being wasted, at a time when our educational and public health work is being starved for alleged lack of funds. The wastefulness of the greater part of this expenditure on alcoholic drinks is not its worst feature. It implies also a large avoidable mortality from various diseases, a vast amount of industrial and commercial inefficiency and disability and a lowering of the moral standard of a large number of persons and families, resulting in such evils as the encouragement of venereal diseases, and cruelty to children, sometimes by actual gross neglect, more often by degradation of home life.

In view of these facts, it is worth while for all public health workers to give every possible support to educational, legislative, and administrative measures which will help to divert money from its wasteful expenditure on alcoholic drinks to the payment of increased rentals for better houses and to the provision of milk for the children, and which will also favour improved parental nursing and medical care for the young.

Public Health Education.—A chief obstacle to this end and in all our work is ignorance; and educational measures must always form an essential part of public health work. If education is of a character which will influence conduct, it may be accepted as adequate; but we cannot afford to neglect the consideration that vice and immorality, potent

causes of disease, are often associated with full knowledge of the evil which continues to be pursued. It is necessary to study carefully methods of propaganda, and to avoid clap-trap emotional and inaccurate statements.

The best health educational work is that which is done by school teachers, by health visitors, tuberculosis visitors, and sanitary inspectors; and it is better worth while to ensure the special training of these in health instruction and to fight strenuously against penurious curtailment of their work than to attempt indiscriminate public propaganda. To scatter effort too widely often means diminution of effectiveness; hence I would plead for primary attention to the specialized education of groups of persons, as at infant welfare centres, and of tuberculosis patients and their families, of midwives and maternity nurses, of school nurses and school teachers, who in their turn can influence the general public.

The kind of teaching to be given deserves careful study. In the rapid growth of knowledge of specific contagia, there is some risk of failure to continue to teach,—it should be with more accurate definition,—the old doctrine that dirt makes disease, teaching which, when applied to personal habits, still has importance in the prevention of disease. The methods of antisepticism and asepticism need extending from surgery to midwifery (in which, unhappily, relatively little progress has been made) and we shall not secure the still more rapid reduction in infant diarrhoea and in other children's diseases which is possible until every mother becomes ashamed of preparing her infant's food or the family meal with unwashed hands. From the non-specific to the specific aspect of cleanliness is but a step; and one reason for the too slow decline in the death-rate from tuberculosis is the common failure to impress patients and their attendants with the importance of hands and articles as well as of direct coughing and expectoration in transmitting infection to young children.

The Moral Control of Disease.—Finally, it is worth while to remember that public health measures cannot be more than partially successful unless they carry with them the

moral conviction of the persons concerned. Thus the medical officer of health who argues that he is concerned only with the enforcement of public health measures for preventing infection, is condemning himself to relative sterility of effort. This is especially so for venereal diseases ; but it holds good generally. For instance, the prevention of the spread of tuberculosis is dependent in the last issue on the moral willingness of the patient and his family to co-operate in the necessary measures. Excessive infant mortality, and the economically more serious physical and mental disabilities of survivors from an enfeebled infancy, will not be reduced to a minimum until, for instance, aseptic food is given and until the chronic alcoholism of a minority of parents is prevented. And although venereal diseases are diminishing as the result of continuance and extension of official and voluntary measures already undertaken, these diseases will never be completely controlled until public opinion insists on an equal standard of sexual morality for both sexes, and until the cultivation of character is made more generally an important part of daily family life from the earliest days of infancy onwards. Modern psychology, which ultimately is the science of conduct, is destined to be one of the most valuable adjuvants of public health work. Disease depends more on carelessness and selfishness than on actual elementary ignorance. See also pages 57 and 68.

What is not Worth While.—Perhaps an even more useful line of remark would be on things not worth while. Let me give one illustration. It is worth while to criticize a local authority which shows no appreciation of the *quantity* of public service required in the district for which they are officially responsible ; but when members of local authorities, who do invaluable public work, are acting intelligently and adequately, the carping criticism often manifested is not only ungrateful ; it also impedes good work.

Criticism of abuses is desirable, helpful criticism is valuable ; constant interest in the work of our local representatives is necessary to ensure their success : we all do better work when others interest themselves in this work : but

ignorant and prejudiced comments put sand in the administrative machine.

It is the duty of all of us to serve our country by securing its efficient government. Inasmuch as amelioration of social evils, so far as they are remediable by public measures, can come only through the medium of our local and central government, the education of our governors by sharing their efforts should be our chief object. Democracy can only be a success if those engaged in democratic administration are aristocrats, in the sense of intelligence and devotion to their work, and if those of us who are not thus engaged maintain a living and continuous interest in government and prevent its standard from deteriorating.

CHAPTER V

EFFICIENCY IN PUBLIC HEALTH WORK ¹

CERTAIN presuppositions are necessitated.

We will assume that public health work is commendable and its efficient discharge desirable.

We will define public health work as embracing all activities which prevent disease and enhance the health of members of the community, and which can be carried out more efficiently by communal, than by individual or family action.

I assume furthermore that to some extent the treatment of disease at the public expense is necessary as a means of preventing further disease and to ensure the economic efficiency of the community: a proposition which it would not be difficult to demonstrate.

Nor is it necessary for me to argue the question as to the extent to which the State or the Municipality should undertake to come to the aid of family life in support of maternal and child welfare. It is now a matter of common consent that this important, new, and largely physiological branch of public health work is a necessary element in successful public health work.

It may be desirable to define further that by public health work I mean the work of authorities who are elected by and are responsible to taxpayers. This excludes from our present discussion the diverse and valuable public health work undertaken by voluntary associations throughout this country; this is perhaps the less necessary, inasmuch as I regard voluntary social public health activities, including nursing, as largely pioneer and demonstrative in character, the workers constantly seeking for and finding new avenues for the relief and removal of social evils, while they hand over work of demonstrated public health value

¹ An Address at Johns Hopkins University, November, 1920.

to the official governing bodies. This does not mean that the work of voluntary agencies is doomed to cease. They are, or should be, ever seeking to consummate their own happy dispatch; but they will in fact continue not only to fill up the blank spaces of official work, but to spur on official efforts when these become lethargic.

Having thus defined our subject, I must ask you to accept the sweeping statements that a large proportion of our city and rural populations are living in lowered health, and are relatively incompetent for life's work, and that their condition was preventible, and is commonly remediable at an expense which is negligible when contrasted with the economic gain attainable. Also that childbearing is carried on under conditions which mean a vast amount of avoidable invalidism and mortality; that often the prospects of healthy adult life are similarly blighted in infancy and childhood, and during school life; that industrial diseases still claim an enormous preventible toll on communal health; that tuberculosis and venereal diseases, both preventible diseases, are still allowed to be rampant in our midst; and that the control of controllable acute infectious diseases is only partially effected.

True, the growth of city life has made public health work increasingly difficult. More than half the population of the United States is aggregated in cities, and this implies multiplied opportunities for contact infection, the chief cause of uncontrolled disease in our midst.

Buildings have become more crowded on area; and the multiplication of schools and factories, the general substitution of indoor for outdoor life and of tenements for self-contained houses have all increased opportunities for infection and tended to lower the resistance to it. And even the multiplied opportunities for cheap transportation and the longer hours of leisure, create opportunities for wider dissemination of infection.

In view of these considerations, public health authorities might not improperly take credit, if there had been no increase in infectious diseases. We know that most of these diseases have shown marked decline.

But there remains, as I have said, a vast mass of controllable disease, which is uncontrolled, and of economic and social inefficiency which might have been avoided; and in speaking of future efficiency we must be in a position to answer the question, Why, in the past, has Municipal and State control been so relatively unsuccessful?

Successful government is only possible when:—

(1) The elected representative bodies, whether Municipal or State;

(2) The directly elected officers; e.g. mayors (in the United States);

(3) The appointed officers; e.g. clerks, engineers, health commissioners, inspectors, etc., are all efficient and conscientious in the discharge of their work.

The public must be held primarily responsible for any defects under the first head, and it is their apathetic indifference which is the chief source of governmental defects.

There are multifarious reasons for the pall of indifference which covers the majority of our city populations.

There is the inherent self-centred attitude of most of us, our altruism but seldom surpassing that of the couple in the old doggerel—

God bless me and my wife,
Our John and his wife,
Us four and no more. Amen.

Some of this self- or family-centred mentality is associated with the other-worldliness which has been encouraged in the past by Christian organizations, many of whose members, like their more worldly neighbours, have failed to realize that—

“The Kingdom of God is with us, and is best defined as the union of all who love in the service of all who suffer.”

The cultivation of the spirit of service is one of the most important desiderata of our time; and we need the invaluable aid which trained University men and women can give to secure this. They are especially needed in the struggle between corrupt “political pull,”—largely backed by pluto-

cracy,—and true democracy, which seeks to secure that every member of the community shall have equal opportunities for health and for the other elements of well-being.

Eternal vigilance is needed if the weaker members of the community are to be protected against "the inherited predatory tendency of men to seize upon the fruits of others' labours."

The situation is not special to America. Democratic, like autocratic government, becomes corrupted by jobbery, unless public opinion is ever vigilant. The lobby is the battlefield of the politicians and of plutocracy, and jobbery is its armour.

In an American book of essays published in 1863 there is described the way in which in local and central government "unjust stewards who cannot dig, and are ashamed to beg, but not afraid to steal, will come up like a young lion from the swellings of Jordan, with a paw for every contract, and a claw for every clerkship, and a maw for every salary that can be wrenched or wormed from the powers that be."

The evil of the present day is not new, and probably is less gross than in the past.

The obvious remedy for the evils of democracy is the ousting from the municipal and state stables of the herd of "unclean beasts who feed and fatten at the public crib"—but this can only be done by the democracy accepting as its leaders the aristocrats of intellect and character, who are to be found in every station in life, but who should be recruited particularly from University graduates.

Corruption has killed its thousands. Lack of vision, carelessness, selfishness have killed their hundreds of thousands. Anglo-Saxons have always been ready to fight for liberty. Shall we not equally fight against ignorance, incompetence, veniality? If we do not, then worse than international war will be the sectional interested government by which we shall be victimized. Already sinister indications of dissatisfaction with representative government are evident, and there is risk of its replacement by class government of aggressive minority sections of the population.

A generation has gone to war; and a large part of its manhood will never return. Is it nothing to us who were left behind? We have a chance of winning our souls by redeeming the bodies and souls of our fellows. The drunkard has already been largely eliminated. What about the prostitute, who suffers to preserve the purity of our wives and daughters? Are we willing that this vicarious sacrifice should be continued, or shall we work for an equal standard of sexual morality for both sexes?

A large section of the population is tuberculous without adequate provision either for treatment or prevention; many of our children are physically damned unnecessarily from their birth or in early life; multitudes do not obtain expert medical help or nursing when sick; are we willing that this should continue? Are we willing that the incompetent political and therefore often corrupt appointments, still made on a large scale to our local administrative posts, shall continue? or are we determined to support our governors and mayors in their efforts to cut themselves free from the principle of *vae victis*, and to appoint skilled men to retain office so long as competence and efficiency continue?

There can be no efficiency in public health administration, unless efficient officers are appointed.

Were I to suggest to you that a bricklayer should be allowed to act as architect in the building of additions to this University, or that a stoker should be the engineer in responsible charge of its electrical lighting supply, you would laugh at the proposals.

If in the medical world it was proposed that an ophthalmologist should be placed in charge of the gynæcological department of Johns Hopkins Hospital, or that a fourth year's medical student should replace your Professor of Medicine, you would stand aghast. But none of these suggestions would be more ludicrous or more serious in the public interest than some appointments in public health services where men are politically appointed to control the health affairs of large and small communities alike, without any training in the problems they have to face.

The result is seen in futile effort, in distorted and lop-sided activities, in faddism and ignorance, or even in placid neglect, which the responsible officers may be almost too ignorant to realize. And the public suffer in their pockets, and still more in the unnecessary continuance of preventible disease.

It is necessary that all persons engaged in public health work, whether commissioners, health officers, inspectors, or nurses, should be trained for their special work. The training of physicians for public health work is particularly urgent; and I have no doubt that ere long this and other American States will make it obligatory that persons applying for public health appointments shall produce a certificate or other evidence of adequate training for this work.

Such certificates have been obtainable in the United Kingdom since 1871, when a special examination in State Medicine was inaugurated at Trinity College, Dublin. In 1888, an enactment was passed (Loc. Gov. Act, 1888, sec. 18) prohibiting the appointment as medical officer of health, for any area having a population of 50,000 or more after January 1, 1892, of any medical practitioner who did not hold a special diploma in public health.

These conditions have greatly improved the public health service in England. Most districts are now in the charge of sanitary experts: and the chief remaining obstacle to more rapid progress is the public inertia in regard to communal interests. But conditions are rapidly improving: and will in the near future improve at an increasing pace, as the benefits of work already accomplished become appreciated.

A similar health service is an indispensable condition of rapid progress everywhere. Public health medical work must become a separate speciality to which a physician can devote his life. And to induce the right class of man to do this, it will be necessary to increase the emoluments of those engaged in this work, and to give them security of tenure of office during efficient discharge of their duties.

I have only given the barest outline of my subject; but I hope I have succeeded in conveying my conviction that

the future welfare of the English-speaking world depends on our making democracy a working success. A University can become the centre around which this becomes possible. No superman is needed for the work ; but just the ordinary intelligent man of character, acting in co-operation with his fellows, who like him have substituted the impersonal for the personal outlook. This fulfilment in communal life of the second of the two great Christian commandments is difficult. It has never been tried on an adequate scale. But we must try it ; it is the one bulwark against future anarchy ; it is the lever by which humanity will be uplifted.

COMPARISON OF ENGLISH AND AMERICAN
EXPERIENCE

The following later statement written by me for an American magazine which compares some aspects of English and American experience is added here as further illustrating the subject of this chapter.¹

* * * * *

Perhaps the most outstanding early impression of American public health administration is its relatively small regard for historical continuity. In England the long existence of an institution, however illogical (on paper) it may appear, is a reason for continuing it, or, at the most, for contenting ourselves with modifying it to fit new circumstances. In the States there is little hesitation in varying fundamentally the principles of city administration ; and the new sometimes is preferred, apart from its merits, because it is novel. This is evidenced in the light-hearted change for a period of years from nominally democratic municipal government to the autocracy of a mayor or city manager. I assume that the change has followed previously inefficient or even corrupt representative control ; but the fact that the electors prefer a business manager to elected representatives pledged to reform, implies a temporary abandonment of the democratic local government by means of which England has made public health an all-round success. One may remark, similarly, on the

¹ From *The Survey*, October, 1925.

autocratic powers entrusted to health officers or commissioners, which have never been granted to an English medical officer of health. Such powers, I do not doubt, may be wisely and discreetly used; but the English medical officer of health has the satisfaction—even though he may gaze somewhat enviously on the powers of his American confrère—of knowing that at the end of three or five years of office he is not liable to ejection on the whim of the next elected mayor. He has learned the lesson, furthermore, that autocratic powers—however beneficent—which do not carry with them the conviction of the majority of the population are liable sooner or later to be withdrawn.

The foregoing facts explain in some measure the differing course of public health reform in Britain and in the States. Whether considered historically or geographically, American public health work forms a zigzag curve resembling that of an attack of intermittent fever; while the English curve has few oscillations, but has steadily advanced on the up-grade from year to year and from district to district. To pursue this somewhat crude illustration, American public health can show peaks of advance not yet reached in England, as for instance in the protection of the milk supply of some cities and in the recent anti-diphtheria work in New York and other cities; but it will, I think, be generally agreed that these peaks are relatively isolated, and that speaking broadly the general level is markedly higher in the old than in the new English-speaking world.

That this is so is illustrated in many ways. It is shown in the fact that in many American cities voluntary public health work bulks larger than official public health work, especially as regards child welfare, tuberculosis, and the care of the destitute. This is an historical phase, through which England has passed. It is still passing through it as new developments appear; for new movements commonly emerge outside official limitations. But in England the greater part of what was first undertaken by voluntary associations has become official activity, and thus voluntary initiative is always being released for new adventures.

Such voluntary work, without the official machinery of

government, must in most instances suffer from a yearly handicap. "Drives" are needed to raise funds; and is it not true that in some voluntary associations half or three-fourths of the money raised, and at least an equal proportion of the possibilities of good work, may be exhausted in the effort to get money, leaving workers depleted both in finance and in vim for the actual work in hand?

After all the best form of voluntary public health work—which needs to be indefinitely continued—and increased—is the unpaid work of the members of public health authorities (municipalities, State legislatures, etc.). And this leads me to emphasize what I regard as a fundamentally important point. Let me illustrate it by the English method of administration with which I am most familiar. The medical officer of health and his staff can only obtain financial support and are only permitted to carry out individual items of public health work in so far as they convince the voluntary workers who are the unpaid representatives of the public. First, a majority of the dozen men or women who form the public health committee must be convinced of the necessity of the given item of work; and then these must convince a majority of the sixty or fewer men and women—unpaid representatives—who form the local town council or the county council.

Thus all the time the medical officer of health is an educator; and no other educational work in any other quarter, not even that which is possible in schools, can rank in importance with his. It is by work thus subjected to the sifting of representative public opinion that good government is rendered steady and permanent. True, reforms greatly needed are often crabbed and minimized by the inherent stupidity, the negligence, or the interested motives of elected representatives. But it is by conflict with such motives, checked and more than counterbalanced by public opinion and by public spirited representatives on the governing body, that steady and persistent progress has been made. After the first struggle on a given point has ended successfully, funds are voted year by year almost without comment; and the health officer's educational

efforts are then needed only for new measures having for their object further public health progress. I lay special stress on this official educational work because of its supreme importance ; and because I am confident that it is through such work, rather than by the appointment of business managers for communities, that the future of public health will be secured. True, progress is slow, but it is continuous ; it is not intermittent and wasteful, and the intervals of inertia and neglect which are associated with spasmodic waves of reform seldom occur. Instances of both varieties of progress, spasmodic and uninterrupted, are to be found on both sides of the Atlantic ; but until the public can be made to realize and to act on the belief that the greatest and most fruitful field for the work of voluntary social workers is in the municipalities and State legislatures, progress will continue to be unnecessarily slow and imperfect.

Public health work is becoming more and more women's work. This should be so for work by elected representatives as well as for work by social workers in voluntary organizations. To the extent to which women can influence public opinion and action to this end, will solid progress be made. Perhaps everywhere we need to talk less and to work more to secure the right representatives on our municipalities and legislatures. That certainly is the case in the old country. But when they have been obtained, unless the electors—as interested onlookers—stimulate efforts for good, make persistent inquiries in respect of procrastination, avoid carping criticism, and liberally commend all good work and workers, they have failed in their social duty and cannot wash their hands of the responsibility for imperfect or evil government.

Much of what has been said applies both in Old and in New England. But the old country fulfils certain conditions of successful public health work which are lacking in the new.

I have been deeply impressed by the valuable work of many public health medical administrators in America. The pioneer work of Hermann Biggs is an outstanding example.

If I depart in a single instance from the avoidance of living illustrations, I would mention Dr. Charles V. Chapin as one whose scientific insight and prevision of the essentials of public health work has had great influence in shaping the course of public health work both in the Old and in the New World. But in present circumstances the people of the States cannot expect a reasonably efficient service of medical officers of health in the majority of communities unless policy is radically changed. The establishment of the Johns Hopkins School of Hygiene and Public Health and of other similar schools—through the beneficence of the Rockefeller Foundation—makes a further indispensable advance possible without which these schools can never realize more than partially their potentialities for good. *Public health work must be made practicable as a career*; and to this end reasonable security of tenure of office must be given to competent officers, and their remuneration must compare not unfavourably with the earnings of physicians in private practice. Happily both these objects are now approximately secured in England (see page 54).

If State legislatures were to make it illegal—after a reasonable interval—to appoint medical officers of health without such a degree or diploma, there would follow a rapid levelling up of public health administration throughout the States to the standard already reached in some of its cities.

While emphasizing the importance of public health administration as an indispensable means for advancing communal health, I do not desire to ignore the many collateral agencies which work to the same end. Of these may be mentioned in passing an efficient and incorrupt police, the enlightened education of every member of the community by trained and adequately remunerated teachers, and recreative agencies which—unlike many cinemas—do not appeal to false sentiment or excite in undesirable directions the imitative faculties of the young. In all English-speaking communities there is in these and other directions ample scope for improvement.

In an earlier paragraph, I have mentioned the "troughs"

and "peaks" of American public health administration. The injurious influence of the "troughs" on public health would have been immensely greater, had not another influence favouring the public health come into operation throughout the United States. In this, which in reality is a branch of public health administration, America is uniquely supreme. I refer to the enforcement of a national policy of prohibition of the sale of alcoholic drinks; by means of which, so far as the mass of the people are concerned, the terrible working of alcohol in the production of destitution, disease, vice and crime has in large measure been eliminated. This is the greatest among the many advances in public health in America; and it places America *facile princeps* in the public health world.

This reform could not have been secured on a national scale, had it not represented continuous and persistent pressure on the part of a large majority of the American people, steadily increasing decade by decade, and year by year. If in this spectacular instance such a result has been secured, we cannot doubt that the public conscience can be so aroused and awakened, and continuously preserved from sleep, as to ensure the concentration of all well-wishers for social reform on municipal and State government, which is the main and the permanently valuable channel for the effective work of all voluntary workers. There will remain, even when this ideal has been realized, ample work for non-municipal voluntary workers; but their work will in most instances then be that of pioneers in new work and of activators of official work, and will not involve the bearing of the main burden of social and health reform.

CHAPTER VI

DISEASE RECORDS AND SURVEYS IN THE PREVENTION OF DISEASE ¹

RECORDS of the incidence of disease and surveys showing the circumstances in which it prevails form two chief corner-stones on which efforts for the prevention of disease have been built ; for the history of public health progress in the older countries is bound up with increasing knowledge of the prevalence of disease and of its distribution. This knowledge is only secondary in importance to accurate knowledge of the causal agents of disease ; furthermore, when the causal agent of a given disease is known, and its method of attack has been accurately ascertained, knowledge of the incidence of the disease is indispensable for preventive action. It was statistics of the incidence of " fever " in England in the early forties of the nineteenth century which impelled the adoption of the important English sanitary reforms, and their sequential adoption in other parts of the world.

Theoretically, it might be considered possible to reduce the incidence of a preventible disease in the absence of exact knowledge of its presence, its amount and its local distribution.

Thus the life history of tropical diseases like malaria and yellow fever, of cholera and of enteric fever, of small-pox and of ankylostomiasis being known, one might proceed to act, so to speak, *in vacuo*, without knowledge of individual cases of these diseases, as by measures for the draining or sterilization of marshes and the destruction of anopheles (malaria and yellow fever) ; for compulsory vaccination against small-pox ; for the provision of clean water supplies

¹ An address (with additions) given at the International Conference on Health Problems in Tropical America, Jamaica, July 1924.

(cholera and enteric fever); for the installation of satisfactory privy accommodation for every household (ankylostomiasis, etc.); and so on.

But experience shows that such action on the strength of scientific knowledge, apart from the pressure of a known evil, is seldom effective and continuous; the most efficient spur to action is the disagreeably obtrusive notification of each case of disease and its official record in reports published at short intervals. When cases are not compulsorily notifiable, then—apart from cases coming under observation because monetary or institutional aid is given—weekly death-returns have given a powerful impetus to preventive action. Such action has been preceded by investigation of the local conditions associated with excessive prevalence of disease; and it is this dual source of knowledge—of cases, and of the conditions associated with their occurrence—which has secured the carrying out of reforms.

Even when the exact natural history of each disease has not been worked out, preventive action has been possible. It is a noteworthy fact in the history of disease prevention in England that a large share of the phenomenal reduction in enteric fever was secured before the Eberth bacillus was known and much of it also before the origin of the major typhoid epidemics in water pollution was ascertained. The crude and imperfect generalization that excremental filth meant disease had been reached; and acting on this, successful efforts were made for the removal of nuisances—including all accumulations of organic filth—which incidentally meant also the freeing of water supplies from their main sources of contamination.

Following on these activities cholera ceased to be a source of excessive alarm when re-introduced into England, and enteric fever was greatly reduced. This was done under the stimulus of the death returns published weekly for London and some large towns, and of the surveys by medical inspectors revealing gross local insanitation. When at a later period each known case was notified, more accurate epidemiological inquiries became possible, and so milk and shell-fish as frequent sources of disease were discovered. At

a later stage bacteriological science rendered possible an even more rigid determination of a source of danger not previously suspected, viz. "carrier cases"; and by the co-operation of measures on these several preventive lines, enteric fever promises ere long to become as rare as typhus fever, which in Western Europe is almost extinct in times of peace.

Typhus fever is interesting as an example of the almost complete disappearance of a disease, so far as Great Britain is concerned, although knowledge of its bacteriology and special method of spread is an event of only yesterday. Its disappearance furthermore has been secured by efforts, including hospital segregation of cases, surveillance of contacts and cleansing of premises and of bedding and apparel, not specifically directed to the killing of lice, which probably are the sole vectors of infection. In this disease measures for preventing infection (segregation of cases and disinfection of articles) were successful, once the cases became known, although the special means by which infection spread remained unknown. How much more rapid might the decline of typhus have been had the importance of "delousing" been discovered earlier!

In no instance has striking reduction of a disease, such as is illustrated above, been secured without knowledge of its general incidence. The case of tuberculosis perhaps may be adduced to the contrary. But this disease always and everywhere persistently advertises its presence, and calls for social treatment; and it is under the influence of the cleaner habits of patients, of the extensive hospitalization of a high proportion of bed-ridden cases, as well as of the diminution and removal of the malnutrition, excessive fatigue, industrial dust, alcoholism, etc., which bring latent tuberculosis into activity, that this disease has become not more than half as serious a cause of mortality as it was a generation ago.

We may assert generally, as an axiom in sanitary practice, that the pointer to prevention has always been the occurrence of disease. In this, as in so many other aspects of life, the sufferings of the sick are the vicarious means of reducing

and abolishing the sufferings of others. The vicarious principle runs through life.

Dr. W. H. Frost and his co-workers in Maryland have found that in country villages the careful ascertainment of the local incidence of enteric fever over a series of years enables concentrations of the disease to be localized ; carrier cases or other sources of infection are revealed ; and thus action effective in diminishing disease can be more rapidly secured than by the adoption of a general system of anti-typhoid inoculation or by the relatively slow process of general sanitation.

In tropical regions the ascertainment of each case of such diseases as small-pox, cholera, leprosy, ankylostomiasis, evidently is exceptionally difficult. There may be no complete registration of deaths and their causes ; and except in plantations or other industries in which good organization prevails, including the provision of medical attendance for every employee, notification of cases of infectious diseases is likely to be very incomplete. The desiderata are :

- (1) A statement of the population at risk, distributed according to sex, and if practicable in age groups.
- (2) A record of the number of births occurring in each locality, as without this a completely trustworthy statement of infant mortality cannot be made :
- (3) A record of the number of deaths, the cause of death, if possible, being medically certified.

By means of records to this extent, year by year the main conditions of the healthiness of a district or in a particular industry can be gauged.

But for current and prompt intervention, with a view to the prevention of further mischief, such returns are inadequate. They are valuable historically ; and they may enable some preventive action, though belated, to be taken.

For efficiently prompt action immediate notification of each case of preventible sickness to a responsible medical officer is required. The importance of such notifications need scarcely be stressed. Past experience has repeatedly

demonstrated that it is essential for good preventive work. In the absence of a complete system of notification of all cases, much valuable administrative action may be taken on the strength of information as to cases treated in hospitals or at dispensaries, regarding these as the starting-point for further epidemiological investigation; and this is only one instance among many showing the practical inseparability of the prevention and the treatment of disease. This indissolubility is especially clear in the case of the four great preventible banes of mankind, tuberculosis, syphilis, malaria, and ankylostomiasis, in all of which treatment on as large a scale as prevention is indispensable, if infection is to be successfully combatted. Doubt is sometimes thrown on the preventive value of treatment, because often patients fail to be treated until all infective material has been destroyed or eliminated. We need to remember that even partial treatment in any of these diseases is an important means of reducing infection; and there is therefore no reason for disheartenment if the parasites of these diseases are not completely eliminated. There remains, however, in the tropics as well as in more settled communities of the West and the East, behind the problems discussed at this Conference, the further problem as to how the points of view of the public health officer and of the private medical practitioner can be made identical. When this is solved, the chief practical difficulty in the control of these four great enemies of mankind will have disappeared.

Each notification of a case is a pointer. It shows a centre of infection. Even in well-organized areas notification of cases is seldom complete; and notification of cases has relatively small value unless *each case is regarded as the starting-point of an epidemiological investigation* with a view to the discovery of overlooked or concealed cases. This is particularly so in small-pox; but the same rule applies, for instance, in ankylostomiasis. When a case of this disease is medically recognized, only the minimum amount of good has been done when the patient is placed under treatment, unless the condition of the patient's family and co-workers as regards ankylostomiasis is ascer-

tained, and any detected cases are brought under treatment, and prophylactic measures adopted for all alike.

This means the carrying out of "field work" in connection with the clinical treatment of every ascertained case of a communicable disease, whether it be chronic as syphilis, tuberculosis, leprosy; or subacute as malaria; or acute, as enteric fever, small-pox, cholera.

Such field work is an essential element, *the essential element in the practice of preventive medicine*. It should follow, as day follows night, whenever a case of a communicable disease is discovered, whether in the course of medical treatment, or as the product of the enforcement of compulsory notification of all cases. This field work is a more intensive and more accurate form of the work in the early days of British sanitary reform known as "surveys," which gave the needed *vis a tergo* to the impulse arising from knowledge of the excessive prevalence of disease. It is by such field work that incomplete death returns and sickness returns can be made to give their maximum results; and it is the failure to carry out fully this field work that prevents public health administrators from securing the reduction of disease to the extent which is practicable.

I have no desire to minimize the importance of the laboratory investigation of disease. It is an indispensable auxiliary, especially on the clinical side of disease. On the preventive side, it is arguable that in some diseases it may—through no fault of the laboratory investigation, but owing to the short-sightedness of the health officer or physician—have lost many lives while saving others. How many cases of diphtheria have proved fatal, owing to the failure of the physician to give anti-toxin until Klebs-Loeffler bacilli have been found in the secretions of the throat? Preventive means against the further spread of cholera or enteric fever have sometimes been seriously delayed and epidemics allowed to swell to unnecessarily large proportions because of lack of prompt action on epidemiological "field" facts as to suspected water, pending the receipt of the results of chemical and bacteriological examination of this water. It is forgotten that such an examination

may give doubtful results, that it may confirm suspicions but cannot justify the absence of suspicion ; and that (a) a careful epidemiological inquiry into every reported case, and its possible sources of infection, (b) followed by a collation of the facts respecting all cases, and (c) a corresponding investigation of unnotified cases which have been searched out, forms the main line of usefulness in the investigation of infectious diseases and the chief guide to sound action in the interest of the public health.

Investigation on these lines implies accurate clinical knowledge of disease. In past experience fully competent clinical skill has been found to be the best foundation for public health practice, although it needs to be supplemented by training in the science and practice of preventive medicine.

Field investigation furthermore implies a willingness to use intelligence and to take unlimited pains. The accurate ascertainment of every available fact respecting every known case of infectious disease is the indispensable preliminary to successful preventive action. To talk about the work does not suffice, to have an excellent office plan of operations, looking most promising when shown as a scheme on the office wall, is totally inadequate. Accurate field inquiries must be undertaken, and action is never satisfactory which is not based on the correlated facts ascertained by an intelligent study of these field observations. No source of information, no instrument of inquiry, clinical, epidemiological, or laboratorial, is to be neglected, as it is by the balanced and duly co-ordinated help of all these branches of enlightenment, that the most complete measures for the annihilation of disease become practicable.

CHAPTER VII

EDUCATION IN PREVENTIVE MEDICINE ¹

THE experience of both Great Britain and America during the Great War has given the lie to the assumption that our manhood is decadent, either physically or in spirit ; and has shown that under the overpowering impulse of patriotism, men are prepared to sacrifice life or limb or reason for their country. Incidentally, these experiences have shown also that in a great emergency it is practicable for women to undertake a large share of men's work, and that they are willing to make sacrifices of health only less than those of the men.

From a social point of view a great incidental gain of war has been in the improved physique and health of most of the returned soldiers. What a magnificent thing it would be for our future well-being if every adolescent could secure between the ages of 16 and 20 a month's annual physical training and discipline, during which period he would enjoy an admirable holiday, receive intellectual refreshment and guidance, and gain a satisfactory realization of his physical possibilities.

Prevalence of Physical Defects.—During the second half of the War, records were kept and analysed of the physical condition of recruits. Even after full allowance is made for the fact that the recruits then examined were in the main those who for various reasons had not been called up earlier for military service, and for the further fact that many defects were of a minor character,—e.g. flat feet or varicose veins,—serious significance still attaches to the result that approximately one-third of these recruits showed

¹ In part an Address prepared for the University of Virginia (April 1921) and published in *The Hospital and Health Review*, October 1923.

physical defects of greater or less severity. A large proportion of these must have been handicapped for civilian as well as for military work; and we must infer that the importance of health in many particulars, and the extent to which disease can be prevented or cured, remain widely unrecognized.

The evidence as to recruits confirms what is known to doctors and health officers as to the prevalence of a vast amount of preventible disease and as to the continuance of an unnecessarily low standard of health.

In view of these facts can we say that we are taking our part not only in securing international peace for the future, but also in combating the horrors of peace, which in the aggregate are more serious than those of war? Although a healthy population is needed for national efficiency and economy, and to enable each person to realize his or her possibilities of usefulness and happiness, it remains true that at least one-half of our present mortality is avoidable; i.e. could be postponed to old age when death becomes a normal event of life; and that with this unnecessary mortality goes an incredibly large amount of avoidable sickness.

The object of public health work is to prevent this sickness and to enhance the average standard of health; and in the pursuance of these ends the essential needs may be summed up under two heads—

(1) The teaching and application of knowledge already available; and

(2) Extensions of our present knowledge, not only by means of laboratory investigations, but also by "field" investigations, including social and sanitary surveys.

Research.—In both of these respects the University forms a most appropriate rallying ground for further effort. The desire for a higher standard of physiological and mental life must spread from those who are trained in the general principles of science, and the University and medical schools and allied institutions form the appropriate centres for the medical researches, which need to be organized in close touch with the great sanitary authorities.

The need for the association of advanced teaching with

research in any subject is becoming more widely realized. The professor whose whole time is occupied in teaching is likely to lose freshness and to become a non-inspiring guide for his students. Furthermore, the University is the seat of many allied branches of learning, and the research-worker at the University in one subject can more easily than elsewhere obtain the valuable assistance of other workers. This is especially true for hygiene and medicine, and at this and other Universities as well as at such institutions as the Rockefeller Institute in New York, and the laboratories of the Medical Research Council in England, we may confidently expect to receive new light on the dark corners of preventive medicine which remain. The problems of cancer, of the prevention of catarrhal infections, of means for reducing the fatality of pneumonia, at once occur to the mind, as among the regions in which we still grope in almost medieval darkness.

Much public health research is remote from the laboratory, and is conducted in the "field," by means of surveys and of experimental local health work. This branch of research presents the supreme advantage that it is an invaluable means of public health education.

Surveys.—Of surveys we have already much experience (see also page 66). They do admirable service in drawing attention to serious evils and in indicating the lines along which these evils can be successfully combatted. Many such surveys have been made on both sides of the Atlantic. It was the surveys made by the medical inspectors appointed by Edwin Chadwick in the early forties of the last century which gave the impetus to early English sanitary legislation and local reform. The surveys would probably have had little more effect in securing prompt reform than many subsequent surveys have had, but for great epidemics of Asiatic cholera and fever, and the collection and publication of the national death returns showing enormous losses of life, and the almost unbearable strain on public charitable funds. These facts roused Parliament to action. Panic in the past has been a great friend of public health reform; and it is one of the many signs of progress that in the

absence of epidemics of preventible diseases on the scale of former decades, progress is now being made in their prevention.

Experimental Field Work.—Probably even more valuable than extensive surveys in obtaining further knowledge of the factors making for disease and in securing the application of existing knowledge for the prevention of disease has been *experimental preventive work on a small scale*, often started by voluntary agencies, before it was taken up by public health authorities.

This is well illustrated in child-welfare work and in tuberculosis work. These activities have most often begun under voluntary auspices. Voluntary societies with their greater freedom can make experiments and demonstrate the feasibility of new lines of work more easily than official agencies; and the value of much of our present official public health activities has been thus demonstrated.

In the United States this method of demonstrating the value of improved public health organization, in regard to tuberculosis, to child-welfare work, and to general sanitary administration, is being utilized with very promising results.

It is unlikely, and indeed it is undesirable, that voluntary agencies in the future will greatly diminish their activities. They will continue as feeders and stimuli of official public health work. In the two instances named above there remain, in many communities, both voluntary and official agencies side by side, and although sometimes this means some inco-ordination and even considerable waste of energy, it cannot be said that in any large community the total efforts made are commensurate with the magnitude of the problem.

Voluntary work has especially been the pioneer in extension of public health work on its personal side, and it may be stated generally that demonstration of such work on a small scale, thus showing the need for it and the practicability of meeting this need, is a more efficient method of progress than an elaborate and complete paper scheme which fails to materialize, or than an annual "drive" for special work, the impetus of which is almost exhausted in the drive

itself and in paying secretarial salaries, leaving little money or energy for the work itself.

Direct Teaching.—Here again the University and the medical school can render inestimable service. It is in the medical school that the important rôle of the future practitioner in the prevention of disease should be taught. Every general or special clinic in a hospital presents daily opportunities for illustrating the preventive side of medicine; and especially in furnishing practical illustrations of prevention by means of treatment, a most important branch of preventive medicine.

In syphilis, in tuberculosis, in malaria, in hookworm disease, in rickets, treatment forms an important means of preventing disease in others and of curtailing the duration of disease in the patient under treatment. A remarkable example of prevention of goitre has recently been demonstrated in States bordering on the Great Lakes; where it has been found that the administration of sodium iodide removes goitrous swellings in school children, as well as experimentally in dogs in the same area, and the same means can be employed for preventing such growths. The value of cod-liver oil in the prevention as well as in the treatment of rickets is further emphasized on pages 28 and 42.

In the teaching hospital and clinics, as also in the general practice of medicine, satisfactory treatment can only follow on accurate diagnosis of each patient's case, social as well as medical; and diagnosis implies an investigation into causation,—again social as well as medical,—and there is thus opened up for each practitioner of medicine the possibility, nay the duty, of becoming a health officer to the full extent of the range of his medical practice.

Family Diagnoses.—Once this idea is practically realized by every physician, there will be much closer and more constant co-operation between private physicians and medical officials than is now secured. On the one hand, this will mean more prompt certification of infectious diseases, more complete and accurate certification of deaths; and on the other hand, it will lead also to the development of *family*, as well as personal *diagnosis*. A patient consults

a physician for illness which is diagnosed as tuberculosis, or syphilis, or hookworm disease, or malaria, or trachoma. In all these, and in many other instances, the possibility, indeed the likelihood, of similar disease in other members of the same household is involved. Is the physician's responsibility fulfilled when he has prescribed for his patient? Surely not. He may claim that in going further he lays himself open to the accusation of "touting for business"; and it must be confessed that our present system of payment by fee per consultation or visit sometimes makes it difficult for the physician to offer extended activity. If instead of fees for individual visits annual payment for medical service for an entire family could be substituted, and if in addition a periodical medical interview with each member of the family, whether well or ill, were arranged, a great advance in preventive medicine would follow.

The notification of cases of syphilis to the health officer, with a view to subsequent "follow-up" work, is advocated by some. How seldom is it practicable to pay home visits to such cases without risk of disrupting family peace! But the family physician is in no such difficulty. He can secure a satisfactory examination of each member of the family. He can for instance undertake treatment which will prevent the recurrence of repeated syphilitic miscarriages and can rid the entire family of infection.

Teaching of Preventive Medicine.—And in the other instances adduced, his potentialities for communal service are almost unlimited. It is the function of the medical school to ensure that this power for good is appreciated by every student, and that the teaching of every medical subject is organized with a view to prevention, as well as treatment (page 12.) On the special training for diplomates in public health, see page 54.

In preceding paragraphs I have referred to education of medical students and physicians in preventive medicine, and to the special training which medical officers of health are required to undergo. I have also indicated how small centres for consultation and treatment may be made valuable means of inculcating the principles and practice of health.

There is needed also education in health matters for the general population and especially for the representatives elected by the public to control local and State administration.

How is this to be secured? It is already being provided spasmodically and sporadically, through voluntary agencies and to some extent by health-education campaigns organized by health officers; and I do not desire to minimize the value of this work. There is little doubt, however, that ordinarily its effect is small compared with the effort and money expended on it, and we may not unprofitably consider what better lines of education are practicable.

Bad Types of Publicity.—Before doing so, it is only fair to state that much of the "publicity" propagandism has failed because of its unscientific extravagance of statement.

On short view it may be possible to secure a modicum of action by highly coloured descriptions of an evil, by absurdly exaggerated promises of results of proposed action against this evil, or by foolish claims in respect of some very partial activity; but in the long run, exaggeration is an impediment to real and especially to steady progress.

As Dr. Chas. V. Chapin has put it, referring to the publicity man:

" . . . Better pay your publicity man for doing nothing than for writing something which is not so. Careless writing betokens the lazy writer. Seek diligently the truth and faithfully publish it."

Our knowledge of preventive medicine, in relation to many diseases, has become so exact that there is no excuse for teaching what may need subsequently to be unlearned. Our knowledge of the different methods of interrupting the life history of the malaria plasmodium is ample and can be so taught to all as to enable exact preventive measures to be taken; the risks of plague can be obviated through our knowledge of the part borne by the rat in its spread; yellow fever similarly need no longer be a source of alarm; typhoid fever and dysentery can be prevented to the exact extent to which we are prepared to undertake the well-known measures of sanitation and of control of carriers

now available; tuberculosis can be reduced to a fraction of its present amount by undertaking well-known measures for minimizing infection and for removing conditions which favour infection; and venereal diseases similarly can be brought under control by the simultaneous universal application of the social and medical measures which will ensure this end. The above does not exhaust the list of preventible diseases; but the diseases just enumerated cause a large proportion of the total deaths in the community, and we have a firm and extensive basis for immediate work.

Why is Action of known Value not taken?—As we possess this knowledge why is it not applied? Disease in any community is always more costly than the measures required for its control. I cannot stay to prove this statement; but it is axiomatic. No person knowing the facts can doubt its accuracy.

The answer to the above question is that the knowledge is not really possessed by the majority of the community; or where the facts are known, they have never become part and parcel of the deepest convictions of mankind. Theologians have distinguished between intellectual acquiescence in the tenets of religion, and the living faith which leads to a saintly life. The position as regards sanitary knowledge is analogous to this. Were it otherwise one would expect and even hope that many members of Parliament, and still more of our local authorities, could not be happy, in view of their terrible responsibility for the continuance of sanitary evils, and for the lack of sanitary provisions which produces an enormous mass of avoidable sickness and mortality.

This view appears to me to have fundamental importance. We are constantly being urged to educate, educate! More disinterested as well as more intelligent citizens are required, then educate! Let our teachers get busy! In all this, there is inadequate appreciation of the fact that education means something more and something more important than interpreting past experiences as a guide to future conduct. The educator, as it has been well said, is an artist creating something which hitherto was without form. He

is, it must be remembered, a teacher, not a miracle worker, and he must wait on and aid the development of the human mind.

The basic requirement is to train the behaviour of the individual under the varying circumstances of life. Such training must be begun early in life if it is to have its full effect, and an essential part of such training, as educators well know, consists in cultivating the capacity to abstain from present pleasure for the sake of future benefit. "Drives" which influence the public opinion of the adult population, and which act like a persistent and striking advertisement in securing larger sales of a patent pill or soap, must be regarded as unsatisfactory, even though they may provide an increased allotment of funds from public sources for sanitary work; but to secure permanent and steady improvement, there is needed the saving grace of an altered outlook on life on the part of the majority of the community, and our chief hope for this lies with the young. Hence the fundamental importance of teaching physiology and hygiene in our elementary schools, and of elementary science generally; and still more of directing the whole course of education so that it may become an instrument in the formation of character. The formation of character, even more than the cultivation of intellectual powers, is the great desideratum in education; and especially in sanitary education. This subject is discussed more fully on pages 179 and 193 in relation to the control of venereal diseases.

The child is the future of the race. The early life of childhood, even before school-age is reached, is the growing-point of society; and it is on the safeguarding and guidance of this point that our main hope of success for the next generation, physically and morally, lies.

This is especially true for venereal diseases, the circumstances producing which strike at the root of family life. It is so also, to a less obvious extent, in the control of tuberculosis. Although with gradually improving habits and more satisfactory treatment of cases, this disease is declining, it is still one of the three or four chief causes of disable-

ment and mortality in our midst. Why is it not being brought more rapidly under control?

The slow progress is not due to our inadequate knowledge of the causation of this disease, but rather to our not having attempted to carry out all the known measures against this disease on a scale which is commensurate with the evil. Some of these measures involve a carefulness in the personal habits of patients, a conscientious regard to elementary precautions, which patients often do not completely adopt. In particular they involve abstinence from the caressing of young children and other means for preventing in early life large-dosed infection. Here again we appear to be "up against" the need for a higher standard of conduct as well as a mere intellectual knowledge of the safeguards which are required. That improvement in these respects will occur, and that the rate of decline of tuberculosis will become accelerated, I have no doubt; but meanwhile, while working to this end, let us note that what is needed more than additional knowledge of this disease is extended co-operative effort on the part of every member of the community to utilize our present knowledge.

The School as a Centre of Public Health Education.—The medical inspection of school children, the discovery of defects and disease, and the efforts to secure remedial measures form a most valuable means of hygienic education of parents. The teacher is a chief agent for training the children themselves in self-discipline and in hygienic habits which will continue to operate through life. The teacher himself should be thoroughly grounded in elementary hygiene, and in the psychology of the young mind; and he should appreciate the importance of making the drinking-water arrangements, the school warming and ventilation, school meals, washing appliances, and especially toilet provision the means of inculcating healthy habits.

The Public Health Nurse.—An equally potent agent of public health education is the public health nurse. Her supremely important work in the promotion of infantile and maternal hygiene, in the supervision of the home-life of the tuberculous patient, in the investigation of home

conditions of school children and of hospital patients, and in other branches of practical work in personal hygiene is becoming more fully appreciated. In remote country districts this work is often combined with that of actual sick nursing in acute or chronic illness; and emphasis needs to be laid on the high value of sick nursing, not only because of the immediate benefit to the patient, but even more—the minds and hearts of patients and relatives being specially receptive in these circumstances—because of the indirect hygienic value of such work in the future life of the family thus influenced. In this instance there can be no doubt of the value of instruction to adults. It is demonstrative, not didactic, in character; and this is the special aid from which most immediate benefit may confidently be expected.

The teaching of the preceding paragraphs might be summed up in the statement that *one of the best and often the best means of instructing in hygiene, as also for preventing the spread and the continuance of illness, is to give skilled help to the patients suffering from illness.*

In what I have said I have ventured to emphasize the importance of certain guiding motives of life, if the world's problems, and our local and State, political and sanitary problems are to be solved. These problems are immensely complex; civilization has become an intricate entanglement of ten thousand conflicting interests. Strong individualities, personal and class interests, corruption and graft,—the more dangerous the less direct and gross they are,—and faddism of various kinds, render the steps of progress slow and halting. The correctives which will enable us to go right are loyalty and love for one another, arising out of the fulfilment of the second and great Commandment.

A University can become, and is already in some measure, the centre around which this becomes possible. The students in it are still in the cartilaginous stage of development of habits and principles, and may be expected, in large measure, to take the form of their environment. Much of the hope of the future depends on every member of the community realizing the outlook of the Arab,

who when asked which of his children he loved best, said—

“ The babe until he is grown,
The absent one until he returns,
The sick one until he is well.”

No superman is needed for this socially essential work ; but just the ordinary man trusting and trusted by his fellows, one who has substituted the impersonal for the personal outlook. And that after all is the essence of Christianity, to which as the ages pass we gradually approximate. On the large scale, the task in the past has not been tried and failed ; it has been found difficult and not tried. But we must try it ; it is the only bulwark against anarchy, the only lever by which humanity can be uplifted.

CHAPTER VIII

THE PRIVATE MEDICAL PRACTITIONER AND PREVENTIVE MEDICINE¹

It is not my purpose to mention more than incidentally the official relationship between practitioners in public health and private practitioners. I choose as my more useful task those aspects of the practice of medicine affecting both classes of practitioners, in which active continuous individual collaboration is needed to secure the further advances in national health well within our reach.

Of course, the chief work of the private practitioner is, and for long must continue to be, the guidance of the sick person towards recovery, or the alleviation of his increasing sickness. Except to the callous or the indifferent there must in such work always be a recurrent note of sadness which cannot be escaped ; and I know no means for relieving and softening this note more efficacious than the belief that such work—discharged without the hurry which is fatal to efficiency, and carried out with all available scientific aid—not only diminishes the burden of suffering, but also is itself an important means of prevention of disease.

This belief in the wider individual and social importance of private medical work is not a modern conception, though it could not become effective on a considerable scale until medicine became in large measure a branch of exact biological science. There could be no such ideal so long as disease was regarded as a divine or satanic infliction, or as inevitably influenced by the planets. Nor so long as medicine was victimized by doctrines and dogmas, evolved from philosophical hypotheses which were not the final product of carefully checked induction from homogeneous facts, could

¹ From an Inaugural Address to the Derby Medical Society, 1926 (*Lancet*, Oct. 30, 1926).

rational efforts to prevent disease be initiated. The instance in 1853 of an influential petition by a religious body to a Prime Minister of Great Britain to arrange for a national fast on royal authority to prevent the invasion of Asiatic cholera is well known; and it reminds us how recent is our escape from the view that epidemics are a divine visitation, a view as fatal to medical progress as the doctrines which led some doctors to bleed all their patients, and other doctors to give them enormous doses of alcohol.

And yet so long ago as 460 B.C. Hippocrates of Cos had enunciated the truth that disease is a disordered process of nature, and that we must trust to the powers of nature—the *vis medicatrix naturæ*—for controlling it, while aiding this by a judicious medical art. As he said in his *De aere, aquis, et locis* :

“No disease comes from the gods, one more than another, each acknowledging its own natural and manifest cause.”

But dogmas based on theoretical considerations governed the centuries, and the doctrines of Galen and Aristotle impeded individual inquiry into the processes of nature. Perhaps our English Sydenham (1624–89) was more instrumental than any other on the clinical side, as was his contemporary William Harvey on the scientific side, in bringing back the minds of people from this attitude to the study of medicine as a branch of natural history. He said :

“The only means of acquiring a correct knowledge of the fundamental principles of medicine consists in attentive observation of the whole of the phenomena of disease, and vigilant and minute inquiry into the progress and fluctuations of the several symptoms, from which alone the true and natural indications of cure can be deduced.”

Subservience to unfounded doctrines was slow in disappearing, but it is by the method thus enunciated by him that the private medical practitioner has made the invaluable contributions to the progress of medicine which we owe to him. (For illustrations of this see my *Evolution of Preventive Medicine*, 1926, Williams & Wilkins.)

The history of preventive medicine, and especially of Listerism, is rich in instances in which life has been prolonged and saved, and disease has been reduced, by the accurate, painstaking, and intelligent study of clinical medicine. If I were to mention one chief obstacle to many more triumphs of clinical medicine over disease, it would be that so many practitioners are too busy to be able systematically to think out each case after devoting adequate time to its study, having utilized every available means of diagnosis, whether by consultants or otherwise. When I remember the scandalous way in which at dispensaries and hospitals out-patients were formerly "disposed of," sometimes at the rate of two or three minutes for each patient, I realize that much improvement has occurred; and it is satisfactory to note that even busy practitioners when imbued with a sense of their scientific and moral responsibility find time for more careful work, which is among the most valuable of all contributions to preventive medicine in the present day.

But having claimed for clinical medicine and surgery some of the greatest triumphs in preventive medicine, I must now pass on to consider some examples of still existent evils, which need not continue, if all medical practitioners "pulled their whole weight," and if they had the steady co-operation both of patients and of public health authorities. My chief illustrations will be taken from three special branches of medical public health work, with the genesis and development of which I have been associated. I refer to the special services of maternity and child hygiene, of tuberculosis, and of venereal diseases. In each of these, although public health authorities are concerned chiefly in the prevention of disease, it is impracticable to draw lines of demarcation between treatment and prevention, and there must be secured, if success is to be complete, wholehearted collaboration between the official and the private practitioners of medicine.

Tuberculosis.—Let me instance first tuberculosis, which is still responsible for about 9 per cent. of the deaths registered from all causes in England and Wales, although the death-

rate from it is considerably less than half that of forty years ago. This means that in 1925 there occurred 40,387 deaths from a completely preventible disease, and a vast mass of invalidity and suffering of serious social import.

Why is not a more rapid reduction of this unnecessary drain on our national life being secured? To completely answer this question would prevent me from taking the wider survey proposed in this address. Many of the points which need to be stressed are embodied in my contribution to *The Lancet*, of May 29, 1926, on "The Present Position of the Tuberculosis Problem."

Let us consider briefly some of the obstacles to more rapid progress. Experience on all sides shows that in a large proportion of the total cases of pulmonary tuberculosis treatment is belated and unsatisfactory. The reasons for this are well known. There is first the unwillingness of patients to come for treatment at an early stage, and much educational work is needed—as in the case of cancer—to secure a general recognition of this point. But it must be agreed that a large number of practitioners—happily a decreasing number—fail to examine their patients carefully, and may continue for weeks or even months treating them for winter cough, for influenza, or for other vague conditions, when an accurate diagnosis might have been made much earlier either by the practitioner himself, or by him in consultation with the bacteriologist (by examination of sputum), or with the tuberculosis officer, whose gratuitous services are available in every area throughout Great Britain for this purpose. Not only so, but in special cases the help of the X-ray photograph is now commonly accessible at the public expense.

The new regulations as to the relation between panel doctors and the tuberculosis officer may be expected to help; but for insurance and non-insurance patients alike there is needed—as we all increasingly realize—closer co-operation between consultants and general practitioners, first for the use of available special services, but also for similar and extended provision for others now excluded from these services. The days for single-handed practice have gone

by. We all have to admit our need for help from brother practitioners who have skill in a special department of medicine. The appreciation of this need and action upon it do not diminish the importance of the general practitioner, who in the interest of his patient is the assessor and executor of the special knowledge which the expert contributes as a guide in the treatment of the patient.

In no disease is the hygienic work of the private practitioner more important than in tuberculosis. Is this fact universally appreciated? Do we lay adequate stress on the importance of teaching the patient to cough with his mouth screened, as well as on suitable disposal of sputum? Do we impress upon the patient, and do we adequately realize ourselves, that 14 to 15 per cent. of the total deaths registered from tuberculosis occur at ages under fifteen years; that juvenile tuberculosis is concerned also in many deaths registered, for instance, as broncho-pneumonia; and that infection of human origin in childhood probably bears a large share in producing adult mortality from pulmonary tuberculosis? Above all, do we realize that this mortality in childhood and youth as well as in adult life results not merely from circumstances of life favouring effective infection, but is due to repeated and excessive doses of infective material received from adults, who are in our professional charge and to whom we may not even have revealed the nature of their disease? There can be no reasonable doubt that if a simple hygienic code of conduct were rigidly followed by every consumptive patient a much more rapid decline of tuberculosis, especially among children, would follow. For the partial character of the success already secured, not only the medical attendant, but also public health authorities who are slack in their administrative and educational work against tuberculosis, and patients and their relatives who fail to adopt the—often inadequately impressed—precautionary measures which are needed, must share the heavy burden of responsibility.

Venereal Diseases.—The case of a patient suffering from a venereal disease furnishes an even more striking example of the intimate interlocking of public and private interests.

Appreciative testimony should always be given to the public-spirited attitude of the medical profession in welcoming in 1916 the organization of clinics for the treatment of venereal disease in every county and county borough at the public expense, and without limitation as to the financial resources of the patient. A remarkable decline of deaths from venereal diseases as compared with pre-war years has followed these efforts and the allied work in which private practitioners and public health and military authorities have co-operated. Great progress has been secured; but these diseases continue to be a serious scourge of humanity, one of the chief causes of premature mortality, one of the largest feeders of our lunatic asylums, and a terrible cause of suffering to innocent women and children.

How can we hasten the diminution of these diseases? If doctors are willing and ready to urge upon each mother and father coming within the scope of their practice the value to health of the training of children's characters on sound psychological lines; and if, with their special knowledge of physiology and pathology, they are prepared to advocate sexual continence, and chastity in the unmarried, and not to permit or even silently sanction the assumption that these are not to be expected from the normal man or woman to whom matrimony is impracticable, then great further progress can be made. The difficulty is that many doctors are not convinced on these points; and that especially we often fail to recognize the social aspect of religion which demands the subordination, in matters affecting the communal welfare, of the personal to the communal interest. Is it not the duty of the doctor as much as of the religious leader or the parent to live up to this ideal? But apart from the supremely important ethical aspect of the venereal problem, there is serious neglect of large branches of preventive work for venereal disease, which are medical in character. We may profitably consider these sins of omission from the standpoints of private practice.

A not inconsiderable proportion of premature births and of stillbirths are due to syphilitic infection of the fœtus. The medical officer of health receiving returns as to still-

births finds action beset with difficulties which if initiated by the family doctor would become easy. In what proportion of cases in which there is reasonable suspicion does the doctor arrange for an examination of the mother's blood, or for examination of foetal tissues for evidence of syphilis? This examination can be obtained gratuitously. And if this is not done, is not he open to the accusation of possible neglect of the vital welfare of the patients entrusted to him in the conditions of private practice? In asking these questions I fully appreciate the difficulties in doing what is suggested, the obstruction of patients to undue "fussiness," and the courage implied in suggesting the need for such examinations. But are not difficulties meant to be overcome, and can we, or ought we, to have an unrepachable conscience, until or unless we have attempted in every instance to fulfil these duties?

Similar questions arise as regards the medical history and condition of the rest of the family when a husband is under our care for syphilis. Inquiry may show the need for examining these, and are we then justified in refraining from pressing for this to be done?

The position teems with difficulty, and my desire in asking the preceding questions, which might be expanded, is to assist towards the more rapid development, in any doctor in whom it may be lacking, of the sense of inherent communal responsibility which is implied in the privilege of family medical practice. In the case of tuberculosis the need for frank medical consultations has been emphasized. This need is even greater for the treatment of both syphilis and gonorrhœa, in which very specialized treatment is demanded. The family doctor, to justify his continuing to treat these patients until free from infection, must be in a position to treat at least as satisfactorily as the medical officer of a venereal disease clinic.

The Family Doctor and Maternal Care.—It is not sufficiently appreciated that in the ordinary circumstances of general medical practice the family doctor is as intimately concerned with the physiological as with the pathological side of life. He is the adviser in the physiological process of

pregnancy and parturition and of lactation, including the factors making for mental contentment ; he is the trusted counsellor as regards the development of the infant and child ; and we may reasonably hope that as his knowledge and competence grow, and as public intelligence increases, he will gain his right position as the guide and counsellor of adults in regard to occupational dangers and to habits of life, especially as to right feeding and drinking.

The word *obstetrician*, as we know, carries with it the meaning of "standing by" to watch the normal process of parturition ; and in view of the increasing outspokenness of gynæcologists and others as to the amount of mischief done by premature or possibly entirely unnecessary operative interference with the process of childbirth, it may, I think, be regarded as axiomatic that, except when intervention is urgently needed, a return of the obstetrician to the position of expectant attention is needed in many obstetrical practices. To adopt this course requires courage. The doctor is called upon by the suffering mother and the over-anxious relatives to precipitate matters ; but, given a normal presentation and no excessive delay, the responsible accoucheur temporizes by means of a well-chosen sedative. When we know that injury by forceps is a common source of puerperal sepsis and of injury to the infant's brain ; and that stillbirths, deaths in early infancy from convulsions, and feeble-mindedness in surviving infants appear to be especially associated with operative midwifery, the need for careful weighing of the circumstances of each case is sufficiently evident.

The best method of attendance in parturition is secured when the doctor has made it a condition of this attendance that the mother shall have adequate prenatal supervision and care. In fact such medical care is more important than the presence of a doctor at the uncomplicated confinement. At the present time probably nine out of ten mothers do not receive such pre-parturient care. And yet we know that it is important for many reasons. The first is physiological. The subsequent health of her infant is dependent above all on efficient motherhood ; and this depends on

the mother's health, including the factors making for avoidance of maternal anxiety, care of her teeth, and a dietary which supplies anti-scorbutic and antirachitic foods in adequate amount. The early diagnosis and treatment of syphilis and of albuminuria are called for ; and the ascertainment of pelvic measurements enables the obstetrician to anticipate complicated parturition and take action as needed.

Should not every medical practitioner be prepared to adopt the rule, demanded by medicine and ethics alike, that apart from emergencies he will only act as accoucheur in cases in which antenatal supervision has been secured ? The physiological work on behalf of the mother finds its normal sequel in that affecting the infant. Most of us as practising doctors have relatively few personal opportunities for watching the progress of healthy infants, and this is a handicap in medical work for sick infants. But our knowledge has vastly increased, and has become widely available, through health visitors and others, for mothers everywhere ; and the application of this knowledge has borne an important part in halving the rate of infant mortality since the present century began. This is especially true as regards the problems of nutrition and the more general problems of efficient motherhood. In this fundamental branch of medicine we are now in a position to become to an extent, never before practicable, *doctors*—teachers of preventive medicine—and thus raise the general standard of maternal and child health.

The Feeding of Children.—I pass from the problem of assisting the mother towards increased efficiency in motherhood, in its mental and physical aspects, to take an illustration from the dietetics of children. The interesting report by Dr. H. Cory Mann (H.M. Stationery Office, 1926) shows how an average increase in the course of a year in weight of 3.85 lb. and in height of 1.84 in. in boys having a satisfactory basic diet was increased in boys having a daily extra pint of fresh pasteurised milk to 6.98 lb. and 2.63 in., with the additional result that the boys having the extra milk ration were " obviously more fit than those of the other groups."

Our knowledge of the causation of rickets has been greatly extended, thus rendering it possible to prevent much serious and disabling disease. (See page 42.) Hence its prevention should be a chief object of the family doctor; and its prevention is easy. Given a satisfactory diet of mother's milk, from a mother who is being adequately nourished, especially as regards dairy products and fresh vegetables; or given satisfactory cow's milk, from cows fed in the open; and given as a supplementary safeguard the administration of minute doses of cod-liver oil from birth onwards—regulated according to the assimilative power of the infant—there need be little or no rickets. We know also that daily experience of outdoor air and of the sun's rays can to some extent compensate for deficiencies in the dietary, and that these, like ultra-violet radiation, are invaluable both in preventing rickets and in curing it when already established.

Will it not be a grave reflection on family medical practice, as well as on the work of public health authorities, if within a generation rickets does not become as rare in this country as typhus fever or hæmophilia?

The importance of suppressing rickets in freeing child-bearing from risk is too little recognized. On this see page 29.

The School Medical Service.—Similar remarks might be made on the school medical service, the necessity for the beneficent work of which on a much larger scale than has hitherto been secured might be obviated if antituberculosis work, antisiphilic work, and the care of mothers and infants, and of the pre-school child were carried out systematically and completely. This can never be fully accomplished, unless in the course of his daily work the family doctor comes to regard himself as an integral part of the entire medical organization for the service of the public.

Diphtheria.—One further illustration of our partial failure to secure the saving of life and the prevention of illness which is well within our reach may be given. Consider the present mortality from diphtheria. In 1925 typhoid fever caused 776 deaths in England and Wales, diphtheria

2,774 deaths. The first of these diseases we know is rapidly and steadily declining as the result of improved sanitation and sanitary administration; the second we know—judging by past history—will in a few years cause twice or three times the large number of deaths attributed to it last year. In the past typhoid fever also showed epidemic peaks and troughs in a succession of years. Human effort has almost wiped them out; and we know that human effort can do the same for diphtheria. True, infectious material of respiratory origin is more difficult to inhibit than infectious material discharged from the alimentary canal; but quite apart from such control, it is well within the power of medical practitioners, given intelligent aid by parents, almost entirely to prevent death by diphtheria. (The occasional occurrence of cases of “lightning” virulence forms only a rare exception to this forecast.)

That this is not being done is a grave reflection upon the medical profession and upon the parents of the children whose lives are sacrificed to ignorance and negligence. I do not refer solely to the demonstrated possibilities of immunization of children against diphtheria. Even apart from such immunization diphtheria within the next five years might be reduced to the level of typhoid fever as a cause of death. This could be done by the prompt administration of diphtheria antitoxin on the first suspicion of diphtheria. Antitoxin is supplied free by local authorities; how seldom is it used by practitioners before the belated admission of their patients to hospital! The failure to do this is due in part to the fatal practice of suspending diagnosis—and even worse, of suspending treatment—until the result of examination of a swab for Klebs-Löffler bacilli has been ascertained.

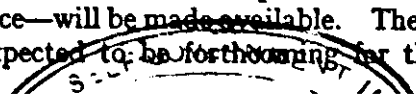
An important contributory cause of failure to administer antitoxin promptly is the lack of courage shown by the doctor in not acting on suspicion. He may be accused of mistake, if after giving antitoxin a swab is returned as negative. But his explanation to the parents should remove this difficulty; and even if not, can the feared but usually avoidable loss of prestige of the doctor be placed in the

balance against the immense saving of child-life which would be secured if the doctor always systematically administered antitoxin when he first suspected diphtheria ?

There remains a large class of cases in which the doctor is sent for late in the disease. In view of the occurrence of such cases, the suggestion has been made that every death from diphtheria, like deaths from anæsthetics, should be made the subject of a quasi-judicial inquiry, as being presumably the result of accident or negligence. Were this practicable, the publicity thus secured would, I am confident, lead in a few years to a dramatic decline in the death-rate from diphtheria.

The Family Doctor as Public Health Officer.—The family doctor, if he attempts to follow out some of the above suggestions, is, it may be urged, owing to his being paid per attendance, open to the accusation of touting for additional work. This fear appears to me to underestimate the intelligence of the average mother and father. We are, furthermore, proud of being family physicians. Privileges always carry obligations, and the paramount indication is to advise the entire family how to avoid sickness. If we do not feel justified in attempting this task—which on general grounds must appeal to us all—are we not confessing by implication that the conditions under which we now practise medicine in our private work are not those which are most conducive to the welfare of the families whose trusted servants we are, and that some radical reconstruction of these arrangements is indicated ?

For the one-third of the total population who are insured under the National Health Insurance Act this hypothetical difficulty only exists when the doctor suggests examination of non-panel members of the family. This is not a serious difficulty. As regards expense, the three great official medical services already indicated give a partial answer ; and it may be expected that in time the needed additional facilities for pathological diagnosis, for expert consultations, and for hospital treatment—which are indispensable for a satisfactory medical service—will be made available. These cannot reasonably be expected to be forthcoming for the



mass of the population on the basis of personal payment for personal services. This becomes increasingly costly with each advance in clinical medicine; and a burden is imposed which is almost intolerable, not only for the wage-earner, but also for a large portion of the middle-classes. Much will depend on whether medical practitioners generally are prepared to encourage and promote for their patients co-operative efforts on the basis of prior insurance in virtue of which special services, including hospital treatment and skilled nursing, may always be available when needed. Numerous experiments on an insurance basis are in progress to these ends, especially arrangements ensuring medical consultations and hospital treatment whenever these may be required. It is certain that by promotion of such action, and by taking a responsible part in it, family doctors can, while increasing the efficiency of their own medical attendance, strengthen the tie which exists between them and the families which have placed themselves in their charge.

I have said enough, I trust, to make it clear that the progress of the application of preventive medicine depends predominantly on the attitude of the medical profession. It has even been said that doctors constitute a chief obstacle to this progress; but this can only be true in those instances in each community in which there is, for instance, failure to use every available means for prompt diagnosis and for adequate treatment of, say, tuberculosis and syphilis; when the duty of prenatal care for every expectant mother whose name is on a doctor's list has not been realized; and when, for instance again, the doctor fails to fulfil his duty as doctor or teacher, in respect of the prevention of rickets, the avoidance of unhygienic habits, and especially in regard to the consumption of alcoholic drinks. In view of the habit-forming risks involved, the doctor who flippantly and without serious reason prescribes alcoholic drinks to an ailing patient is definitely open to the accusation of anti-social action.

As practitioners of both the preventive and clinical branches of medicine we can claim that we belong to a noble profession, a calling which, in present circumstances, makes

it possible for us to influence the ethical as well as the physical course of a multitude of lives. Indeed, if our common work is to be ideally successful, we must increasingly realize that where preventive medicine has hitherto failed—apart from imperfect knowledge—is in regard to those diseases in which character and conduct are concerned. In his intimate relation with the family advised by him, who, so much as the doctor, can influence the people to attain to such conduct in life as will improve personal health, and at the same time safeguard the health of others?

CHAPTER IX

THE RELATIVE RÔLES OF COMPULSION AND EDUCATION IN PUBLIC HEALTH WORK ¹

IN presiding over Section I. of this Congress of the Royal Sanitary Institute in Bournemouth my mind naturally travels back to the Congress of the Institute held in Brighton in the year 1890, where I was at that time medical officer of health. To that Congress I contributed a paper on "The Teaching of Hygiene in Elementary Schools" (published in *Public Health*, 1890), which I have recently re-read, and from which I venture to give some short extracts, as being not entirely inappropriate to the continuing circumstances of the present time. I started out by affirming that :

"Medical officers of health are Ministers of Health, and there can be little doubt that the help they may give in diffusing a knowledge of the laws of health will be more potent for the public good than all the Acts of Parliament bearing on the same subject."

With youthful ardour, I laid down the democratic principle that "free institutions can only work through the agency of public opinion; that laws in advance of and not supported by public opinion remain inert and incompetent, and that in the same way the enactments of the Public Health Act and other correlated Acts cannot be enforced without the cordial support of the local authority, the latter being a reflex of public opinion." The general conclusion from all these considerations was that "to ensure the permanent success of public health work the public must be educated, they must have a sound (if it be only

¹ A Presidential Address in the section of Public Health Administration at the Annual Congress of the Royal Sanitary Institute, Bournemouth, July 1922.

an elementary) knowledge of hygiene"; and to secure this there should be added to the duties of the medical officer of health, as laid down by the Local Government Board, that of "educating the local governing bodies and the general public in the laws of health."

In the same address the point was emphasized, on which now I would lay even greater stress, that while "nothing but gross ignorance could account for the culpable neglect" sometimes displayed by local authorities and the public, it is indispensable that "the public conscience as well as the public intelligence should be quickened."

I need not now pursue further the main thesis of that early paper, which was based on the conviction that "our main hope for the future lies in the education of the children"; in a few minutes I shall remark further on the persistent inadequacy of our cultivation of health ideals, on the partial character of the efforts being made to develop in our children the spirit of civic responsibility, patriotism, and that self-control and desire for the welfare of others, without which improvement in national health can never be more than partial.

The centre of gravity of public health work has changed in the course of years. Structural sanitation, especially in relation to housing, still has fundamental value; and our continuing obligation to the engineering skill of the water and sewerage engineer, to the surveyor who secures efficient scavenging and paves our streets and yards, and who minimizes dust and noise in our towns, will never cease. But, so far as domestic sanitation is concerned, our anxiety as hygienists is not merely to secure dwelling-rooms instead of officially sanctioned boxes or cells; not merely to see that no dwelling, whether self-contained or a tenement, is allowed to be occupied unless it has an individual water supply and individual sanitary conveniences, and unless there is satisfactory storage accommodation for food, but also to provide arrangements for saving labour and fuel, thus rendering it easy for the family life of the million to function successfully. This is the new aspect of structural hygiene; and it shows our increasing realization that public health can no longer

be satisfied merely with doing everything practicable to prevent disease; it aims at a higher standard of health, and therefore concerns itself—and hereafter will concern itself more and more—with efforts to make health still healthier, and so further minimize the risk of disease. The attempt at distinction here drawn is perhaps more apparent than real; for no sickness leaves a child or an adult as sound as it found him, and the prevention of disease therefore carries with it not only an increasing average prolongation of life, but also an enhancement of average health and efficiency.

Past success has been especially in those departments of public health in which the continuous purposeful co-operation of each citizen is not required, or is required only to a relatively small extent. The provision of safe water supplies and the substitution of water drainage for conservancy systems, have reduced typhoid fever to a shadow of its former self; while typhus fever has disappeared from this country—apart from occasional importations—as the result of isolation of the sick, of prevention of the movements of infection carriers, aided, it should be added, by a higher standard of personal cleanliness. The special case of small-pox is the highest possible testimony to the efficiency of our public health administration, on its detective and educational sides, assisted invaluablely by the protective effect of vaccination.

But there remain two branches of public health work, in which, although good work has already been done, most of our work lies in the future. These are maternity and child-welfare work, especially on the maternal side, and the particular infectious diseases which hitherto, if controlled at all, are controlled only to a very imperfect extent.

Maternity and Child Welfare.—To secure the best conditions for maternity and childhood must be regarded as supremely important in public health administration. We can scarcely expend too much effort or money in this endeavour, though, at the same time, it is our bounden duty to secure full value for every penny expended. Here also we are met in our investigations and in actual work

with the impossibility of distinguishing between or separating measures for preventing disease and measures for enhancing health. A chief obstacle to child-welfare work is the continuance of factors injurious to the mother ; and the records of causes, and local variations in extent, of mortality from complications and infections of childbearing [furnished in the Registrar-General's reports, and with fuller local detail in my own special report to the Local Government Board on the subject (Cd. 8085)] show how great is the scope for further reduction in the present serious toll on maternal health and life, and how thus we may provide the basic conditions for healthy infancy and childhood.

Next to avoidable maternal mortality and sickness the preventible causes of infantile mortality and disablement of survivors which stand out are : Congenital syphilis, diarrhœa, tuberculosis, whooping-cough, pneumonia—illustrations, as we need constantly to remind ourselves, of the fact that child-welfare work is largely a question of prevention of infections ; and that it is not self-contained, but is closely intertwined with social work, with general sanitation, and with the work carried on in tuberculosis and anti-venereal clinics.

Physiological Health Work.—But although the above considerations retain their perennial importance, there is another not less important side to the endeavour to secure enhanced national, through personal, efficiency. And one aspect of this may be summed up in the word Nutrition. The first need of the child is to be well nourished. Only thus can it grow and develop satisfactorily ; and it is pleasant to note the progress towards rational and away from empirical and symptomatic writing on this subject. We have become habituated to mass statistics indicating the number of school children in different areas who are ill-nourished, which by themselves are no more useful or enlightening than the crude statement of any other complex which has multifarious origin, and therefore calls for more exact diagnosis and for action in diverse directions.

For practical purposes a study of causation is needed, and we then find that malnutrition is not to be met merely

or chiefly by the provision of school meals—much as these may be needed in certain cases—but by a study of each child's case in conference with parents, and the giving of counsel or treatment directed to the cause of the malnutrition, whether it be merely insufficient food, or badly cooked or ill-adjusted food, or insufficient sleep, or some morbid condition needing special treatment.

This physiological side of health work has an infinity of possibilities of enhanced health and enriched life; but we must next consider the main subject of my address, the general problem of the relative spheres of utility of Compulsion and Education in Public Health Work.

General Extension of Compulsion.—This general problem has important bearing on every branch of work for the amelioration of human welfare. The social history of the nineteenth century consists very largely in a steady extension and enforcement of compulsory duties and restrictions in various parts of communal life. Each of these duties and limitations has been made obligatory by Parliament as the result of public agitation, directed to the support of the weak against the strong, to the defence of the exploited against the exploiter, of the purchaser against the vendor, of children against negligent parents, or of the careful against the careless parent. I need only mention Poor Law enactments which enforce contributions from all in support of the destitute, the various factory and mining Acts providing against accident and overwork, especially of women and children, and the compulsory provisions relating to infectious diseases, to sanitary defects, to food frauds, and so on.

Ignorance being a communal peril, compulsory elementary education has been universally enforced. The parent is no longer free absolutely to control the education of his child; and taxpayers and ratepayers are constrained to pay for the education of other people's children. The nexus of restriction and regulation has extended in all directions; and the diminution of personal liberty thus produced is not only justified but necessitated by communal life. Each restriction has, in fact, been called into being

to defend the liberty of the weak against oppression and injury, to diminish the inevitable and unnecessary burdens on the common purse which are associated with unrestrained licence, and to aid normal progress in health and civilization.

In the prevention of disease compulsory measures bulk largely, their success depending almost entirely on the extent to which they carry with them the convictions of the vast majority of the population. They may thus be said to be effective inversely to the extent to which compulsion is needed. Compulsory vaccination against small-pox is the most striking instance of this general rule. This invaluable safeguard against infection is, in substance, only enforceable by consent, though this consent may sometimes be unwilling; and in practice compulsion is limited by exemption on the ground of conscientious objection. The segregation of cases of acute infectious disease now causes no difficulty. It has become realized that compulsion for this purpose confers a privilege, and when this is realized a compulsory measure becomes universally effective.

In the above cases the necessary measures, as, for instance, for enforcing segregation, are strictly limited in time, and for this reason they are enforceable. But when dealing with chronic infective diseases like tuberculosis and syphilis, we enter into another sphere, in which the practicability of any form of compulsion is necessarily limited by the logic of facts. These cases, therefore, deserve special study.

Compulsion in Tuberculosis.—In tuberculosis the necessity for controlling infectivity by compulsory means arises chiefly when a patient, for instance, a vagrant, continues to indulge in indiscriminate expectoration in circumstances of crowding, notwithstanding advice to the contrary; and a number of towns possess, and on rare occasions use, powers to secure hospital treatment of such cases. There is general testimony that the possession of these powers is useful as a deterrent to culpable carelessness, and in securing the removal of a patient occupying a crowded room.

But is this compulsory power more than a minor desideratum in the control of tuberculosis? The official duty of the medical officer of health is to combat this disease by

investigation of sources of infection, and by measures calculated to diminish the spread of infection and to remove the factors favouring infection, whether domestic, social, or industrial. A first step towards adequate action is the prompt notification of recognized cases to the medical officer of health as soon as they are recognized. It is notorious that in a high proportion of total cases this is not secured from the medical practitioner, and this is especially true for non-pulmonary tuberculosis. In part owing to this cause, in part owing to failure to seek medical advice, and in part from inertia on the local executive side,¹ a large share of our anti-tuberculosis work has been belated and partial. I do not doubt the occasional value of the compulsory powers for the segregation of the careless tuberculous sick; but as a rule what is most needed is the supply of adequate institutional accommodation, attractive in character. A more complete enforcement of the regulations for prompt notification would be valuable; compulsion in this direction has definite educational value, besides opening up the way for administrative action. A judiciously arranged appearance in a police court may be made a useful means of cultivating a hygienic conscience; but with increasing sense of communal duty on the part of all concerned this *via dolorosa* to the ideal should seldom be necessary. General co-operation between patient, private doctor, and health officer would imply a standard of moral character and conduct in all concerned which would bring us nearer our desired goal than any action based on compulsion, however necessary in the immediate future compulsion may continue to be, for the good it achieves, and still more as a means for rendering future compulsion unnecessary.

Before considering the somewhat analogous case of syphilis we may linger for a moment over the problems involved in

Compulsion and the Prevention of Alcoholism.—This, for several generations, has been a problem in which the legislature has not hesitated to intervene, presumably, in every

¹ Other factors concerned are divided responsibility between county and local sanitary authorities and between medical officers of health and tuberculosis officers.

instance, on the initiation of preponderant public opinion. As I have elsewhere stated,¹ the history of the United Kingdom is studded with attempts to control the liquor trade, and to put it in shackles, such as have been found unnecessary for any other industry, except that of prostitution. The necessity for restrictions on the sale of alcoholic drinks is admitted by all, the only difference of opinion being concerned with the extent and character of these restrictions.

Alcoholic indulgence, though diminishing, remains one of the greatest enemies of the public health ; and it is well that in the annual reports of an increasing number of medical officers of health it is the subject of comment and advice. Alcohol is a great creator of avoidable poverty. It very commonly makes the bed for tuberculosis, and not infrequently is the final element in lower moral resistance to the sexual promiscuity which is the social cause of syphilis and gonorrhœa. It swells the ranks of fatherless children and of neglected infants ; it helps to fill our prisons and our hospitals. It is a source of immense waste of national wealth. Approximately, as a nation we spend every week nearly as much on alcoholic drinks as is spent in a year on the chief branches of public health work.

Whether in this country we follow the example of the United States, which has "gone dry," and effectively so for a majority of the population, or whether we pursue the more likely process of increasingly stringent regulation of the sale of alcoholic drinks, allowing experiments in local option to be made in every small or large community which desires them, there can be no doubt that we are, as public health workers, intimately concerned in the diminution of the consumption of alcoholic drinks. By this means the possibilities of increased industrial efficiency, of decrease of accidents, of successful work in housing reform, of greater care of maternity and childhood, of the diminution of tuberculosis and venereal disease and of crime and insanity, will be enhanced ; and, this being so, no public health

¹ *Prohibition in America and its Relation to the Problem of Public Control of Personal Conduct.* By A. Newsholme. (P. S. King & Son. 1921.)

worker is likely to fear compulsion judiciously applied. Compulsion in this country must, as in America, fulfil the condition that it represents preponderant public opinion, and especially public health opinion, and to the extent it does so the path of public health reform in relation to the trade in alcoholic drinks will become much easier.

Compulsion and Syphilis.—For simplicity of argument, I omit gonorrhœa from the scope of my remarks, as it is unlikely that success will attend efforts to secure compulsorily either the notification or the continuance of treatment of more than a minority of cases of this disease long enough to be able to affirm that gonococcal infection has ceased.

General Principles justifying Compulsion.—What are the general principles justifying compulsion in public health or social work? The end aimed at by compulsion must be very important for the public welfare. This end must be one that cannot be achieved to an equal extent or within a reasonable time by educational measures, not including compulsion. The practicability of compulsion must be plain, and it must be equally plain that the enforcement is endorsed by a majority of the community.

For syphilis compulsion is being advocated to secure notification of each case to the medical officer of health, and to obtain continuance in treatment until the patient is freed from infection. Complete control over syphilis might theoretically be gained (*a*) by ascertaining, so far as practicable, the source of infection in each case, in order, when practicable, to prevent its continuance, and (*b*) by advice and action in respect of each notified case, which may prevent the continuance of infection from this case.

The Scope of Present Legislation against Syphilis in England.—In view of the obvious difficulties under (*a*) the most practicable measure for the prevention of further spread of syphilis is the successful and complete treatment of each case. I may remind you that venereal diseases in this country have been the subject of unique national legislation, making it an offence for any person other than a legally qualified medical practitioner to treat these diseases. Legis-

lation to this effect was secured at an early stage after the launching of the national schemes which subsidized local expenditure on the diagnosis and treatment of venereal diseases, and expenditure on educational propaganda regarding them. No such legislation is imposed as to the treatment of any other disease, and it was only conferred in this instance on the urgent representation of the Local Government Board to Parliament that without this power the newly established venereal disease clinics could not be assured of results commensurate with the expenditure incurred and with the national needs. If this law be enforced, the venereal patient must choose between no treatment and medical treatment, unqualified treatment carrying with it serious penalties. There ought, in my view, to be another clause rendering it obligatory on any person suspecting that he is suffering from venereal disease to have resort to medical advice. This will become still more desirable if further action is to be taken to ensure continuance in treatment until the patient is free from infection. The enactment forbidding treatment other than medical could not have been obtained had not free treatment been available for all comers, and the above indicated addition would be equitable, though its enforcement or the infliction of a penalty for non-compliance would only exceptionally be practicable. In view of the fact that successful treatment is our chief public means for minimizing infection, energetic searching out of breaches of the above-mentioned law should surely form an important part of our police and public health work against venereal diseases.

The Difficulties from Discontinued Treatment.—It is well known that many patients discontinue treatment on the cessation of superficial symptoms. I would deprecate the exaggeration which unduly decries the value of anti-venereal clinics, because of this unfortunate fact. In a large proportion of cases cure with cessation of infectivity is secured, and perseverance in present measures and their extension justify us in expecting actual diminution of venereal diseases, of which there is already evidence.¹ Even when infectivity

¹On this, see Chap. XIII.

has not been permanently abolished, it has often been temporarily removed ; and, assuming that the doctor, who should have the co-operation of a confidential social worker, has done his duty, each patient has been instructed in the natural history and dangers of his disease ; and if he sins in neglecting continued treatment, he does so, not ignorantly, but against light and knowledge.

Those who advocate compulsory notification of syphilis need to bear in mind the objects for which such notification could be utilized. If merely moral suasion to secure complete treatment is desired, this is already secured for every patient medically treated—or at least to an extent which would not be increased by notification, under present conditions of treatment ; for patients not under medical treatment will not be notified. If the enforcement of continued treatment of defaulters is the object, it will be remembered that probably more than half the total amount of medically treated venereal disease in the community is treated at the public expense ; that consistently with the confidential nature of this treatment vigorous efforts, short of compulsion, may be made to persuade patients to return for treatment ; and it is doubtful whether attempts to enforce compulsory continuance of treatment of syphilis will secure the treatment of as many patients as are now treated. In other words, will the more prolonged treatment of a certain proportion of patients expected to be secured by compulsion compensate for the conceivable loss due to patients refraining from attending publicly supported clinics ?

I refer in particular to the possible transfer of patients from official clinics to private medical practitioners because—in the light of our experience with tuberculosis, in which furthermore no question of morality is involved—it is unlikely that private practitioners will generally notify the fact that patients, before completion of treatment and cessation of infection, have discontinued attendance on them. Who is to state when infection has ceased ? Medical opinion differs widely as to the length and character of the required treatment, and unsatisfactory certificates of freedom from

infection will be given. Long intervals occur in legitimate treatment; are we to expect each practitioner to keep a card index and notify the non-appearance of his patient after a prescribed interval? What about the conscientious objector to arsenical or mercurial treatment who will soon appear? Will not the introduction of the principle of enforced continuance of treatment lead to an agitation not unlikely to culminate in the repeal of the Venereal Diseases Act, with its limitation of treatment to medical practitioners?

When considering the advisability of enforced notification of syphilis, it must also be borne in mind that a mass of very incompletely utilized information is already possessed by the physicians of venereal disease clinics, and by physicians in other clinics.

Use of Information at Present Available.—A large number of women and of young children attend general and special hospitals when suffering from syphilis, interstitial keratitis, etc., and, if the needed staffs were supplied, such cases might without offence, in many instances, be made the means of ridding other members of the same families of syphilitic infection. The same remark applies to the notifications of stillbirths (after the seventh month) made by doctors, and to the notifications of stillbirths (without any limitation as to period of pregnancy) made by midwives. Possibly 20 per cent. of these are due to syphilis. In relatively few areas have these means to valuable anti-venereal work been utilized fully.

I have not dwelt on these existent but neglected possibilities of anti-venereal work to deprecate, when it becomes expedient, the adoption of compulsory notification of syphilis, preferably first locally, in accordance with our British method of local experimentation, or partially as by rendering infantile and inherited syphilis notifiable, future extensions of notification keeping pace with extension of administrative activity. But I urge that present openings for valuable anti-venereal work should be exploited, if only as a means of testing the practicability of more general action.

The desirability of compulsory notification of cases of syphilis will become much more evident if we regard the tracing of sources of infection as within the range of practical administration; and it may be in this direction, more than in the enforcement of return for completion of treatment of individual cases, that possibilities of useful action will emerge. In tuberculosis, owing to its long latency, to the delay before diagnosis is made, and to the multiple possibilities of infection, investigation of individual sources is most difficult; and in dealing with this disease we have generally to content ourselves with action based on our general knowledge of sources of infection and of the conditions which render infection potent. But in syphilis, when judicious inquiry is made, it is sometimes possible to discover a source of infection common to several cases, and this may point to the location of prostitutes and action against these. Of course, this can be interpreted as one-sided action, bearing unfairly on women, though some American attempts on these lines appear to show that fairly impartial action may be taken against men and women.

Compulsory Segregation.—Action to minimize risk of spread of infection, compulsory when necessary, is taken systematically for acute infectious diseases; and similar action has been found practicable for certain cases of tuberculosis. Can it be applied effectively for syphilis? It would appear at first sight that persons imprisoned for crime and found to be suffering from venereal disease might legitimately be detained until free from infection, even though this meant longer detention than the term of legal imprisonment; but a study of the Report of the Royal Commission on Venereal Diseases (par. 178 *et seq.*) and of the evidence given before that Commission shows the difficulties in equity involved in the suggestion. In other countries such powers are stated to have been partially employed, as well as the power of compulsory examination of prisoners when suspected to be suffering from venereal disease. Experience of the use of these powers will be watched with interest tinged with critical doubt. The

Royal Commission recommended the compulsory detention of infectious venereal patients who had resorted to Poor Law infirmaries, but no practical action has been taken on these lines. This fact alone illustrates the difficulties associated with compulsory action in this terribly destructive but tantalizingly chronic disease.

The Prevention of Promiscuity.—After all, in asking for compulsory information as to cases of syphilis while failing to utilize a large share of the information we already possess, and in asking for powers of compulsory detention or treatment, or both, are we not unduly restricting our outlook on the problem of the prevention of this disease? For practical purposes it may be said that syphilis is spread only by means of promiscuous sex relationships. By promiscuity I mean the more or less casual relationships between men and prostitutes, or between men and so-called "amateurs." In the absence of promiscuity, syphilis would rapidly diminish, if not disappear, and with it would go a chief cause of premature old age and mortality. Syphilis and gonorrhœa are communicated almost exclusively by sexually immoral persons; and in the absence of promiscuity on the part of healthy persons infection would cease to spread. Promiscuity thus is essentially an insanitary act.

The weight of the contention that prostitution always has been and always will continue, depends on public opinion, which has worked miracles in changing moral habits in other directions; and on public policy, which can be so directed as to reduce prostitution very greatly, and to make early marriages easier and more general. It depends also on the degree of success of the educational propaganda which forms an essential part of every official venereal disease scheme, and on the wisdom with which this educational work is conducted. But it depends, more than on these, on the building up of national character, on a change in the ideals of the mass of the people which will make it "bad form" to be sexually loose, will gradually establish an equal standard of sexual morality for the two sexes, and will change and extend our national system of education, so that it will no longer be in the main intellectual, but will

train the emotions of youth, will cultivate right habits and thus educate the powers of inhibition before the hour of temptation to promiscuity arrives, and will thus ensure in future generations greater sanctity for family life and a deeper sense of responsibility for the health of partner and children and of the race.

With the growth of such ideals the necessity for compulsion in public health work or in other aspects of life will wane. I do not say that meanwhile compulsion has no rôle to play.

If any practicable form of compulsion for the diminution of venereal infection can be applied which acts impartially on all concerned—including the healthy person indulging in promiscuous sexual relations, as being inimical to civilized life—then let us try it. I put aside the general teaching of chemical prophylaxis. It can only be effective in a fraction of cases; furthermore, non-personal and indiscriminate instruction of this kind will, in my view, increase the amount of promiscuity, which is the real enemy to be fought.

The Issues involved in the Problem.—We must not lose our view of the final issues involved. To be successful, civilized life in communities necessitates a steady, though it may be slow, change and advance in the standards of morality. It necessarily involves partial suppression of our over-sexed instincts and a stricter adherence to the monogamy which civilized family life implies. To affirm that no progress in this direction has hitherto been made is to state a dubious proposition; and partial failure in the past does not condemn to futility psychologically better directed and more intelligent efforts now within our reach. It would be beyond the scope of this address to attempt to adumbrate the possibilities of improved ethical training, based largely on the important additions to our knowledge of psychology made in recent years. This is more properly the task of the pedagogue inspired by high ideals and by an accurate knowledge of child psychology, and of parents who realize the extent of their responsibility and of their power to educate their children to resist venereal or any other form of moral infection.

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Our knowledge of the processes by which habits of self-control can be initiated and fortified, and by which the social instinct can be made to restrain and in large measure to sublimate the sex-instinct—as well as of the possibilities of forming and directing public opinion towards higher ideals—goes far to confirm the opinion that further victory over venereal diseases will be gained chiefly on the ethical plane, and that on this plane we can—possibly earlier than appears likely—achieve success. Although moral progress is slow and gradual, the rate of progress tends to become accelerated at each step, so that in the end vast masses accept a new truth in a short time.

These remarks have important bearing on the relative utility of education and compulsion. By education, obviously, I do not mean the intellectual instruction which so far has been the main result of national educational effort; but the systematization, from the earliest age of each child, of efforts in the training of character and the development of self-control through example and training. Knowledge is necessary, but in practical life it is attitude more than knowledge that counts. The real failure in life consists in the shirking of the discipline of self-control. The exercise of compulsion runs some risk of atrophying self-control; but compulsion may be a means of training in self-control when it operates chiefly against those who cannot or will not exercise will-power. Indeed, the two ideals of compulsion and of education of character are not irreconcilable in public health work. In the sequence of national life the policeman preceded the school teacher, but the success of the teacher will render the policeman less and less necessary if intelligent and conscientious parents enter into co-partnership in the task of education of character.

CHAPTER X

CONSIDERATIONS ON THE RELATION BETWEEN GOVERNMENT AND CONDUCT ¹

THE points of contact between medicine, especially preventive medicine, and the common life of the entire community are so numerous as to render the philosophy of the methods of control of disease, so far as the public can take part in it, worthy of careful consideration. Such control can be exercised in two ways: voluntarily as a part of conduct, and compulsorily as the result of governmental regulation.

The control of disease has been rendered more complex and yet more necessary by the increasing ease and extent of intercommunication between different parts of the world, and by our growing realization that persuasion, and in some instances compulsory intervention, needs to be extended into the region of physiological as well as pathological life. North America is now within easier reach of Yorkshire than was London a century ago; and the inhabitants of any small country town travel more miles per annum than did the entire population of the metropolis in a year of the eighteenth century. Railways, motor-cars, and now aeroplanes mean personal contacts on a scale which revolutionizes the outlook of mankind, and which while decreasing parochialism and threatening even patriotism, means risks of infection, as for instance of influenza, immensely greater than those of the past. Furthermore, the intellectual or moral influence of any outstanding sentiment or judgment or action may, through the printing press or telegram or wireless message, in a few hours affect the whole world.

The story of the past is a valuable guide in the present; and at the least this story is our most efficient antidote

¹ An address to the Gloucester Medical Society, 1924.

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to pessimism, when we face the moral or the physical defects of the present day.

Our life is lived in communities ; and such life necessarily implies a large amount of shackling of personal initiative. Whether the problem is viewed municipally, nationally, or internationally, the success and efficiency of modern democracy depends largely on the determination of the true scope and limitations of restrictions of liberty, whether ordained by custom or prescribed by law.

The essential problem involved is in reality as old as mankind. When primitive families were formed, problems of relative status and of servitude necessarily arose ; and it was a great step forward in the affairs of neighbours, and still more of the inhabitants of a parish, a county, or a country, when the putting of heads together in conference replaced knocking them together in conflict.

At the present day there occurs repeated conflict of monetary and social interests between classes, between consumers, merchants and producers, between employers and employed, and between country and country ; and the general problem of successful community life may profitably be studied by us in its bearing on the physical and moral health of every member of the community.

Liberty is the desire of every human being, and human history is one continuous struggle against the forces which enslave men.

Against the impediments of an unfavourable environment, man's history is one of extending triumphs ; and his successful struggle for such social freedom as we possess shows how far mankind may progress beyond what is practicable for the unsupported individual.

In relation to his fellows communal liberty has only been reached by struggle through many centuries. Theoretically complete individual liberty means communal anarchy, and is associated with tyranny of the strong over the weak. It follows that for the weak liberty can only be secured when definite restrictions of liberty are accepted by every member of the community. Liberty and government, in other words, can only be reconciled *through the consent of*

the governed, who agree to such personal restrictions as are either required for the common good, or in the absence of which injury would result to some members of the community. If we start from this point, our later discussion of the problem is clarified and facilitated.

Tribes have become nations and nations empires by three methods. The invasion of Southern Europe by the Moor exemplifies the case in which the conquered were merely a servile and foreign people. In the Roman Empire the countries conquered became part of the Empire; but still the conquered people had no share in the centralized government of Rome. This was effected by army force. Later came the predominantly English method, which gave representation in the government to the governed. Over-centralization of the government in the hands of the King was curbed by Magna Charta in 1215, and Simon de Montfort established the principle of "no taxation without representation." Thus the battlefields of Lewes, of Naseby, and of Yorktown serve to recall the names of De Montfort, of Cromwell, and of George Washington, who were leaders in securing the triumph of representative government; and for civil government it was established that "the foundation of authority is laid in the free consent of the people."

Religious liberty was a plant of slower growth; and the Massachusetts successors of the men and women of the *Mayflower* adopted a new orthodoxy of congregationalism and did not learn the higher lesson for several generations.

Assuming that some form of representative government is needed when the conduct of individuals is to be subjected to regulation,—and no adequate substitute has been or is likely to be discovered,—it is vitally important to determine who shall exercise this function, and what subjects can be legitimately included within the scope of restrictive regulations.

In the early days of the Massachusetts settlement membership of a congregational church was made a condition of voting power; an evident variation on the prohibition in the old country of parliamentary representation by Roman Catholics or Jews. Now almost universal suffrage is given;

and although we may lament the lack of intelligent interest of a considerable proportion of the electorate, and still more the impending change which is likely to secure equality of sex representation beginning at 21 instead of for both sexes at the more reasonable age of 25 ; we have reason for hoping that intelligence and interest in government will become more general. It may be recalled that the Education Act was passed in 1870, and that men now not far past middle age were born prior to its enactment ; furthermore, that while intellectual training in schools has progressed, teaching potent to influence the motives of conduct, and especially conduct as bearing on the welfare of the commonwealth, has been too little developed. Far from agreeing to the Prince Consort's statement some fifty years ago that representative government is on its trial, we may more accurately state that it has never been completely tested ; but that already it has proved more generally effective of good than any preceding form of government.

If, however, as appears inevitable, the franchise, both local and general, is to be an almost universal privilege of adults, the need for education in the duties involved, for the steady and persistent inculcation of the idea that the vote represents a high privilege and an invaluable opportunity for social service, and the need for some visitation of social ostracism on those who neglect to exercise their vote, evidently is great and even urgent.

Local and National Patriotism.—That there is need for the cultivation of local and national patriotism is evidenced both in history and in current politics. Autocracy necessitated centralized control, only rendered possible by delegation of powers, which were often administered corruptly as well as inefficiently. The Russian Empire exemplified this markedly ; and the change to Bolshevism has meant the replacement of one form of unrepresentative Cæsarism by another, with a superadded revolution in economics, the first in history, imposed on the political revolution.

In other countries the earlier steps towards representative government have been associated with oppression

and injustice to vast masses of the unrepresented part of the population; and even with general suffrage the risk that plutocracy may replace autocracy and aristocracy (in the etymological sense) as controller of the national fate is far from entirely obviated. The evil influence of the purse is seen occasionally in most so-called democratic governments. Jobbery, indeed, is the great corrupting agent in all forms of democratic as well as in autocratic government, and it may take the form of actual monetary corruption, of unnecessary multiplication of paid official posts, of social prestige, or of ornamental decorations and titles. Eternal vigilance and a higher standard of social ethics are alone competent to remove these evils and prevent their recurrence.

Scope of Government.—The associated problem as to what subjects may properly be included within the scope of governmental regulations (under this term I include all attempts compulsorily to control conduct) opens up questions of great interest and practical importance. The problem necessitates consideration of the relation between individual liberty and the common welfare, the due concordance between these two determining the integrity and success of civilized life in communities. If regulations are sometimes required—and no one will deny this—there must be limits to personal liberty in communal life; and the best and only plan for avoiding this conflict between liberty and government is to establish in our minds a persistent emphasis on duties, not on rights; to substitute, in Maeterlinck's phrase, "the spirit of the hive" for the attitude of a solitary Crusoe, "monarch of all he surveys." Crusoe's position, indeed, can only be maintained along with Crusoe's solitude.

Government by Majority.—But it is highly improbable that unanimity will be attained in regard to any large problem of human conduct; and such regulations as are made and enforced will necessarily be made by a majority controlling not only themselves, but also an inert or objecting minority. The majority willingly bind themselves to or against a particular line of conduct, and for them no external compulsion is involved. Two

dangers, however, occur and recur : First, when an intelligent and persistent minority regulates the conduct of a majority, who through inertia have rendered this possible. This is alleged to have been illustrated in the experience of the United States in regard to the enforcement of Prohibition of Alcoholic Drinks. A study of the historic facts shows, however, that national prohibition was the logical and almost inevitable consequence of the great extension of local option during some seventy or eighty years ; though the wisdom of securing the last stage of this through an amendment of the Federal Constitution is doubtful.

The second danger arises when minorities obstinately refuse to accept majority government and become " Irreconcilables." This danger is illustrated in the action of " passive resisters " against the Education Act, in the anticipated activity of the Ulsterites in 1913-14—" Ulster will fight and Ulster will be right"—and in the militant suffragettism (if I may coin a word) about the same time. Such insubordination strikes at the root of democratic government, though, like actual revolution, its occurrence cannot be absolutely excluded. As a rule, however, especially as education and the sense of moral responsibility increase, majorities will be just if minorities will play fair.

The aims and obligations of law have been admirably stated by John Locke (*Two Treatises on Government*, 1821, p. 232). He wisely pointed out that the end of law is not to abolish or restrain, but to preserve and enlarge freedom ; and he added :

" That ill deserves the name of confinement which hedges us in from bogs and precipices."

His further words deserve quotation as stating clearly the ideal communal duty :

" Every man by consenting with others to make one body politic under one government, puts himself under an obligation to everyone of that society to submit to the determination of the majority, and to be concluded by it " (page 271).

Inertia of a large proportion of the public and passive resistance on the part of recalcitrant minorities form the

chief foes of successful democratic government. They do not constitute its sole difficulties ; and one or two of these further difficulties may be mentioned, before reviewing the varied subjects on which legal control has been enacted.

Responsibility of Onlookers.—One of the gravest foes to successful governmental work, and incidentally to public health work, consists in the scarcely disguised disdain for legislators and administrators affected by many so-called intelligent people of all stations of life. This foolish belittlement of those engaged in unpaid work as representatives in our municipalities and other governing bodies is responsible for the unwillingness of others to share the work and for much feebleness and inefficiency in such work as is done. The onlookers must always be more numerous than the actual workers ; and they have a moral responsibility for the success or failure of all forms of government which they cannot evade. May we not look for a quickening of the conscience of the general public in this respect ?

Need for Specialization in Citizenship.—The extension and multiplication of various branches of local and central government has made intelligent interest in government on the part of the public far from easy ; and for this reason the plan of specializing in some limited division of work, as for instance in education, or health, or municipal trading, is to be commended both to workers and onlookers. If studied in the right spirit, each of these or some other branch of work can vie as a source of intellectual interest with bridge or even with the study of dictionaries in the search for unrelated words in cross-word puzzles !

The complexity of modern government has necessarily implied that a major part of executive action rests and must always rest in the hands of paid officials, who are apt to be blamed for arbitrary acts, every one of which at an early stage must have received the imprimatur of a popularly elected body. The giving of Treasury Grants in Aid of the local work of Poor Law, of education, and of health authorities has necessarily involved a large measure of

central bureaucratic control: and such increase of centralization implies a danger of what has been described as "apoplexy at the centre and anæmia at the extremities." The system necessarily implies the application or attempt to apply uniform rules and regulations to conditions which in different areas are neither uniform nor equal. In earlier days Edwin Chadwick was a firm believer and originator of centralized control, and in a diminution of responsibility of local authorities. To Dr. Lyon (Lord) Playfair he said:

"Sir, the devil was expelled from heaven because he objected to centralization; and all those who object to centralization oppose it on devilish grounds."

On the other hand, Lord Acton in his *History of Freedom* (p. 11), evidently referring chiefly to non-democratic central control, speaks of concentration of power in a few hands as follows: "It corrodes the conscience, hardens the heart and confounds the understanding" of those who hold the power. Avoidance in administration of central congestion and cast-iron uniformity and the retention of scope for local initiative and experimentation at local expense can perhaps best be obtained by establishing certain minima in the branches of local administration for which central grants are given, leaving each authority free for further development on its own lines.

"*Officialism.*"—In passing, reference may be made to the occasional fear of "officialism," manifested in attempts made by committees of elected persons to exercise detailed executive control. This foolish attempt to combine determination of principles of action and executive detail has led to the clogging and retarding of governmental work both in metropolitan and provincial administration. On the other hand, concentration of work in the hands of a few tends towards a gradual decay in the spirit of social responsibility: and in public health work, for instance, the experience of every medical officer of health is that elected members of Public Health Committees and through them the public are educated by exercising government, and to an extent which is other-

wise impossible. It is because of this combined official and non-official work that public health reform has steadily even though slowly progressed, and that, unlike in some countries, progress has not been spasmodic and interrupted by serious reaction (see page 56). The ideal is that committees should trust their officials when lines of policy have been laid down; and no intelligent and zealous official, on his part, will fail to keep his committee regularly advised of each change in the situation.

In Parliamentary work similar difficulties are seen: committees are multiplied, sometimes to avoid decision on an important principle, rather than to explore the means for applying a principle the equity of which is conceded. Similarly conciliation committees investigate the cause of and remedies for a trade dispute with no certainty that their finding will be accepted, even when it is based on complete, intelligent, and unbiassed investigation of the problem.

It is evident then that governmental control, and still more the control exercised by voluntary unions and societies, is liable to be criticized, opposed, or even defied: and this fact emphasizes the need to limit such control to what is really imperative. Control is always an evil, or at least a lesser good, necessitated by the circumstances of communal life. Its scope will eventually diminish, and its extension certainly can be rendered less necessary by that education on a moral plane, which should be the main objective of training in family and social life, and in our national educational system.

Philosophy of Compulsion.—But meanwhile compulsion is a necessary element in our social organization; and it will continue so for many generations to come. That it should be so is clear from the teaching of biology, of anthropology and of history. Embryonically the human infant passes through stages which represent successively invertebrate, piscine, reptilian and mammalian organization; and after birth vestigial structures may persist showing the biological history which has been epitomized in the individual life. Anthropological

study of peoples in savagery and in different stages of civilization brings out analogous facts on the moral side of life. Superstitions and cruelties survive, and moral standards—part from methods of upbringing—vary widely ; for there are not lacking barbarians, savages, and mental and moral defectives in the community, and in our daily life we meet people representing all stages from the most rudimentary ethics to the highest Christian character.

In morals there has occurred a remarkable evolution, closely comparable to that of Natural Selection. The British public was vastly concerned over negro slavery, and rightly so, while they were strangely indifferent to the cruelty to children which was associated with the early days of factory work in this country. In the year 1810 Sir Samuel Romilly promoted a Bill in Parliament to repeal a statute which made private theft in a shop amounting to 5s. punishable with death. The Bill to this end passed the House of Commons, but was defeated in the House of Lords by 31 to 11, the majority including, it is recorded, one archbishop and six bishops. Illustrations of what we should now regard as callous disregard of suffering and of life-value could be multiplied in the history of a hundred years ago : and what C. F. Fox said of Burke is true for all reformers in the early stages of moral advance :

" Burke is right, but Burke is often right, only he is right too soon."

Every great moral and social improvement has been effected by the force of public opinion ; and in every instance there is first the initiative genius of pioneers, then a slow process of education of the public, and eventually the reform is incorporated in legal enactment. In every instance, furthermore, compulsion is required for those who do not evolve in response to the advancing tide of morality ; and as some members of the community always fail to attain the standard of prevailing conviction, endeavour to enforce the adoption of the higher current standard of conduct for them becomes inevitable.

Let me briefly enumerate some of the compulsory

measures already in force for the better government of the community.

Illustrations of Compulsions.—In mediæval times under autocratic government there was much unnecessary interference with the individual. Thus in the reign of Richard II men of low degree or station in life were forbidden to keep dogs to hunt: and in Henry VIII's time labourers were not allowed to indulge in tennis or bowling or dice. In Charles II's reign, at the instigation of English woollen manufacturers, it was enacted that shrouds for the dead should be woollen and not linen, an evident attack on Irish industry. Such legislation was foolish and futile. It was succeeded, under the teaching of Adam Smith, Malthus and others, by the view that any interference with competition is useless or worse than useless. Extreme poverty was regarded as the necessary means of keeping the population within limits; and therefore even parochial relief was hedged in by conditions which we now regard as barbarous. But following on the great religious revival associated with the name of Wesley humanitarian views began to assert themselves. The history of our Factory Laws shows the slow extension of protection to children as regards hours of employment, arrangements for some measure of education, and examination as to physical fitness. Next came prohibition of employment of women in mines; and through various stages we reach the prohibition of industrial employment of women after parturition; and for children the prohibition of employment, except to a carefully limited extent, of scholars as wage-earners.

The Children Act, the great children's charter, contains many important enactments. Failure to obtain medical aid, failure to cleanse verminous children, for instance, are punishable offences; and under the active supervision of our school authorities, and of inspectors of the Society for Prevention of Cruelty to Children, it is being daily demonstrated that drunken and dissolute parents are not at liberty to neglect or injure their own children.

Nor is this deprival of parental autocracy and substitution

of control by the State confined to circumstances of cruelty or neglect. The State regards ignorance of its constituent members as mischievous to the community, and insists on every child attending school at least from 6 to 14 years of age.

The State—which means a majority of the voters of the country—has not scrupled to intervene in the financial relationships of members of the community. In certain sweated industries there is power to prescribe minimum wages for workers. The steeply graduated income tax and the inheritance duties would have been regarded as monstrous by our fathers, but we most of us admit, although ruefully, their equity.

We have already seen that the parent is no longer free absolutely to control the education of his child; and taxpayers and ratepayers are constrained to pay for the education of other people's children. Liberty of contract between employer and employed, and between vendor and purchaser, has been restricted; and this, like so many other departures from "freedom" of contract, is justified because many participators in "free" contracts cannot defend themselves, or because, as in adulteration, the defence of health and honest dealing has greater importance than mere economic considerations. Many infringements of personal liberty by legal enactments are to secure liberty which is endangered by licence. The legal protection of children against a selfish parent or employer is to secure for them the possibility of becoming useful citizens, able to benefit by adult liberty. The whole range of public health legislation, whether relating to nuisances or housing or offensive trades or to infectious diseases, has for its object the protection of the ignorant or impotent against the avarice or carelessness of would-be offenders.

Compulsion in the treatment and prophylaxis of disease is further discussed on p. 102 and the wider problems implied in venereal diseases are stated in Chapters XIV and XV.

Difficult Compulsions.—We are deeply concerned, as social workers, with the possibility of more efficient control over a group of diseases, whose incidence, in large measure,

depends on the personal conduct of patients themselves or of their families. I refer to venereal diseases, to tuberculosis, and to alcoholism. These three diseases are discussed on pages 99 to 105. They illustrate better than any other diseases the uncertain boundaries of coercion and of moral responsibility as factors in abolishing disease. All three can be abolished by the universal application of our present knowledge; and yet the application of coercive measures to them implies difficulties immensely greater than similar measures against school truancy, or evasion of the income tax, or exposure of a patient suffering from scarlet fever; and their case therefore deserves the special consideration given them on the pages to which reference has already been made.

In respect of all respiratory affections, and especially as regards consumption, we are "up against" the need for a higher standard of conduct even more than a more widely diffused intellectual knowledge of the safeguards which are required. That improvement in these respects will occur, and that the rate of decline of tuberculosis will become accelerated, I have no doubt; but to secure this, extended co-operative effort will be needed on the part of every member of the community.

In supplementation of what is written as to the Drink Problem on pages 100 and 197-230, I may briefly indicate a few points. In the first place alcohol, although a declining evil, is still one of the four or five chief enemies of the public health. Its position has been steadily undermined, and in this the medical profession have taken an active part. In hospital and private practice alike medical men increasingly refrain from prescribing alcohol, except with the utmost caution, because of its habit-forming dangers, and because it is now known that its chief action is narcotic and not stimulant.

It has been clearly proved that even small quantities, e.g. a glass of wine or beer, definitely decrease the accuracy of any work involving skill, though the person thus experimented on is confident that he has done better than usual. It is this self-satisfaction which is a chief danger of alcoholic indulgence; and for chauffeurs and others whose

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work involves sudden and exact decision total abstinence is the only justifiable action. Alcoholic indulgence leads to neglect of children in a large section of the community ; and it is a significant fact that much more is spent year by year on alcohol than on milk. A reduction in our beer bill would enable children to be better fed and better cared for in all respects.

What should be done to restrict this great national evil, an evil which promotes crime, vice, disease and poverty more than any other single factor in our midst ?

It is useless to say that moral measures alone will suffice. The history of drinking is one of continued control for many centuries, such as has been exercised over no other industry. The only practical question is as to how far should the needed restrictions extend.

During the Great War in this country the amount of drink was severely rationed, its alcoholic content was greatly reduced, the hours during which it could be bought or consumed in public-houses were reduced and the intervals lengthened, and furthermore treating became illegal ; and the result was seen in a remarkable reduction in the number of deaths from alcoholism in women and in offences due to drunkenness. Once for all it was demonstrated that a country can be made sober by Act of Parliament. Since the War these restrictions have been reduced, with increase of drunkenness and disease ; and we cannot expect rapid improvement unless and until the power to limit or eliminate the sale of alcoholic drinks in any neighbourhood is accorded to the inhabitants of that district.

CHAPTER XI

THE LIMITATIONS OF LIBERTY IN COMMUNAL LIFE ¹

WHEN families live in proximity to each other there at once arises the need for regulations in the general interest, and as hamlet becomes village, village becomes town, and town grows into a large city, the need for "give and take" arises, implying restrictions on freedom, for the sake of that greater freedom and safety of all which the restrictions render possible.

The reconciliation between authority and liberty is a fundamental condition of social order in communal life; and, accepting the definition that law is organized public opinion equipped with force, it is profoundly important that as health workers and social workers we should be familiar with the main conditions of success in law making and law enforcement. Broadly speaking, the general object of legal restrictions is to prevent licence, by which we mean individual liberty to injure the commonwealth or common health or any member of it.

The need for such restrictions would, of course, not arise, if all our natures and desires were harmonious; but as this is not so, coercion is a necessary element in communal life, even though it may be said to imply a certain degree of moral pauperization. Coercion is justified when it can be shown that restriction is a less evil than non-interference. The general rule is embodied in the statement that while a man *ought* not to injure himself, he *must* not be permitted to injure others. Nor may he injure himself to the detriment of the community; and suicide is a criminal offence.

In the course of history, restrictions have penetrated

¹ A lecture given at Yale University, May 1926.

into every sphere of life. It is worth while, to begin with, to refer briefly to certain restrictions which have had imperfect success or which are now entirely repudiated. Although my illustrations are English the principles involved are without national limitation.

The enforcement of *religious conformity* for many centuries was a chief object of State; and it is noteworthy that, although attempts in this direction have now nearly disappeared, it was not until 1858 that a Jew could sit in the House of Commons, and Oxford and Cambridge Universities were only thrown open to Nonconformists in 1871. It is interesting to note that an old law in New York permitted clergymen to stretch chains across the street in front of their churches to halt traffic during the hours of divine service.

In regard to *military service*, compulsion in most countries has been successful, and few will doubt the justifiability of the call for such service in national emergencies. But experience in the Great War in Britain proved that there were men of the highest character, and in other respects most desirable citizens, who refused to undertake any military work; and their case had to be met by giving them special work not concerned with the War, or in extreme cases by imprisonment, where the conscientious objector refused such work as releasing others for war work.

A similar difficulty has arisen in connection with the problem of so-called "*passive resistance*." It showed itself in past centuries in the refusal of Quakers to pay church tithes; and after the passing of the Education Act in 1904,—which gave monetary grants to denominational as well as to rate-supported schools,—not a few refused to pay their entire rates, allowing their goods to be distrained for the value of the unpaid part.

Even representative government, which in principle is government by majorities, has its recurrent difficulties. The Home Rule demanded by the rest of Ireland and conceded by a majority of the parliamentary representatives from the United Kingdom, was opposed by Ulster; and some British politicians of Cabinet rank did not hesitate

to encourage Ulster in armed resistance should this become necessary. The Great War put the problem aside for six years; the solution eventually adopted divided Ireland unnaturally into two parts, perhaps a less unsatisfactory compromise than to compel irreconcilables to live and work together. But the case is instructive in its relation to the limitations of democratic government.

The petty methods of social persecution by which women's suffrage was attempted to be forced on Great Britain showed likewise a sinister side of popular pressure. It remains an unsolved problem as to whether the window-breaking and arson of this agitation did not in reality increase the difficulty felt by the general public and their parliamentary representatives in consenting to the extended franchise. It was the capacity of women for endurance and for work of the most varied and highest kind in circumstances of national danger that hastened the adoption of this reform.

Coming next to forms of social compulsion that have succeeded, it is noteworthy that the first efforts were against the *laissez-faire* policy of the eighteenth and earlier part of the nineteenth century, and were made to protect the helpless against cruelty.

Compulsion against Cruelty.—The people in the eighteenth and in the earlier part of the nineteenth century had a general attitude towards suffering which is in marked contrast to our present increasing humane sensitiveness, and our determination to use, where necessary, compulsion to prevent cruelty. The earlier period was one of almost unmitigated industrialism, agricultural and manufacturing, and of rapid migration of population from rural districts, where altruism might act to a limited extent, to towns in which it was fortuitous, and the usual standard was unmerciful. Economic views, crystallized in the phrase *laissez-faire, laissez-aller*, were predominant and almost universal. The earlier semi-paternal control of the economic life of the people had been replaced, under the influence of economic teachers, by inaction based on the view that any interference with freedom of competition in obtaining work or in employing workers is useless or mischievous.

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This rigid doctrine was challenged by men who were imbued with humanitarian motives and most of whom were influenced by evangelical Christianity. The Wesleyan movement, led by John Wesley (1703-91), had enormous influence in bringing about an increasing rebellion against this exclusively economic outlook. John Howard (1726-90), in his historical work of prison reform, was largely influenced by these motives, as were also William Wilberforce (1759-1833) and his associates in their work for the abolition of the slave-trade in the West Indies, crowned with victory in 1807.

The movement for compulsory reduction of the cruelty involved in the duration of the work in factories and mines and in the conditions of this work, particularly as regards children and women, was activated also by evangelistic and humanitarian ideals, although it may be agreed that the rival politics of the land interest and of the manufacturing rich played a part.

Sanitary and Poor Law reform were being actively advocated in the same period, and if I do not further dwell on these and on the agitation for diminution of the cruelty implied in insanitary homes and in the savage conditions of industry, it is not from lack of realization of their witness to the wave of improvement in the national conscience, which was manifesting itself in increasing compulsion in these and in other departments of human life.

The growth of humanitarian ideals spread gradually to every branch of social and industrial life. It captured bit by bit the legislature, it overwhelmed the inertia of those who should have been leaders in reform, it gradually put to blush and exposed to the rack of publicity the exploiters of oppressed labour, the landlords of insanitary dwellings, the local authorities who were neglecting their elementary duties to the poor and for the prevention of epidemics, and the many others whose vested interests were delaying reform; and by the use of legislative machinery it compelled those willing to exploit the weak and helpless to act within prescribed legal limits.

This movement extended even to dumb animals, although

to deal with cruelty to animals by legal enactment involved a new principle of legislation in criminal law. In view of this, the first enactment with this object, which was passed in 1822, and which is commonly known as "Martin's Act," may be regarded as an epochal date in the history of the control of cruelty to animals. Richard Martin (1754-1834), commonly known as "Humanity Martin," was M.P. for an Irish constituency. He was, as shown by his persistent advocacy of legislation against cruelty to animals, a lover of animals; and the fact that he was also a ready duellist illustrates for that, as for every generation, the inconsistent elements of human character. In spite of opposition by such men as Canning and Peel, he succeeded in carrying into law an Act "to prevent the cruel and improper treatment of cattle" (1822, amended in 1835). In 1827, 1835, 1849 and 1854 further Acts were passed, the Act of 1835 prohibiting bear-baiting and cock-fighting throughout the kingdom.

Martin's Act included provisions against the starving of impounded animals, and for the regulation of slaughter-houses. The preamble of this Act stated that "many and great cruelties are practised to the great and needless increase of the suffering of dumb animals and to the demoralization of the public," adding in words which are significant of the motives which would especially appeal to Parliament.—"and whereby the lives and property of H.M.'s subjects are greatly endangered and injured." In 1839 an Act was passed forbidding the use of dogs for draught in London, and in 1854 this enactment was extended to the United Kingdom. This legislation showed clearly that, in the judgment of Parliament, the domestic animals and animals used for food were no longer to be regarded solely as the property of their owners, but that the community, through the law, was entitled compulsorily to prevent injustice and cruelty. Both as to period and general attitude, the parallelism is almost complete between this early legislation for the protection of animals and corresponding legislation for the protection of human beings who are subject to unrighteous exploitation. In the human, as in the animal

problem, there was recognition of the frequent frailties of human nature and of the need for control over the relation between the exceptional governors and governed, employers and employed, whether human or sub-human, who are untrustworthy or unrighteous. It was recognized that, with this object, cruelty to animals must be legally controlled; that in the circumstances of human life in communities there commonly arises an implicit conflict between humanity and the individual; and that legal control must be exercised to secure fair play between employer and employed, between landlord and tenant, between vendor and purchaser, and in numerous other relationships.

History shows that moral opinion and legislation proceed side by side, legislation being needed because a section of the community belong ethically to the cruel years of the first half of the nineteenth century, and the force of law is required for these laggards behind the general ethical standard of the community. It is always thus in the history of social and sanitary reform; the inspector and the police have preceded and accompanied the schoolmaster, and they have had important educational influence, which has supplemented their coercive powers in diminishing cruelty and disease.

In more recent times there have been many detailed interferences with individual liberty, and the occurrence of a *compulsory half-day holiday* during each week for *retail shops* serves as a useful example. The majority who would have been glad to fall in with such a half-day closing scheme for each locality could not do so because of a recalcitrant minority of their competitors who would not abide by any voluntary arrangement. Hence the necessity for the compulsory measure now in operation.

Compulsory elementary education for every child from the age of 5 to 14 is a further illustration of the general conviction of the community, in this instance directed, not against cruelty or over-work, but against ignorance, as being a source of national danger and disability. Once this is agreed, nothing short of compulsion would suffice as a remedy; and it may validly be urged that in enforcing

education of every child, the community is protecting the future liberty of children against obstructive and ignorant parents. Education of the young when properly carried out is the best method by which the will of the individual and of the community can be brought into unison ; and when,—the need for which is being increasingly realized,—education becomes more and more real, an education of character, and a cultivation of the power of self-control, it will necessarily diminish the scope of compulsory enactments. In short, education means the education of the social will, which in its political aspect is liberty.

Among the most obnoxious intrusions of government into personal affairs—for most of us—is that into our *financial affairs*. This intrusion is absolutely necessary in modern life, for complexity of social organization means complexity of government ; and we have travelled far from the period when President Jefferson could say : “ the Government is best which governs least.” Nor can we agree with Goldsmith’s traveller who avowed :

“ How small of all that human hearts endure
That part which Kings or laws can cause or cure ! ”

Even the financial relation between employer and employed has been invaded, for in certain sweated industries minimum wages have been enforced. And in exacting differential taxation according to means the State does not demand the money required for government in equal shares from every adult member of the community, but a contribution which, both locally (rates) and centrally (taxes), is graduated in various ways according to means. In the income tax differential taxation has been imposed on a graduated scale which would have appeared incredible to, and would have been regarded as monstrous by, our fathers. This has been done in ordinary taxation ; and the contributions of employers and of the taxpayers generally through the Government to the various forms of insurance mentioned in the next paragraph is merely an extension of the principle that individual contributions for governmental purposes shall be proportioned not to the benefit which the individual may

expect to receive, but in accordance with individual capacity to contribute.

In *compulsory social insurance* we see a further advance in the control of the organized community over family affairs. The binding character of social obligations has been long accepted. When voluntary contributions for the support of the destitute failed, the principle of compulsion was enacted in the reign of Queen Elizabeth; and it may be contended that, at least in part, compulsory insurance against sickness and unemployment and for old age and dependents is an alternative system to the Poor Law, saving the person concerned from the obloquy more or less implied in becoming dependent on public funds to which one may in the past have contributed little in rates.

There is the additional point that social insurance interprets and provides against destitution in a much wider sense than the Poor Law, which only operates when private resources are exhausted. It is a further step away from the philosophy of non-interference, of which Herbert Spencer was the chief priest, which logically implied letting the destitute perish; and from the favourite principle which in a time of national dearth was characterized by Burke in 1794 as "a wise and salutary neglect" on the part of the Government.

Both democracy in England and the ante-bellum paternal government in Germany alike have enforced for wage-earners contributions to secure provision for sickness and invalidity. England has gone further than this, having adopted compulsory contributions not only to secure allowances and medical treatment in sickness, but also for periods of unemployment, for old-age pensions, and for provision for widows and dependent children. This means a compulsory abstraction from the wages of some 14 million wage-earners, i.e. a compulsory saving, and a compulsory payment by the employer of each wage-earner; while the State contributes a sum which is approximately two-ninths to one-fourth of the cost of the benefits and administration (page 153). In return for these contributions, workers

receive remarkably great benefits towards the maintenance of home and for sustenance in sickness and old age and during unemployment, and widows and dependents receive benefits which will doubtless diminish the burdens on the Poor Law funds, and greatly alleviate poverty and distress. For the workman it is a gain of inestimable value to be relieved, in part at least, of the burden of anxiety and uncertainty, which the possibility of sickness or unemployment implies in any intelligent mind.

It may be urged that as the result of social insurance there may be a serious loss of personal responsibility, which must dwarf individual stimulus to save. The practical answer is that a large proportion of mankind will not prepare for a "rainy day" unless obliged to do so. For them there is only a negligible and contingent moral loss in the compulsion; while those who would attempt to save without compulsion will not be deterred by the aid given them; and the inestimable boon is conferred that the insurance effected with the aid of the State and the employer, raises the status of the worker, and partially removes that haunting fear of the future, which for the intelligent worker has formed an undercurrent of mental distress in life. There can be no question, however, that one of the great needs is the making of vigorous efforts to promote additional thrift outside the official scheme.

The suggested "moral pauperization" resulting from coercion of the individual can be dismissed as non-existent or negligible for the majority who will receive the social insurance. For the minority who object to it, compulsion is comparable to the enforcement of home or school discipline, and when rightly employed is conducive to moral development and not to its atrophy.

Having given illustrations of police measures, of sanitary restrictions, of compulsion in education and in social insurance, all of which have been accepted and are being enforced in England without serious opposition, it is convenient to pause and ask what is the effect of such measures on personal conduct and on a nation's self-respect; furthermore, what are the proper limits of compulsion.

The Principle in Compulsion.—It may be accepted that any form of compulsion is repellent to human nature, and tends to excite a reaction of opposition, but it will be agreed that some restrictions are inevitable in social life. Jacques Rousseau began his *Contrat Social* by stating that "Man is born free, and is everywhere in chains" ("L'homme est né libre et partout il est dans les fers"); the answer to which is embodied in Burke's statement, "Liberty must be limited in order to be enjoyed."

From early days man in communities has needed to guard himself against enemies, within and without, and to protect the unfortunate against the extremity of misery; and in each instance restrictions and burdens have been imposed on the majority to secure protection against or for a minority. The practical question for us is whether a given liberty and given restrictions on liberty are reasonable and in the communal interest.

The institution of democratic government has fundamentally changed the problem of social compulsion. Democratic government implies government by the majority of the governed or by the majority of those who trouble to share in government; and it means that any form of compulsion is similarly ordained by a majority, and for this majority therefore is not compulsory, but an exercise of voluntary decision.

If everyone possessed adequate intelligence and was sufficiently educated, and—an essential addition—was disinterested and altruistic, no compulsion might be needed in social life. But for a large part of the community good principles and moral habits are yet in the gristle and need the support not only of social example but also of the law, if the development of moral rickets is to be avoided. Hence we may take it as axiomatic that for many years to come the necessity of compulsion cannot be avoided in social and moral reform.

We cannot doubt—this may be regarded as a second axiom—that given a serious evil, the compulsory removal of which does not imply worse evils than the evil for which compulsion is proposed, the majority are entitled to enforce

laws to this end against the will of the minority of a community.

There is a third axiom which needs to be remembered, viz., that the essential duty of government is not so much to make laws as to get them obeyed. It is only by this means that respect for the law can be fully maintained. Of course, this is only partially true. Murder and thieving continue in spite of laws for their punishment, but this is no argument for abandoning these laws. It may be a reason either for modification of the punishment or for auxiliary measures, educational, moral or other, which will reduce the number of crimes.

Necessarily, considerations of expediency and practical wisdom may dictate limits to these axioms. Pernickety legislation does little good and causes much irritation. "Be soople, Davie, in things immaterial" was good advice. A policy of "verboden" in small matters may either enslave the will of a people or lead to disregard of the rules. As a further axiom therefore, we may agree that the evil to be legislated against must be serious and persistent, and it should also be an evil which educational measures and the forces of public opinion do not hold out a prospect of ending in a reasonable time.

What majority justifies action against a minority? May 51 people coerce 49? Or must there be a large majority? Probably the persistence of a majority is more important than its magnitude, though doubtless a minority of 20 or 30 per cent. would be more likely to accept the decision of the majority than a minority of 49 per cent. But whatever the majority, there must be a reasonable prospect of the law being respected when it is enacted.

Were I to lay down rules as to the extent to which restrictions of personal conduct may legitimately be carried I should require the fulfilment of the following conditions:

- (1) The restriction called for must carry with it preponderant public opinion, persistently expressed.
- (2) To justify practicable interference with personal habits, the evil must be one of serious national magnitude.

- (3) The restriction must be such that it may reasonably be expected that the opposing minority will steadily decrease or disappear when the law is enacted, and that a considerable class of persistent "passive resisters" will not be created.
- (4) The evil must be one for which the provision of recreative outlets, moral suasion and education cannot be expected to provide a remedy within a time, which is reasonable in view of the magnitude of the mischief accruing while compulsory action is delayed.

Compulsory vaccination against small-pox furnishes an extreme example of State compulsion exercised in many countries against one of the most serious diseases of mankind. It is justified because the unprotected person if infected becomes a serious source of risk to the community, and because it is necessary to protect children against the results of the ignorance or prejudice of their parents. But in England the persistent objection of a minority has necessitated exemption from the obligation to submit their child to gratuitous vaccination, on declaration to a magistrate that the parent conscientiously objects to vaccination. The result of this exemption clause has been that vaccination has been increasingly neglected by a large number of parents who desire merely to be relieved of the inconveniences arising during the ten days after vaccination. There is no remedy against this state of matters except in the education of public opinion; and the case brings out clearly the difference between compulsory hospitalization of an actual small-pox patient, to which there is universal assent, and a minor surgical operation, even though at the cost of the State, to provide against a perhaps remote contingent risk of small-pox. There would be less difficulty in securing the compulsory segregation of contacts with a known case of small-pox until successfully vaccinated or until the period of incubation of small-pox had passed, than there is in enforcing vaccination in all cases.

Compulsion in regard to venereal diseases has been proposed on several points. Of all the passions of humanity the sexual is the most clamant, and yet it has been hemmed in

and circumscribed by social custom and by legislation intended to secure the integrity of the family as the foundation of organized society. Polygamy is illegal, there are laws against unnatural vice, against the keeping of brothels, against procuration and solicitation for vicious purposes ; and in various other ways organized society has shown its determination to safeguard family life. Although promiscuity and prostitution are still very prevalent, there is reason to hope that as education is directed increasingly to the training of character, loyalty to the legal monogamous standard will become more general. And although laws in this connection do not cover the entire needs, and probably never can, few would wish to abandon our present legal requirements.

An indirect form of compulsion in Great Britain has very important bearing on the control of venereal diseases. No person can receive treatment for these diseases except from qualified medical practitioners, and it is forbidden to sell or advertise for sale remedies for these diseases, except under medical prescription. This provision would evidently only be justified if every one had access to qualified treatment, and this is provided for gratuitously for all comers at clinics in all towns.

Some venereal patients cease treatment before they are cured ; and it has been urged in Britain that compulsion should be exercised to compel the ex-patient to resume treatment. In other countries this has been attempted, it is said, with considerable success. The question of adopting such a measure is one of expediency. Compulsion is undesirable, unless there is considerable probability that the number of patients completely treated by its means will be larger than the number of other infectious patients who, owing to this possible coercion, may be prevented from coming for treatment (see also page 103).

Habit-forming Drugs.—The story of efforts to control indulgence in various habit-forming drugs, such as cocaine, heroin and other opium derivatives, forms an instructive chapter in the history of attempted compulsion. Many attempts have been made. Since the Hague Convention

of 1912 the control of the traffic in dangerous drugs has been anxiously discussed in several Congresses. Under the League of Nations it has been proposed to establish a Permanent International Central Board with wide powers of inquisition, and possibly with powers to ration the raw materials and manufactured narcotics among the nations in accordance strictly with their needs and available supplies. Although these proposals have not been passed, the control of the production of manufactured narcotics appears to be possible, drug factories being relatively few. The difficulty in restriction is not so much with opium, as with the concentrated not bulky derivatives of opium and other drugs of addiction. In stopping the transmission of substances which in small quantities fetch large prices, the police experience immense difficulties ; and it is this fact which has led to the proposal to control the supply of cocaine, etc., from factories. The dearer the substance the greater the risk of smuggling in the case of these powerful and easily concealed drugs. Evidently the problem is beset with great practical difficulties. One thing, however, is clear that the representatives of civilized nations desire absolutely to control this traffic, and the practicability of doing so on an international scale alone prevents complete prohibition except for strictly medical purposes.

The last example of social compulsion is the *Control of the Sale of Alcoholic Drinks*.

These drinks for so many centuries, as beer and wine, have formed a part of the daily dietary of millions of persons, that compulsory restriction certainly requires justifying, before it is attempted.

It may be recalled that restriction of the consumption of alcoholic drinks is not the first intrusion of compulsion in the region of dietetics. In 1796 it was made compulsory throughout the British Navy that every sailor should take daily a prescribed amount of lime-juice, and in 1865 this obligation was extended to the Mercantile Marine. This may be regarded as possibly the first instance of compulsory interference with individual dietaries, the object being the prevention and cure of scurvy.

The limitation of alcoholic drinks in many civilized countries and their prohibition in the United States form a sort of inverted example of dietetic intervention, this time in the direction of enforced abstinence instead of enforced consumption. Reference may be made in passing to the fact that for many centuries Mohamaedans, Buddhists and Brahmins, at present probably more than 800 million persons, have been and are under religious prohibition of alcoholic drinks, which is in the main successful.

In order to get our picture into perspective one must also recall the common agreement among all civilized nations in favour of the total prohibition of spirituous drinks for a large part of the native races in Africa. This policy has been endorsed by seven of the Great Powers, including U.S.A., Belgium, the British Empire, France, Italy, Japan, and Portugal. The real difficulty is in regard to enforcement of prohibition, not as to its desirability.

It must also be remembered that the case for alcoholic restriction, which is partial prohibition, has been accepted in Great Britain from the time of James I to the present day. We start therefore from this accepted point in practice, that the ethical standard of the British community is not offended by the severe licensing restrictions which are enforced. These imply the right of the State to interfere with the alcoholic liberty of the subject. This liberty is contravened in Great Britain both as regards the liberty of selling and the liberty of buying. At the present time only one person in 356 is allowed to have a licence to sell alcoholic drinks ; so that, in this alone among all the industries of the nation, 355 out of 356 must not engage in trade. Similarly with buying, this is limited to certain hours of the day. Landlords of large estates have the power to forbid the selling of drink on their estates. In some parts of Scotland local option and in Wales and Scotland Sunday closing of public-houses is enforced, so that the purchase of alcoholic drinks cannot take place in certain places and on certain days and at certain hours.

We may then ask what should be the "acid test" to which restriction of alcoholic drinks should be submitted ?

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Is it not that any restriction or prohibition *must increase the range of liberty in the family and in the community*? I purposely substitute these two nouns of multitude for the individual, because we have agreed already that the welfare and freedom to enjoy the life of the family and of the community is more important than that of the individual. The compulsory prevention of cruelty fulfils this test; so likewise do compulsory elementary education and the prevention of child labour. A higher standard of future life with increased efficiency is obtained in these instances by immediate compulsion. So also in compulsory social insurance, the general justification lies in the reduction of the burden of the improvident by making the improvident share in it. The wider considerations involved in the associated readjustment of incomes need not be dwelt on here.

In the protection of the community against disease, in the prevention of immorality, of accident, of dangers of traffic, and of sophistications of food, the general good is now universally held to be preferable to the "freedom" of action involved in "freedom" to be careless or fraudulent.

The first question then to be settled in regard to alcoholic drinks is whether we are concerned with a serious national evil. That this is the case in England could easily be demonstrated; and so far as concerns the United States before prohibition became part of the American constitution the evidence of the Supreme Court of the United States is authoritative and final:

"The statistics of every State show a greater amount of crime and misery attributable to the use of ardent drinks obtained at these liquor shops than to any other source."

"By the general consensus of opinion of every civilized and Christian community, there are few sources of crime and misery in society equal to the dram shop, where intoxicating liquors in small quantities to be drunk at the time, are sold indiscriminately to all persons applying."

(*Crowley v. Christensen*, 137 U.S. 1889-92.)

Into the question as to whether prohibition was persistently demanded by public opinion in the States I need not

enter; the evidence on this point is unmistakable. Nor can I forecast whether the minority will eventually concur in the will of the majority, though this appears probable.

Speaking from the English standpoint, the necessity for compulsory measures in respect of alcoholic habits is obvious and clamant. There has been restriction in various degrees for several hundred years and it needs to be extended. Much was done during the Great War to increase sobriety by compulsorily reducing the number of hours during which public-houses were open, by reducing the number of public-houses, by increasing the cost of alcoholic drinks, by rationing the amount of drink distributed, and by preventing "treating," with remarkably good results; but these measures have since then been relaxed with bad effects.

As civilization extends and Christian principles become more generally operative, the rôle of compulsion will decrease; the need for "government" will wane, the light which ensures true love of our fellows will be generally diffused, and there will be unlimited liberty for all without licence. Meanwhile limitations are indispensable, but true freedom for us all is immediately attainable.

The question of what is True Freedom has been well stated by James Russell Lowell, and his words, although probably intended to relate specially to slavery, are not irrelevant to our more general review of the subject of compulsion in communal life.

Is True Freedom but to break
Fetters for our own dear sake,
And with leathern hearts forget
That we owe mankind a debt?
No, True Freedom is to share
All the chains our brothers wear,
And with heart and hand to be
Earnest to make others free!

CHAPTER XII
COMPULSORY INSURANCE AGAINST LIFE'S
CONTINGENCIES ¹

THE physician of the future will increasingly treat his patient in the light of his social circumstances, and will regard a satisfactory adjustment of these circumstances as an essential part of the treatment of each of his patients. He will, furthermore, be more and more engaged in keeping his client well and in helping to counteract or remove the enemies of personal health; and medical practice will consist less and less in a hurried, often belated, and mostly imperfect attempt to overtake mischief already at the vitals of his patient.

Similar motives, as knowledge of science including the science of health grows, will influence the general public and determine their course of action in matters of personal and communal health. For these reasons the study of social insurance is indispensable. In its different branches it represents attempts—however incomplete—to “buy” health and to “buy” security against some of the chief dangers of life. The extent to which such insurance can be secured, while not diminishing the intensity of the attack against the causes of life's chief disabilities is indicated in the following pages.

In the early history of mankind provision against the possibility of future destitution or sickness was most rudimentary. Life was cheap, and the old and weak and diseased were allowed to perish. With the growth of civilization and Christianity care for the disabled in the battle of life has become increasingly general; but only within the last century has it become in any degree com-

¹ A lecture given at Johns Hopkins and Columbia Universities, May 1926.

mensurate with the accidents of life. The great poet of the Victorian reign, Alfred Tennyson, although imbued with the humanitarian spirit, could look forward to a protracted struggle necessarily implying colossal suffering for humanity. Thus

“ Man as yet is being made, and ere the crowning Age of ages,
Shall not oeon after oeon pass and touch him into shape ? ”

And he asks furthermore

“ Ah what will our children be . . .
The men of a hundred thousand, a million summers away ? ”

But now we struggle and strain to prevent the evil contingencies of life so far as practicable, and at least to insure against them by combined co-operation of the entire population ; and science has rendered practicable for all both prevention and insurance on a large scale.

The conception that by association and combination of its members protection can be at least partially secured against possible future evils necessarily arises in communal life. By such combinations protection against foreign foes, against internecine warfare, against crime affecting life or property has been given ; though measures to this end, and especially for the protection of the individual have always lagged in their enactment and in their enforcement.

Long before Sir Robert Peel secured the provision of police constables in England, associated voluntary effort had made various attempts to protect society, and attempts at social insurance had been made. Thus Walford quotes the case of a Cambridge Society of the Saxon period, which laid down the rule that if a member who is poor kill anyone and compensation must be made, each member shall contribute half a mark (about 4*s.*) ; if the deceased is a hind, each member shall contribute two ora (about 10*s.* 4*d.*), if a Welshman only one ora !

The first parish registers were kept in England in 1538, and early in the seventeenth century appeared Captain Graunt's *Observations on the London Bills of Mortality*, which laid the foundation of our vital statistics, and prepared the way for life insurance.

We may note next Dr. Price's mortality table based on the experience of deaths in Northampton in the forty-six years 1735-80. In that interval 4,689 deaths occurred, and as the burials slightly exceeded the christenings during this period, Dr. Price assumed a fairly stationary population and calculated death-rates accordingly. He overlooked the fact that there were many Baptists in Northampton who had not been christened and the population being consequently under-estimated, insurance societies which insured person's lives on the basis of this table made handsome profits. In 1808 the British Government began to grant annuities for charges based on the same tables, and this was continued for nineteen years, although at the end of eleven years they were actuarially warned! Before the granting of annuities had ceased, over two millions sterling had been lost as the result of inadequate vital statistics.

During the eighteenth century the craze for crude forms of insurance grew rapidly; they were based on guess and speculation, not on facts of experience giving some guidance for the future. It was the era of the South Sea Bubble, and the public insured themselves and others against death, against thieves, against death by special causes, as for instance Geneva gin, and even against matrimony or divorce.

The offer of insurance in most countries and in most of its forms has been left in the hands of private societies and companies, and their operations in the main have been beneficent and the means of raising the standard of social comfort and of diminishing social risk in all classes. The Friendly Society movement, which preceded the passing of the National (Health) Insurance Act 1911, was especially instrumental in good.

The general intention of all the chief forms of Social Insurance is to provide for the insured person or his dependents, the continued supply of the needs of life on the occurrence of certain disabling conditions. The chief of these contingencies are:

1. The death of the wage-earner, leaving a widow and dependent children.
2. Old age with concomitant disablement.

3. Unemployment with loss of wages.
4. Incapacitating illness.
5. Incapacitating accident.

Death is a contingency which inevitably arises sooner or later, and as 39 per cent. of the total deaths in England occur in the working years of life 15-65, it is easier to defend compulsory insurance against this contingency, than compulsory insurance against sickness or unemployment which probably will but may never be experienced.

The desire for insurance in relation to family life is felt by all intelligent men and women. Nothing is more remarkable than the change of opinion in respect of insurance, which has occurred concurrently with the increasing sense of family and of communal responsibility in other respects.

At the beginning of the nineteenth century life assurance was considered to be odious; and the cupidity of the man who speculated on the duration of life of another was regarded as allied to the crime of one who seeks directly to destroy life. Even self-insurance was regarded as a species of gambling; and as being contrary to dependence on Divine Providence, as was also the recourse to anæsthetics in childbirth. Sir James Simpson who introduced and popularized the use of chloroform for this purpose was considered no better than an atheist.

With the availability of accurate statistics of population and of mortality, the gambling element in life insurance disappeared, for however uncertain may be individual prospects of continued life, in the aggregate and for an average member of a community this duration can be forecasted with approximate accuracy. And though the gradual improvements in vitality at nearly all ages of life make the older actuarial tables favour the insurance society, profits are returned to the insured persons in quinquennial bonuses or by some other device.

The need for the various forms of social insurance is emphasized by the distribution of the national income. In Great Britain out of a population of some 43 millions about 2½ million pay income-tax, the minimum income on which tax is payable being £250. It appears that one-third of

the total national income is received by one-thirtieth part, and one-half of the total national income by one-ninth part of the total population. It will be plain that the majority of the population find it not very easy to meet current expenditure, and can only make provision for a "rainy day" on a basis of mutual insurance. In Great Britain the State has advanced beyond this theoretical standpoint, and has made it obligatory on the employer of persons below a certain income to contribute towards such provision, the State itself contributing a further quota to the same end.

Prior to this the desire of the organized State to favour life insurance and at the same time to diminish the burden on family life had been shown, and continues to be shown, by allowing deductions on income-tax in respect of life-insurance premiums and by a further deduction from the family income assessable for tax of £36 for the first child and £27 for any other child under the age of 16.

A large proportion of the wage-earning class in Great Britain are on the verge of poverty, and many of them live in circumstances in which it is unjustifiable, even after personal luxuries such as smoking or beer-drinking are renounced, to save what is needed to make fairly adequate provision for future contingencies, because such saving deprives children or other members of the family of the minimum needs for satisfactory nutrition and housing.

Evidently two conceivable remedies emerge. Either wages should be adequate to provide against future disability, this provision being made compulsory and on an insurance basis, or others than wage-earners should pay for or contribute towards the needed social insurance. Theoretically it is best for every adult to make his own arrangements for avoiding future charges on public or private charity either by himself or his dependents. For this there must be adequate earnings leaving a margin after providing what is needed for the health and welfare of his family; and the duty to make these arrangements must be obligatory and not left to individual option. Failing this last named condition, it is notorious that only a minority can be per-

suaded week by week to pay the contributions which the provision demands.

At this point a word may be said concerning *family endowment* (family income insurance),¹ a proposal which has made headway in Europe, in view of national poverty in the countries concerned. Evidently remuneration for work may be organized on the basis of equal wages for equal work, whether measured in terms of time or of output; or payment may be made in accordance with the family needs of the worker. In actual life an intermediate plan is pursued, the wage paid being an amount which on its minimum side is a "living wage" for an average family, say of man and wife and three or four children. This means that many workers are paid in excess of their needs, others less than this. That this is so is shown by the English census figures of 1911, used with much force by Miss Rathbone, a chief advocate of family allowances.

Of the total workers aged 20 and over :

- 27.4 per cent. were bachelors or widowers without dependents.
- 24.8 per cent. were married, but had no dependent children.
- 16.0 per cent. had one dependent child.
- 13.0 per cent. had two dependent children.
- 8.9 per cent. had three dependent children.
- 9.9 per cent. had more than three dependent children.

100.0

Thus over half of the workers have no dependent children, and it is argued that these are paid more than in present circumstances can be afforded, while other workers when paid the same sum remain impoverished. Evidently any redistribution of wages is beset with difficulties. The State has done something to restore the balance by allowances on income-tax, by the provision of hospitals and dispensaries for special diseases, by free education, and in

¹ As Mr. J. H. Cohen points out the term "insurance" is preferable, because it implies a definite right to a definite sum.

other ways, including in certain cases free school meals, and cheap milk for mothers. These reliefs do not, however, bulk largely in total family expenditure, and Miss Rathbone states that the failure of the wages system to adjust incomes to size of family is the cause of three-fourths of the cases of undeserved poverty. Even if this be so, it may be urged that this poverty is due to failure of individuals to limit their families. (See Chapter XVIII.)

The scheme to adjust wages in accordance with size of family is not so objectionable as would at first appear. Already experiments in this direction have been initiated in some industries in France and Germany; and if wages are paid to all on a uniform basis and further contributions are required from employers to a central pool from which family allowances are made, the chief difficulty disappears. Miss Rathbone states that in France equalization pools have been organized on a voluntary basis, the cost ranging from $7\frac{1}{2}$ to 1 per cent. of the wage-bill. In the majority of pools the cost is about 2 per cent. To these arrangements the State does not contribute, but the State independently pays 90 francs per annum for every child under 14, and there are State housing subsidies. The objection that the bachelor and the young worker before his marriage are being mulcted for the benefit of the "family man" carries no greater weight than the enforcement of similar payments for old age and for widows and dependents, and especially for maternity benefits.

It is noteworthy that the Report of the Royal Commission on the Coal Industry, 1925, embodies the following important expression of opinion (p. 164):

"Irrespective of the level of wages, we regard the introduction of a system of children's allowances—to be paid for out of a single pool, either for the whole industry or for each district that adopts it—as one of the most valuable measures that can be adopted for adding to the well-being and contentment of the mining population. If the total sum available for workers' remuneration can be kept at the present level, the allocation of a small part of this to children's allowances will raise materially the general level of comfort; if the full remuneration cannot be maintained, the harmful effects of any reasonable reduction can be largely mitigated."

If the profits of industry, fairly redistributed, are inadequate for present social needs, including the new social insurance payments, some such measure as the above, involving a large redistribution of family earnings will be required as a bulwark against poverty; and any such scheme could be adjusted so as to avoid the subsidization of large families born under bad hygienic or uneconomic conditions.

Whatever the method to be adopted for securing particular benefits, social insurance on a large scale has come to stay. The burden has to be borne; and after everything that Public Health and personal hygiene can accomplish has been done, a large amount of misery will continue unless in prosperous days there is steady contribution for days of sickness, unemployment, old age and dependence. "Bear ye one another's burdens and so fulfil the law of Christ" is the guiding principle for minimizing our social dangers and evils.

Of these evils sickness and unemployment loom largest in the anxious mind of the worker. The haunting fear of disabling illness or of being "out of work" at any time on a week's notice, is a condition of affairs the malignity of which others than those concerned find it hard to realize; but that it is felt keenly by a large proportion of manual workers is beyond doubt. It is a demon which can only be exorcised by some system of insurance against the casualties of life. For the present I leave out of account the more slowly operating effect of public health measures and of communal organization tending to minimize the peaks of unemployment.

Unemployment Insurance.—For many years Friendly Societies and Trades Unions representing the aristocracy of workers have had voluntary systems of insurance against unemployment, which have been beneficent but never equal to national needs. As illustrating the advance of public conscience we may glance at methods of help by parochial or national relief funds. Relief works, as the making of roads, afforestation, etc., during periods of unemployment do not provide—and that extravagantly,—for more than a

fraction of the whole. In olden days cruder methods were adopted. Vagrants who persistently wandered seeking work were branded and might be hanged, and so recently as 1776, old English methods were adopted in Maryland, where a thief was branded with a T on his left hand and a rogue or vagabond with an R on his shoulder.

The mobility of vagrants in all countries has always been a potent means of spreading small-pox and typhus fever; and their immobilization is a great public health need. But the vagrant is not the typical "out of work." Although it is true, as John Burns once said, that there are many undeserving candidates for relief, for instance "the gentleman who gets up to look for work at midday and prays he may not get it," the mass of the unemployed are the unwilling and helpless victims of social conditions beyond their control. In the year 1908-9 a maximum of 9 per cent. of the total workers in the trades unions in England and Wales who kept statistics were out of work, and these figures have been often exceeded. But the voluntary insurance provision made did not touch the large ranks of the lower paid and unskilled workers; and it became urgent to do something more. Germany was the experimental ground for health and accident insurance; and England has filled the same rôle for Unemployment Insurance. The Poor Laws failed to deal satisfactorily with the problem, and relief works had a repeated history of failure both in England and in other countries, owing to the inevitable difficulty to distinguish between work-shirkers and work-seekers. And yet human nature is always characteristically unwilling to profit by the experience of the past in the same or in other communities, and so such experiments are repeated whenever unemployment becomes clamant.

As early as 1886, when 10.2 per cent. of Trades Unionists were unemployed, a Government circular, for which Mr. Joseph Chamberlain was responsible, was issued allowing parochial relief to be given outside the poor-house and providing that those receiving such relief should not be disfranchised.

In 1905 Social Distress Committees were appointed, and it became possible to ascertain the incidence of unemployment. Right through these years emigration on a large scale was found to be an impracticable policy. The Royal Commission on the Poor Laws reported exhaustively on the subject in 1908, and in 1912 the British scheme of Compulsory Unemployment Insurance became law for seven large occupations, including some three million workers; and thus Great Britain led the way among the nations in favour of compulsory insurance against unemployment. In 1921, after the Great War the same compulsory measure was made applicable to some 12½ million workers, agriculturists and domestic servants being still left outside the scheme. The rates of contribution and the benefits received are set out on page 151. The administration of this scheme is through the Post Office; and in this respect it differs from the machinery of Health Insurance, which owing to its being administered by the various Friendly Societies and by large industrial companies recently formed, is defective in regard to uniformity of administration, and to varying experience of incidence of sickness and of extent of possible benefits.

Great Britain now has an almost complete system of insurance against unemployment for all manual workers whatever their wages and for non-manual workers, e.g. clerks whose income does not exceed £250 per annum and who therefore are below the income-tax limit. Agriculturists and domestic servants are outside the scope of the scheme, and so also are elementary school teachers and nurses, for whom other pension arrangements are made.

Before stating the contributions required to provide this insurance benefit from the person insured, his employer and the general public as tax-payers, let it be carefully noted that no new burden is created by unemployment insurance, unless it can be said to foster indolence and unwillingness to work. It is a question of changing the incidence of the burden. The fact that employer, employee and the State are co-partners in responsibility for the burden of insurance, makes it to the advantage of all to devise

statesman-like measures for diminishing unemployment, and should be an incentive to integration of the entire community, and to a steady realization of the inter-dependence of every member of the community on every other.

Before considering any possible evil from social insurance, whether it be against unemployment or other casualties of industrial life, it will be convenient to set out here the contributions and benefits and the persons benefiting under each form of social insurance. The main cases alone are enumerated. For exceptional cases reference must be made to the official guides. Teachers and Nurses in some particulars have special schemes of their own.

A. BENEFICIARIES

Form of Insurance.	All Manual Workers.	Agricultural Workers.	Domestic Servants.	Non-Manual Workers below £250.	Nurses.	Teachers.
Health .	in	in	in	in	in	out
Unemployment .	in	out	out	in	out	out
Pensions .	in	in	in	in	in	out

B. CONTRIBUTIONS

Form of Insurance.	Employer.		Employee.		State.
	Male.	Female.	Male.	Female.	
Health	4½d.	4½d.	4½d.	4d.	Pays about two-ninths of the cost of benefits and administration
Unemployment	8d.	7d.	7d.	6d.	
Pensions	4½d.	2½d.	4½d.	2d.	
Total Payments	1s. 5d.	1s. 2d.	1s. 4d.	1s. 0d.	

C. BENEFITS.

HEALTH :

(1) Condition :

- After 2 years' payments (Less after 1 year).
- Medical attendance immediately.
- Maternity benefit after 42 weeks payments.

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- (2) *Amount: Men.* 15s. per week to end of 26 weeks of disablement by sickness.
7s. 6d. per week for duration of incapacity for work.
Women. 12s. per week up to 26 weeks, 7s. 6d. per week afterwards.
Maternity Benefit. £2 for wife of insured man, a further £2 for insured woman.
- (3) *Medical attendance throughout illness.* Money benefit begins on 4th day of incapacity.

UNEMPLOYMENT :

(1) *Conditions :*

- (a) Not applicable to old age pensioner.
(b) One week's benefit for each 6 weeks' contribution paid.
(c) Must be capable of and available for work, but unable to obtain suitable employment.
(d) Must have paid at least 30 contributions during the preceding three years.

(2) *Amount: Men* 18s. *Women* 15s.

Boys 16-18, 7s. 6d. *Girls* do. 6s. a week, after 1st week of proved unemployment.

Additions for family. Wife 5s., each dependent child 2s. a week.

Other dependent relatives may benefit.

Benefit ends according to contributions paid.

Maximum benefit for one year is for 26 weeks.

OLD AGE PENSIONS (under Old Age Pension Act).

10s. a week or less according to yearly means. No pension if income £50 a year.

OLD AGE (CONTRIBUTORY) PENSIONS.

Come into operation Jan. 1928 for persons insured for five years.

Begin at age 65. 10s. for insured man.

10s. for wife of insured man.

10s. for insured woman.

Not payable if insured person is in workhouse or asylum or prison.

WIDOWS PENSIONS AND CHILDREN'S ALLOWANCES.

Widow 10s. per week.

Children under 14 years, 5s. per week 1st child, 3s. other children.

Pension ceases when youngest child is 14, and allowance for each child ceases at age 14. Period of allowance extended to 16 if still attending full-time school.

ORPHANS' PENSIONS.

7s. 6d. per week for each child up to 14, if children of an insured person, or up to 16 if at school.

The different rate of payments for unemployment due to sickness and to lack of available work cannot be justified, and the recent report of the Royal Commission on National Health Insurance (1925, Cd. 2596) recommends the giving of 2s. a week for each dependent.

From the above tables it will be seen that in normal cases, affecting most workmen, 2s. 9d. a week is being paid for contingent benefits by the employer and the employed, apart from the two-ninths of the total cost which approximately is contributed by the tax-payer. If we assume that the average weekly wage of all classes of wage-earners and non-manual workers with an income below £250 does not exceed 50s., the employer's contribution represents a theoretical addition of about 3 per cent. to the weekly wages; the contribution of the tax-payer represents a somewhat similar increase. Doubtless in fact, redistribution of wages occurs in view of the insurance payments by the employer and by the State. In the average case just mentioned, the employee pays 3 per cent. of his weekly wage to secure the three insurances in respect of health, unemployment, and pensions.

Insurance against Accident.—Disability caused by industrial accident is not included in the scope of official insurances. By an Act of 1897 the employer's liability for damage incurred by his workmen was extended in a few named industries. In 1906 this increased liability of the employer was extended to almost all industries, and the employer was made liable irrespective of his responsibility. The liability of the employer has been extended from industrial accidents to industrial diseases, as for instance anthrax. The amount awarded for accident is based on the wages earned and not on the needs of the worker. The amounts awarded are half wages for total incapacity with a maximum of 30s. a week, and graduated payments for partial disability. If a worker is killed the widow may receive £200–300, and if there are children £600, the amount

varying with the number of children. There is no guarantee against bankruptcy of the employer, and the working of this Act, the British Government's first essay in social insurance, is not altogether satisfactory. Much legal and medical disputation is involved in the settlement of claims. The vast majority of employers insure against their liability, and it has been stated by a Departmental Committee which investigated the subject that in recent years employers have had to pay £100 in premiums for every £48 paid out in benefits to the insured workman.

State organization of social insurance is not confined to Great Britain. Schemes for insurance against sickness and invalidity exist in fourteen European countries; and various forms of unemployment insurance and of insurance for contributions according to size of family (unofficial) also exist.

Objections to Social Insurance.—Having outlined the scope of the forms of social insurance officially enforced in Great Britain, the more difficult task of their critical appreciation remains. Any one of these schemes is vulnerable in detail, and there are abuses in administration, some of which are in course of removal, and others will persist until a later period.

So far as medical attendance is concerned, with every extension of medical benefits under the National (Health) Insurance Act, the unfairness of excluding non-insured persons, especially the large sections of the population but little removed from the insurable category has increased. Apart from this special objection, the first objection to such schemes is, of course, their cost; and in Great Britain with its heavy burden of national debt, its heavy payments of international war debts, and its failure to receive from its war allies more than a small proportion of its own lendings or sums for which it was guarantor, the cost of social insurance is very serious. But it is expenditure which the State representing the tax-payers has deliberately incurred after counting the cost. There is no difficulty in justifying the compulsory contributions of employers and employees towards the insurance of the latter for sickness,

unemployment, old age, and widows and dependents. But why should the tax-payer contribute?

(1) It should be clearly understood that the tax-payers are not merely the 5 per cent. of the total population who pay income-tax, because their income exceeds £250 per annum. Every person, however poor, who pays rent, smokes tobacco, or drinks beer or tea, or consumes a number of other articles, contributes towards the governmental funds which assist social insurances. Hence the insured persons' benefits in considerable part are merely redistributions of moneys already paid by them.

(2) On the expenditure side, what would happen if these payments were not made by the tax-payer? Destitute persons, including the sick and the old, widows and orphans would become dependent on Poor Law and other charitable funds, and would thus become dependent at a stage when the misfortune has increased in severity and when it is less likely to yield good results from succour rendered.

(3) For unemployment insurance it can be urged that payment to which the worker has contributed tends to counteract the natural impulse of the worker in fear of unemployment to diminish his output and to resist improvements in machinery. The fear of unemployment probably has been at the back of the opposition of trades unions to payment by results.

(4) From the viewpoint of national contentment, state-subsidized social insurance is desirable. The real line of social cleavage between classes may be said to consist of uncertainty of tenure of work; and as already stated, the risk of loss of work is apt to colour the entire thinking of wage-earners. The best bulwark against anti-social and anarchistic promises of a new world in which these risks will be removed is social insurance with a fair distribution of the fruits of labour. Insurance is essential to this end and even for the provident it need not undermine motives of effort and thrift, while for the improvident it ensures some measure of provision for the future. For all it converts an intolerable individual burden into an easily met collective obligation.

Two objections remain to be urged against social insurance as practised in Great Britain. 1st, Its *compulsory character* is repugnant to powerful instincts in human nature ; and 2nd, It makes no direct effort to reduce the evils insured against, by reducing the hazards.

Coercive Insurance.—Mr. Samuel Gompers, the late President of the American Federation of Labour, is quoted as saying—" I would rather help in the inauguration of a revolution against compulsory insurance than submit to it." But the stalwart individualism of this statement is somewhat academic and accords but little with the many limitations to individual freedom which are inherent to communal life. When the British legislature decided that there should be a half-day weekly closing of each retail shop, the unanimous approval of all shop assistants was forthcoming, and a majority of the shopkeepers may be considered also to have approved or even desired the half-holiday. Apart from the Act of Parliament, however, they were helpless to secure it, as the unwillingness of the minority to close their shops compelled the competitive majority to keep open their shops also. Who should be coerced, the minority or the majority? Similarly in social insurance, the compulsory contributions and the benefits represent the desire of the majority to secure freedom from certain anxieties, and for them a compulsory Act of Parliament does not spell compulsion. It represents compulsion for the unwilling minority, many of whom in the absence of the compulsion would eventually need to be supported by State aid or voluntary charity ; and this compulsion is desirable in the interest of minority and majority alike. No member of a complex community can claim the right to be improvident. The justification of compulsion consists in its protection of the weakest, financially and morally, and in the fundamental fact that it provides a degree of protection which no single worker can ensure for himself by individual action. (See also page 131.)

Defects of Detail.—It is not pretended that the details of social insurance in Great Britain are ideal, and this point may be briefly considered before dealing with improved

health and industrial organization as a possible alternative to insurance.

The terrible amount of post-bellum unemployment meant the exhaustion of the accumulated funds of unemployment insurance, and it became necessary to make weekly grants to multitudes of men and women who had not fulfilled the conditions of unemployment benefit. These "doles" in some instances were abused, and partial employment was sometimes refused, because the amount earned would be little if any more than the "dole." The circumstances have been extremely exceptional; and they do not throw doubt on the principles or main methods of unemployment insurance, but show the need for improved and more strictly enforced rules, which will avoid the possibility of the benefit sometimes being preferred to a wage.

Some of the defects of our national system of Health Insurance I have set out in *American Addresses on Public Health and Insurance* (Johns Hopkins Press) and need not go into detail here. The following extract from a presidential address by me to the Poor Law Medical Officers' Association on the same subject summarizes some of the main points:

"There can be no doubt as to the value of all the existing official forms of social insurance, and of the forthcoming extensions in respect of old age and of widows and children. They all help to decrease the haunting fear, the nightmare which in the past has beset the thoughts of all intelligent wage-earners. This cause of mental stress and anxiety is inevitably inimical to health, and to have even partially removed it is scarcely less beneficent than the actual provision against unemployment, whether due to industrial conditions, to accident, or to sickness, now made for one-third of the population of this country.

"The National (Health) Insurance Act of 1911 was hastily inaugurated on administrative lines which, in some respects, were most unfortunate. The failure to secure the antecedent reform of Poor Law organization, necessitated the creation of a vast independent medical organization, which unlike that of the Poor Law, possesses no hospitals or hospital beds to which insured persons in need of hospital treatment could be admitted. This defect still persists, being reduced in the case of some Insurance Societies by their contributions to voluntary and other hospitals which are willing to receive their patients.

Local Insurance Committees were created, having on them

a majority representing the insured persons within the county or county borough, along with representatives of the local authority and of the local medical profession. But this composition, which was intended to safeguard the position of the Approved Societies, has led in fact to the work of this Committee falling largely into the hands of paid officials, owing to the changes in the constitution of insurance societies produced by the Act. The chief Friendly Societies in this country, prior to the passing of the National (Health) Insurance Act, had organized among their healthy members a system of contributions, in order to get money benefits and medical attendance during sickness, and burial benefits in the event of death ; and in their hands, excepting in respect of the conditions and quality of medical service, admirable work had been done. It was pioneer work in the *collective bearing of risks*, which to the individual would be an intolerable burden. But unfortunately, the Friendly Societies may have members scattered throughout the country and utterly unrelated to the areas of the Local Insurance Committees under the National scheme ; and furthermore there has grown up a vast system of sickness insurance by Industrial Insurance Companies which are undemocratic in character. The statutory benefits of all these Societies are identical, and an objection arises which did not apply when the finance of each society (receipts as well as benefits) was independent. Each Society can admit or reject any person applying for membership, provided that the rejection is not solely on the ground of the age of the applicant. There has resulted a gradual stratification or segregation of insured persons, with a resultant sectional, not national insurance, the strong too often bearing the light burdens of the strong, and the weak the heavy burdens of the weak. When we remember that the State and employers contribute more largely than the insured, does not the argument for spreading out risks to the utmost and for preventing the distribution of surplus insurance funds on any other than a national basis become overwhelmingly strong ?

“ Can this be effected in the absence of local unification of management of Approved Societies in each County and County Borough throughout the country ? If then the local Insurance Committees become Statutory Committees of the Local Authorities on similar lines to Education Committees, it will become administratively practicable to bring into operation the potential preventive utility of sickness experience. Ought we not to work towards this ideal of nationalization of the health insurance services, just as the unemployment and pensions services have been nationalized ? ”

It will be gathered that reforms are needed in the adminis-

trative methods of Health Insurance ; but the principle of provident arrangement for monetary benefits and for medical attendance during sickness is absolutely sound. So also is the provision by insurance for a monetary payment on the birth of a child. There is needed a general pooling of all contributions, so as to enable more general provision to be made for dental treatment, for special expert consultations, for hospital beds as needed, and for home nursing : and as regards maternity benefit, the substitution, in part at least, of medical, midwifery, and domestic assistance for the lying-in period, in lieu of actual cash is a desirable reform.

Other Objections to Social Insurance.—The main objection to all forms of social insurance, and especially to compulsory insurance, is their possible influence in encouraging a spirit of "rest and be thankful." It is so easy to say, we have paid for all the contingencies likely to occur, why bother ? In the old Friendly Societies the *esprit de corps* was marked ; there was little tendency to attempt to get benefits without adequate cause ; but it must be confessed, this spirit is less obvious in a vast national scheme, in which local patriotism and the club spirit has almost disappeared. This is a question of education and morale, and the present sinister tendencies sometimes seen are, I am confident, likely to decrease, as the sense of communal solidarity becomes more fully developed.

Reduction of Hazards (Prevention).—With this increasing realization of social responsibility, judicious educational work must ere long lead the mass of the insured to appreciate that self-interest,—the prospect of increased benefits,—depends on the organization of measures for reducing the hazards and therefore the cost of insurance. Unless this is done, the burden of social insurance will be very serious and may become intolerable.

Thus in regard to unemployment insurance much more could be done to spread out the work of various industries over fat and lean years, and to minimize seasonal lack of occupation. The causes of unemployment and under-employment are being studied in all countries, and it may

be hoped that by readjustments of population, by improved methods of work, and in other ways unemployment may be greatly reduced.

Similar remarks apply to insurance against industrial accidents. The work of factory hygienists is reducing industrial sickness and accidents; and insurance societies are realizing that it is to their interest to spend money on promoting precautionary measures, in the early detection and treatment of industrial sickness, and in the education of workers and employers alike in the elements of prevention, which will make insurance a less onerous burden on industry.

So likewise in regard to sickness insurance, much of this sickness is preventable; and the following extract from the address already named illustrates some of the many possibilities of prevention, which if effected would vastly reduce the strain on insurance funds:

“It has been estimated that something like one-third of the total sickness or something like one-fifth of the total deaths in Friendly Society experience are due to pulmonary tuberculosis and a very high proportion of these cases in their advanced stage are treated in Poor Law infirmaries. By this means much infection is prevented from spreading; but how much better were it that the wider social, industrial, medical and hygienic measures called for in the control of this disease were less half-hearted and partial than they are at present. Similarly with regard to the vast mass of malnutrition in young children due to their insufficient feeding, and especially to the lack of milk; which often shows its effect in adult inefficiency and sickness. Three or four times as much is being spent on beer as on milk which is needed for healthy child life. The demands on insurance funds and on the expenses of official and voluntary child welfare work would be reduced to an almost incredible extent if the people were educated to practise the art of hygienic living and would devote the greater part of the money now spent on beer and spirits to providing better food and to the payment of the higher rentals now necessary for satisfactory housing.”

Some 39 per cent. of total deaths from all causes occur in the working years of life 15-65, and most of these are preventible.

The same line of remark applies to the insurance provision for widows and orphans. The prevention of accident and disease in the bread-winner would vastly reduce the sums now needed for these pensions and allowances.

But when all that public health and social economics can do has been effected, there will remain the need for the various forms of social insurance ; and what is needed above all at the present time is the enlistment of medical practitioners each in the sphere of his own private medical practice, or of his work in official industrial or other appointments, to assist in obtaining hygienic conditions of home life and of work ; to ensure periodical examinations of all insured persons with a view to the early treatment of sickness ; and what is even more important to give the opportunity for systematic advice as to habits or work affecting health. When preventive medicine and insurance are indissolubly married then we may anticipate a striking advance in the general standard of health and in the average duration of life.

Can we afford it ? There is little consolation to a bankrupt in the consideration that heavy insurances have made him so. But Great Britain is paying its way. Each year it balances its accounts, and pays large sums towards reduction of its own international debts, and for the payment of the debts of its allies in the Great War for which it made itself guarantor ; and it will continue in this path. Furthermore, we cannot afford to do without it, perhaps unlike America in present circumstances with its high wages and unique economic position. Although the bills are heavy, the benefits are great, and it will be remembered that a large part of the charges are redistribution of money rather than additional expenditure. Great Britain as a country has ventured greatly ; but humanity called, and reasoned discretion forbid waiting for the slow unfolding of economic forces. It is indispensable to increase to the utmost the number who have possessions, by insurance or otherwise, and to reduce the number of those who are " out against " the possessors. We are confident that the venture will succeed. The action taken is towards the realization that

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communal life is a great "flowing together" and not merely the "getting together" of which we talk so much. Natural inequalities of intellect, of character, of opportunity will inevitably remain notwithstanding every effort; but self-centred and Christian motives alike call upon us to give everybody a "square deal" in life, to remove social and economic impediments to the successful accomplishment of life's work in every calling, and thus advance towards the ideal state to which public health can so largely contribute. But public health can only have complete success when it calls to its aid all the forces of social benevolence, of legislative enactment of mutual insurance, and of Christian principle, which form an essential part of the complete armour of public health.

"It doth not yet appear what we shall be"; but meanwhile to bear one another's burdens while vigorously endeavouring by preventive measures to lighten them, is the ideal conduct for securing ideal conditions.

CHAPTER XIII
THE MEDICAL AND HYGIENIC CONTROL
OVER VENEREAL DISEASES ¹

THE campaign for the control of venereal diseases, and especially of syphilis, has been actively pursued since the Great War, and we can now weigh the position and inquire whether material results have been achieved.

In the Registrar-General's Annual Review of England and Wales for the year 1924, issued in July, 1926, is embodied an interesting section giving a comparison of the death-rates for each year since 1901 from "Syphilis." This shows a dramatic reduction from the year 1918 onwards.

TABLE I. CRUDE ANNUAL DEATH RATES FROM SYPHILITIC INFECTIONS AT ALL AGES TO A MILLION LIVING, 1901-1924

	Syphilis	General paraly- sis of insane	Tabes dor- salis	Aneur- ism	Com- bined rate	Rela- tive figures
1901	53	70	13	30	166	100
1903	55	64	15	31	165	99
1905	53	67	16	32	168	101
1907	48	67	17	33	165	99
1909	48	67	17	33	165	99
1911	51	61	18	32	162	98
1913	57	58	20	32	167	101
1915	53	63	21	31	168	101
1917	60	64	22	28	174	105
1919	52	41	19	24	136	82
1921	47	41	18	26	132	80
1923	36	44	19	26	125	75
1924	33	40	19	26	118	71

Of course this composite rate does not represent the total mortality inflicted by syphilis. If it did, the death-rate of

¹ First appeared in the *Journal of Social Hygiene*, New York, December, 1926.

118 per million of population in 1924 might be viewed with some measure of complacency when contrasted with recorded death-rates in the same year of 1058 for tuberculosis and of 1297 for cancer; though a rate of 118 shows the need for preventive work, for in the same year the death-rate from measles was not more than 124, from scarlet fever, 23, from diphtheria, 64, and from whooping-cough, only 103 per million of population. When the deaths from congenital "debility," from organic diseases of the heart, from angina pectoris, from diseases of the arteries apart from aneurism, from apoplexy, from "softening of the brain" and other chronic conditions which owe their origin to syphilis are added to the deaths included in the English rate, which gives a death-rate in 1924 of 118, there can be little hesitation in concurring in the statement which places syphilis with cancer, tuberculosis, and pneumonia as one of the greatest of killing diseases.

But although the figures comprised in the above table, and in Fig. 1, in which relative death-rates are given for each year 1901-24, do not tell the whole truth, they sample it with considerable accuracy; and for comparative purposes they may be regarded as approximately trustworthy in comparing the experience of each of the years 1901 to 1924 with any other year in this quarter of a century. So far as we know no marked change has occurred during this period in the method of certification of syphilitic disease. If any change has occurred, it would reasonably be expected to have been in the direction of more complete recognition and registration of deaths from syphilis; for after the publication of the Royal Commission's Report on Venereal Diseases in March 1916, there followed rapidly educational work regarding these diseases, the gratuitous provision of salvarsan to all medical practitioners who had experience of intravenous medication, gratuitous laboratory aid in the diagnosis of the disease, and gratuitous treatment at officially supported clinics for all applicants without social or other distinction. It may reasonably be inferred, therefore, that the decline in registered mortality from syphilis somewhat understates the

RELATIVE
FIGURES

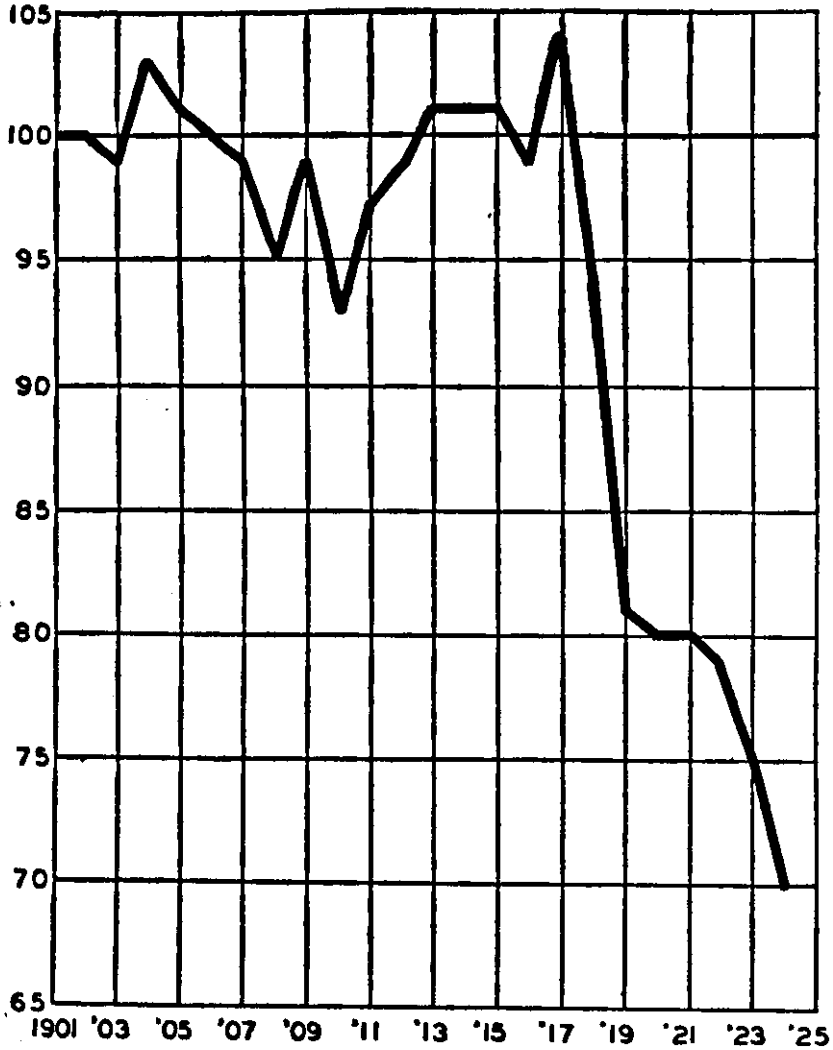


FIG. 1.—COMBINED DEATH-RATES (RELATIVE) 1901-25 FROM SYPHILIS, GENERAL PARALYSIS OF INSANE, TABES DORSALIS, AND ANEURISM.

extent of the change in the trend of mortality shown in Table 1 and Fig. 1.

The Registrar-General's report includes, as of undoubted syphilitic origin and incorporates in the total rate, deaths from tabes dorsalis, general paralysis of the insane, and aneurism, as well as deaths definitely registered as caused by syphilis; and the aggregate items can, I think, be regarded as a satisfactory though only partial index of the mortality from syphilis. A remarkable change in the course of events occurred in 1918, the reduction in the death-rate when 1924 is compared with 1901 amounting to 29 per cent.; and when 1924 is compared with 1917 amounting to 32 per cent. Most of the deaths registered as due to syphilis (and not to the other conditions enumerated in Table 1) occur in infancy; and the accuracy of the total trend shown in Fig. 1 is confirmed by the fact that the infant death-rate from syphilis, i.e. the number of deaths from syphilis in infants under one year old per 1,000 births, is now also less than half that of 1917.

In considering the causes for this extraordinary change in registered mortality, it appears likely that syphilis, returned as such, and occurring as a registered disease chiefly in infancy, would respond fairly quickly to diminution of infection; while reduction of the death-rate from nervous or arterial disease due to syphilis is more likely to be related to diminution of syphilitic infection some five or even ten years earlier.

What events correspond with these general indications? The following historical facts need to be borne in mind. In 1903 Metchnikoff and Roux first inoculated monkeys with syphilis; in 1905 Schaudinn discovered the *treponema pallidum* in primary lesions; in 1906 Neisser, Bruck, and Wassermann introduced the serological test; and in 1910 came Ehrlich's discovery of salvarsan.

On the administrative side, so far as concerns England, the following facts and dates are relevant:

In March 1912 the Local Government Board entrusted one of their medical officers, Dr. R. W. Johnstone, to make an inquiry into venereal diseases, with special reference to

the adequacy and general character of the arrangements for institutional treatment available. Dr. Johnstone's report was published in August, 1913, and it contained a paragraph which is still worthy of quotation, as embodying the essential conclusion subsequently reached by the Royal Commission on Venereal Diseases appointed in November 1913 to make fuller inquiry :

"The essence of the problem is how to get a willing patient at the earliest time to the doctor from whom or to the institution from which advice and treatment can be had. . . . Skilled advice and adequate treatment should be available for all infected persons."

The appointment of a Royal Commission to make fuller inquiry was expedited by a letter in the public press in 1913 signed by distinguished physicians and others.

The Royal Commission continued its sittings during the first and part of the second year of the War, its report being issued in March, 1916. Prompt action was taken by the Government, the Local Government Board's regulations and memorandum for which the present writer was responsible being issued in July, 1916. These made it *obligatory* on County Councils and County Borough Councils to prepare schemes providing for (a) pathological aids for diagnosis ; (b) the institutional treatment of venereal diseases ; and (c) the free supply of arseno-benzol for domiciliary treatment by private medical practitioners.

All these provisions were to be entirely gratuitous for patient and for doctor, three-fourths of the total cost being paid by the Government and one-fourth by the local authorities on whom fell the obligatory duty to make the necessary provisions.

In every populous centre clinics were inaugurated and the complete machinery outlined above came into rapid being. The subsequent course of events administratively is shown in Fig. 2, compiled from data given in the Annual Report of the Chief Medical Officer of the Ministry of Health. In this Figure for convenience of comparison relative figures are given in each curve, the initial number under each heading—that for 1918—being stated as 100.

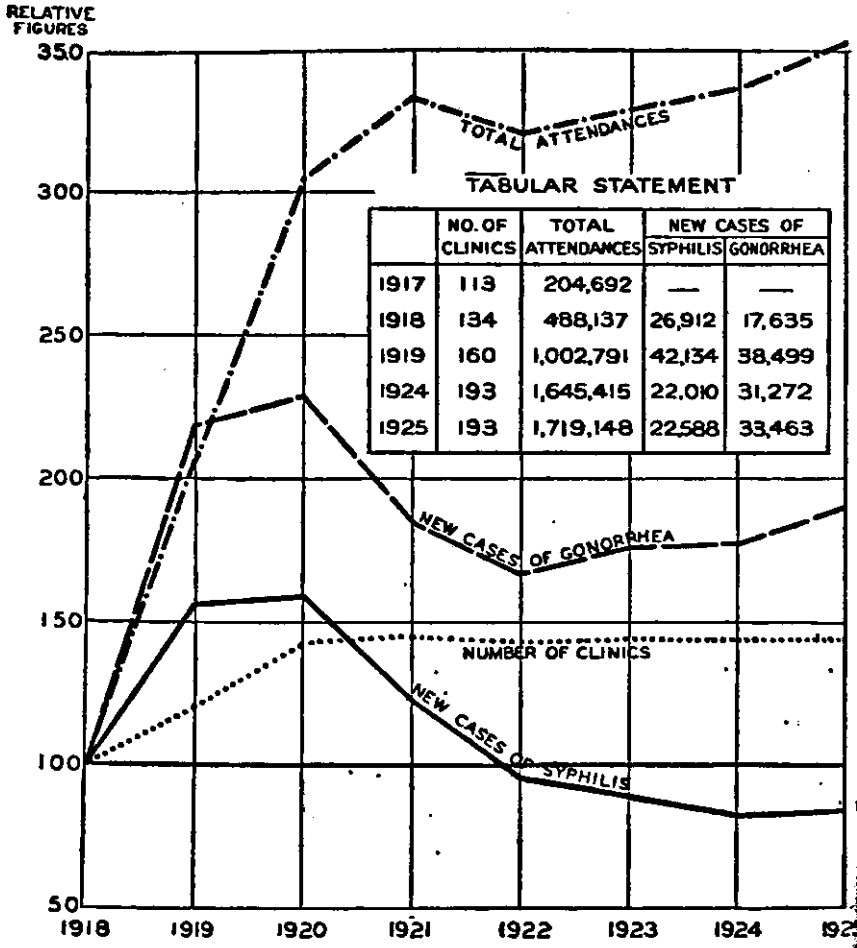


FIG. 2.—ENGLAND AND WALES—VENEREAL DISEASE CLINICS, NEW CASES OF SYPHILIS AND OF GONORRHEA, AND TOTAL ATTENDANCE OF PATIENTS AT V. D. CLINICS, 1918-25 INCLUSIVE (RELATIVE NUMBERS).

The inset tabular statement shows the magnitude of the figures on which these relative figures are based.

It will be seen that the number of clinics increased from 113 in 1917 and 134 in 1918, to 193 in 1925 (a 44 per cent. increase from 1918 to 1925), that the total attendances of patients were nearly quadrupled between 1918 and 1925; that between 1918 and 1920 the number of new patients attending the clinics for syphilis increased 59 per cent., and of gonorrhoeal patients 129 per cent.; and that from 1920 onwards a steady decline in the number of new patients occurred for syphilis and a less marked decline for gonorrhoea. In the year 1925 the curves for these diseases showed a small upward tendency, and it is likely, especially as the seriousness of gonorrhoea becomes better recognized, that this increase will continue for some years. A comparison of the different curves in Fig. 2, and especially the very important increase shown in the proportion between attendances and number of new patients, points to the conclusion that the decrease of patients seen in the intermediate years is not due to diminished popularity of the clinics, but that it represents in the main a real diminution of disease; and this conclusion is rendered almost inevitable when the curve of mortality returns shown in Fig. 1 is compared with the curves in Fig. 2. (Note that the two diagrams are on a different scale.)

We can definitely conclude that after 1917 there set in a remarkable reduction in the mortality from and in the incidence of venereal diseases, and that this was coincident with the initiation of national measures for the diagnosis and treatment of these diseases and associated educational efforts.

But a complete explanation of the national reduction of venereal diseases cannot be assumed to be found in the national civilian measures of diagnosis, treatment, and education organized in 1916-17 to combat these diseases.

Of the total deaths from "syphilis" (118 per million) in 1924, as seen in Table 1, 33 were returned as syphilis, 40 as general paralysis of the insane, 19 as tabes, and 26 as aneurism. Syphilis, returned as such, being chiefly infan-

tile, may be expected to have made an early response to prevention and treatment; but the response in terms of aneurism, of general paralysis, and of tabes is more likely to be seen five or ten years after the appropriate institution of prophylaxis by treatment. We must take a wider view to explain fully the course of the curve in Fig. 1.

Even before the Great War, improved diagnosis and treatment of syphilis had made some headway, though not to an extent or for a length of time competent to influence the national curve of mortality. The reign of silence respecting venereal diseases was broken during the War. A summary of the evidence given at each weekly meeting of the Royal Commission was published in newspapers, and the events of the Great War intensified public interest in measures for preventing venereal infection. In the Army and Navy active instruction on this subject was given; and similarly from the beginning of the War, and especially from 1916 onward, the dangers of venereal diseases became the subject of widespread civilian instruction.

The civilian arrangements for gratuitous treatment of all comers were anticipated for soldiers, sailors, and airmen by the service arrangements for the treatment of venereal diseases. Elaborate and complete arrangements on an unequalled scale were made for the treatment by modern scientific methods of every one of the tens of thousands of fighting men who were infected with syphilis in the years 1914-18. Never was there a period in which such vast numbers of men lived in circumstances equally likely to lead to infection or when those infected received treatment as satisfactory and complete as that of these war years. It is doubtless attributable to this scientific and complete provision that the increase of syphilitic mortality in the civilian population in the year 1917 was slight. [Fig. 1.]

To the same reason, I think, must be attributed no small share of the fact that the total death rate from "syphilis" as set out in Fig. 1 began to decline in 1918 (a decline of about 6 per cent. as compared with 1901) the decline amounting to 19 per cent. when 1919 is compared with 1901. The treatment of the fighting forces for syphilis goes far to

explain the prompt decline in mortality which occurred from 1918 or 1919 onward in the syphilitic diseases of the nervous and circulatory systems.

Do the joint influence of military and civilian treatment of syphilis on a scale of unequalled magnitude fully explain the course of events shown in Figs. 1 and 2?

With this treatment was associated increasing knowledge of cleanliness and disinfection as means of preventing disease in circumstances of exposure; and probably action on these lines has been a factor in diminishing military infection. That it has been of small importance in civilian life is indicated by comparing, for instance, the published experience of Portsmouth and Birmingham, in which a fairly parallel and equal diminution of cases is shown. In one of these towns disinfection as a prophylactic has been publicly advocated and in the other it has not.

Other explanations may enter into the result. It may be that prostitutes, like others, have learnt the importance of cleanliness and disinfection; also that prostitution is decreasing, while more stable irregular unions to some extent take their place. The minor influence of each of these factors may be accepted, though I doubt the accuracy of pronouncements on the last-named point. Notwithstanding much hasty dogmatism to the contrary, I do not regard it as improbable that there has been actual decrease in sexual irregularities, the result to some extent at least, of the wider social and moral teaching as to sex matters of recent years. I am aware that this view is frequently flouted; but if one looks carefully into historical facts, recent and remote, there is much to confirm it.

In Belgium, as shown in a report by Professor A. Bayet of Brussels,¹ there is evidence of a very similar course of events to that seen in Figs. 1 and 2, and apparently under the influence of corresponding work. Dr. Bayet emphasizes the incessant educational work in Belgium, the supply of salvarsan to physicians, and the subsidies for the maintenance of public clinics in which all comers are treated without social distinction. It would appear that in Belgium as in

¹ *La Lutte contre le syphilis en Belgique*, 1926.

England the chief feature of the work accomplished has been *prophylaxis by treatment*. The essential feature of the recommendations of the English Royal Commission consisted in the full recognition of the possibilities of prevention by treatment ; and the chief value of the English civilian work which began in 1917 has consisted in the carrying out of this new principle. Corresponding work was begun in Belgium in 1920, the diminution of new syphilitic patients showing itself in the following year.

Dr. Bayet concludes that by means of arsenical medication, the duration of contagion in syphilis is diminished to the extent of three-fourths or four-fifths, and that, therefore, the number of contagious syphilitics is reduced to a corresponding extent. Whether in actual practice reduction of infection by treatment is reduced to this extent may be open to doubt ; but it is beyond doubt that by treatment the possible sources of infection are being greatly reduced. And this consideration justifies a more hopeful view respecting the control of syphilis than is commonly entertained. An improved moral outlook and a higher standard of conduct are indispensable for the complete conquest over this disease. But while every effort is being strained by character training in childhood, by rational teaching of physiology and hygiene, by satisfactory guidance in adolescence, and in other ways to secure the entire avoidance of anti-social conduct, we can take courage from the course of events shown in Figs. 1 and 2, and we can remember that syphilitic infection is controllable by treatment. Our first and most urgent duty is to cease to place any obstacle, financial or other, in the way of securing the best available treatment for every syphilitic patient.

CHAPTER XIV

SEXUAL HYGIENE IN RELATION TO SOCIAL CONDUCT ¹

IN the last half century the public health, however measured, has enormously improved. The death-rate at each age-period right up to old age has decreased, and average life has been lengthened by some eleven or twelve years. Not only so, but the balance of evidence favours the conclusion that the average standard of health has been raised; for while many lives have been saved which would formerly have been sacrificed, many others—almost certainly a much larger number—have been saved from the malnutrition, defective hygiene and actual disease which cause deterioration of health. Furthermore, the greatest saving has been in young lives, and the years of life saved are being lived chiefly at ages 15 to 65, when economically and socially they have the highest value.

Of communicable diseases in this country, we know that tuberculosis only claims half its former number of victims, that typhus fever has been almost extinguished, and that typhoid fever is but a shadow of its former self.

So far as these and other communicable diseases are concerned, success has been achieved by inhibiting the action of the vectors of infection, as in the spectacular reduction of typhoid fever in this and of yellow fever and malaria in other countries; or by specific immunization, as in small-pox (prospectively also in diphtheria). Increased personal resistance to infection, the result of improved nutrition and general hygiene has also played its part, as for instance in the reduction of tuberculosis, though it baffles all wishful to make an accurate statement to say how far the reduction of this disease is ascribable to this

¹ An Address given at the Imperial Social Hygiene Congress, May 12, 1924.

increased resistance and how far to diminished opportunities for frequent or massive doses of tubercle bacilli. The wise administrator neglects neither item whether he is undertaking preventive or curative measures.

In syphilis and gonorrhœa, the social diseases *par excellence*, no question of increased resistance to infection arises. We are concerned only with preventing infection, though there is evidence that alcoholic indulgence may increase the severity of disease when acquired.

But although for these diseases the avoidance of infection is the one essential problem, for them even more than for tuberculosis we are faced with an intricate network of factors which favour the action of the contagium, and impede the necessary measures of prevention.

In the prevention of venereal diseases, consideration of these factors acquires extreme importance, for reasons which are not far to seek. Syphilis and gonorrhœa are infectious diseases which would rapidly disappear from our midst if one could prevent sexual promiscuity, or if one could ensure, when there is sexual contact between two persons one of whom is diseased, the carrying out by the other of certain precautionary measures, at the time of or immediately after exposure to infection.

In actual experience, such exactitude of disinfection commonly cannot be secured, owing to carelessness or intoxication, or for other reasons which are sufficiently obvious. That persons individually asking for it should be given information as to disinfectants and be able to obtain the materials themselves is generally agreed; and few physicians, I think, would withhold information, however repulsive the task, as to the procedure necessary to minimize the risk of acquiring disease to an adult set upon sexual irregularity. The physician would doubtless feel it incumbent on him to supplement this information by giving warning as to—

- (a) The possible failure of the precautionary measures;
- (b) The resultant danger of illicit sexual intercourse;
- (c) The great risk to future wife and children; and
- (d) The gross injustice done to the associate in promiscuity;

and it will be agreed by most of us that in public addresses on the subject of venereal disease and in any printed circulars of advice, earnest counsel as to the importance of avoiding promiscuity as a social offence of the greatest gravity should accompany any reference that may be made to personal disinfection.

This is one aspect of the case in which medical and ethical considerations are involved; but, as already indicated, treatment of the problem on these lines alone does not meet the social requirements of the family, nor of the larger family formed by the community.

In the evolution of civilization the outstanding feature is the gradual realization of the fundamental importance and sacredness of the family; and quite apart from any religious teaching—though this gives important support to the same conclusion—we are learning the lesson that the guardianship of the germ plasm of the future, the passing on untainted and if possible improved of the inherent qualities of forbears, is an essential and fundamental duty of family life. One of the greatest enemies to this is the occurrence of venereal diseases; but in "the endeavour to lift the standard of our sexual life out of the mire of barbarism" we need to remember that the eradication of these diseases is but an incident in the wider battle that is being waged. This wider battle is that of the sexual morality required to ensure the permanent success of family life; and, although it has many collateral efforts, the main struggle, unceasing and relentless, must be against promiscuity, which even in the absence of venereal disease is the great enemy of family life. In the term promiscuity I include also the less evanescent unions, which do not embody the ideals of family life.

No subject can be adequately understood apart from the study of its historical development; and in the light of Bishop Westcott's dictum that "history is the best cordial for drooping spirits," we can take courage in respect of the control of promiscuity.

Gradually the two great passions of mankind, food hunger and sex hunger, have emerged in the course of the ages

from "the mire of barbarism." Monogamy has replaced polygamy, and although promiscuity is still seriously prevalent, there is evident a more wholesome public opinion in this respect, as shown by the general discredit now attaching to vice regulation, and by the increasing legislative and administrative efforts to suppress commercialized vice.

The former mischievous silence as to the avoidable diseases caused by promiscuity and unwillingness to face the problem disappeared with the publication of the report of the Royal Commission on Venereal Diseases in March, 1916; and this was followed by the organization, with the aid of official funds and as part of public health administration throughout the country, of gratuitous means of diagnosis and treatment of these diseases and educational propaganda in regard to them. This fundamentally valuable line of action is now in operation throughout the country; it is capable of still further extension by the use of existent machinery; and already there is reason for concluding that a material reduction of disease has been secured. (See Chapter XIII.)

But even if all possible medical and hygienic measures, including the searching out of sources of infection, were to be adopted to the maximum extent, and if personal disinfection were to be practised to the extent which can be expected, we cannot reasonably anticipate that by these means alone venereal diseases can be annihilated or even reduced to insignificance. I do not propose to argue this contention, but the great natural urge to sexual indulgence and the conditions of secrecy and shame associated with promiscuity justify me in starting from the assumption that this is true.

When the vast amount of good practicable by extension of our present medical hygienic and educational work has been secured there will remain a large part of the wider question of promiscuity and its prevention. Sexual vice is a serious enemy of family life, whether associated with venereal disease or not; and we cannot succeed in our complete aim until a public opinion is formed which will hold fornication as a sin against the community and as an

insanitary act, at least as serious in its results to the community as drunkenness, cruelty to children, or adultery. The aim of social hygiene, so far as it is concerned with sex hunger, is to bring about this improved social attitude towards fornication.

It is impracticable to review in this chapter the whole of the social activities which can conduce to this end. One of these, the energetic pursuit of medical and hygienic measures, has already been considered. It is useful to think of the three chief branches of anti-venereal work in relation to each other. They are :

- (a) Medical and hygienic measures ;
- (b) Legal enactments and the police action following on them ;
- (c) Character building.

So far our chief progress in officially organized effort has been under the first of these headings, valuable and far-reaching work having been accomplished. This work will need to be continued and indeed vastly extended until venereal diseases have ceased to be an important cause of disease and death. It is inevitable, however, as Dr. W. H. Snow has pointed out, that as the scope of success of (b) and (c) is extended, the sphere of operations of (a) will shrink, that furthermore as the possibilities under (c) are increasingly realized, (b) becomes unnecessary ; and it is for this happy result that we struggle.

A careful review of legal powers shows serious hiatus in our possible action ; and notwithstanding the proper jealousy of those who object to restrictive measures likely to operate chiefly against women, while leaving their male associates untouched, it is certain that much more could be done than is now being done to restrain commercialized prostitution. Even success in the complete fulfilment of present law cannot be achieved unless the police in their efforts to suppress vice receive the constant support of the public. Is there not need for the formation of Law Enforcement Leagues in each great centre of population to give the necessary assistance in this direction ? It is practicable, given adequate effort, to eliminate the organized commercial

forms of prostitution, leaving only the problem of the clandestine dealings of men and women who seek each other directly; and this would mean a long step forwards in reform, which only waits the co-operation of the general public for its accomplishment.

Direct clandestine prostitution and still more non-commercial fornication obviously cannot thus be eliminated; and we must resort to more general social measures, consisting of a number of converging factors, none of which can advisedly be neglected.

Of these one thinks first of the motive of fear of disease; and although this is a lower motive than the love of good for its own sake, it can claim some partial success. But apart from other motives operating at the same time, the fear of disease has not proved effective when passion is aroused.

The influence of rightly directed public opinion is almost immeasurably great. Cannot this be brought more effectively to bear? In the past vast social reforms have been secured by its aid. The abolition of slavery, the steady reduction in alcoholic indulgence, the change in public opinion and legislative enforcements as regards cruelty to children, cruelty to animals, compulsory school attendance, the wages in sweated industries, etc., are illustrations of what can be effected by public opinion.

This influence can be brought to bear in various directions. Thus it can be made to encourage early marriages and to favour them by careful graduated taxation; and by liberalization of the unnecessary hardships of our present marriage laws the risk of promiscuity can be further diminished.

Even more important will be rebellion against the tacitly accepted unequal standard of sex morality for men and women. This is essential if, in addition to an attack on prostitution, we are to face the much more important task of stopping the masculine demand which maintains the supply of prostitutes.

There is needed a determined attitude to the sexually immoral man as an enemy of society, who cannot be tolerated; and until this is secured—and public obloquy would

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activities ; also sympathetic guidance which will convert the self-centred toddler into a socially tolerable character. It is at this time of life that trails are being blazed and the initial direction is being given to the motive forces of adult character ; and as the child learns to practise self-control in childish life he is making straight his adult path of chastity and sobriety. It is by the power acquired through persistent practice in minor matters that temptation can be resisted when it comes as a whirlwind.

To develop this aspect of social hygiene requires the wisdom of the educational psychologist and of the ideally successful parent.

We have to remember, especially as puberty approaches, the special needs of each individual child, which vary with its health, vigour, and its innate characteristics. Much depends on the establishment between parent or some other adult and the child and boy of a judiciously frank relation, completely non-repressive in character. It is of immense advantage to a boy to have someone to whom he can turn as an equal, who has knowledge and experience in human values ; and a chief aim of the parent and the teacher should be to establish the comradeship which is produced by lifting the boy as soon as possible to one's level, at which level helpful discussion of difficulties becomes practicable.

The giving of information in any form which encourages introspection and morbid brooding is bad. Under the influence of parental example, of healthy physical habits formed in early life, of outdoor games, of interest in athletic achievements, and of a chivalrous outlook, one can look forward with confidence to a normal adolescence, a continent and chaste bachelorhood, and to the abolition of fornication, which is one of the chief enemies of civilization.

CHAPTER XV

THE COMMUNITY AND SEXUAL MORALITY ¹

ALTHOUGH usually in the case of women, and always in children, venereal disease has been innocently acquired, it is nevertheless true that the *sole source* of infection by syphilis and gonorrhœa is through extra-marital sexual relations; for each innocent infection has meant a prior indulgence in sexual irregularity, and if sexual irregularity could be eliminated, venereal diseases, one of the four greatest causes of premature human mortality, would disappear in one or at the latest in two generations. This being so, the medical measures indicated on page 164 cannot be expected to do more than reduce the evil, and there is evident need in addition for such teaching and practice as will conduce to a more general maintenance of the integrity of family life, in which venereal disease is unknown unless introduced from without, as the result of incontinence prior to married life.

The prevention of venereal disease, although an immediate, is not, indeed, the chief aim. Inasmuch as any relation between the sexes which implies the risk of venereal disease is either directly the result, or in an earlier relationship has been the result, of an infringement of chastity or marital fidelity, it is this breach of morality, this tampering with the ideals of love, that is the chief evil, needing to be attacked in the larger interests of public morality.

The community problem of Social Hygiene as applied to venereal disease thus is a problem of Conduct; and conduct being dependent on character, Social Hygiene is

¹ Portions of this chapter have already appeared in an article on "The Moral Aspects of Social Hygiene" in the *Hubbert Journal* for January, 1924, and in a lecture at King's College, London, for the British Social Hygiene Council published in *Foundations of Social Hygiene*, 1926.

concerned with the possibilities of influencing character by means of the sum of environmental influences, whether public opinion, or education, or religion, or any other influence, and of thus elevating personal ideals of conduct and making sexual morality more general than it is at present.

How can this be done? Even assuming, as we do, the axiom that monogamy forms the path of safety for family life and constitutes the highest ideal of conduct, can we expect life-long continence on the part of all those men and women for whom in present social circumstances marriage may be unattainable?

The Historical Viewpoint.—Much light is thrown on the possibilities of influencing character and conduct in relation to health by the history of man biologically and anthropologically, as well as by the insight into the motives and formation of character afforded by the teaching of modern psychology; and we cannot afford to neglect this study of man in relation to the rest of the animal creation, to the circumstances of primeval man, and to the historical changes in the relation of men and women, as bearing on the sexual morality of to-day.

Recollection of the facts of evolution should make our judgments of moral conduct more merciful; for not only in Darwin's words "man still bears in his bodily frame the indelible stamp of his lowly origin"; but in mental outlook and moral conduct the same stamp is visible. The pre-natal changes in the human foetus, which are anatomically verifiable, may indeed be regarded as symbolical of the different stages of passage from the brute to the twentieth-century man or woman of the highest moral type.

The Evolution of Character.—The evolution of man's moral powers in history reminds us, like his physical evolution, of his humble origin; and one cannot wonder therefore that morality, looked at psychologically, has been described as having its roots in the soil, if not in the dung-hill. It is the co-existence of these higher and lower partners in human life that constitutes the tragedy and the glory of man. The tragedy is rooted in his ancestry, which makes

him always in some measure a creature divided against himself. Animals find themselves entirely equal in their lives to the demands upon them, while man's part in the process of time has become more exacting and seldom free from inward conflict, owing to the higher part which organized society calls upon him to play. Among the illustrations of such evolutions may be mentioned the substitution of organized justice for personal or familial vengeance, and the primitive institution of marriage and its later developments.¹ Community life has necessitated the exercise of sympathy, and on sympathy moral progress is based; and this foundation stone has been laid largely in connection with the love of wife and child. Community life, furthermore, has necessitated the regulation of the conduct of those who were unwilling to conform to the current social standard; and thus customs were established and punishment inflicted for their infringement.

The social instinct of human nature is bi-partite, and both historically and in our own time it may either be limited to the passive forbearance or action which is consistent with the welfare of others in the same group, or it may evolve into active beneficence. From this dual source, moral conduct has become gradually less patchy in character, and the dead-weight of individualistic self-regard has been diminished. The history of social welfare is the story of increasing progress towards altruism; and this progress has never been so great as in the last 100 years, in which active desire for the welfare of those not in our immediate group has supplemented to an unprecedented extent the influences working for family and parochial well-being. Love of our neighbours is becoming the wider love of mankind. To assert this is not to deny that we have in our midst people and groups of people who form residual pools of barbarism. But these pools are fewer and smaller than erstwhile. As Marvin² has put it, through historic periods there has been developing a growing sense of human

¹ See the admirable study of this and allied subjects in *The Approach to Social Medicine*, by Francis Lee Dunham, M.D. (Williams & Wilkins Co.) 1925.

² See *The Living Past*, by F. S. Marvin.

fellowship, a respect for others, and a care for immaterial things.

The Evolution of Social Responsibility.—Many illustrations of growth in moral sentiment might be adduced. Until the nineteenth century slavery was a normal part of life for a large part of humanity; and when agitating against negro slavery the British public still were strangely indifferent to the savagery of their penal code and to the cruelty to children associated with the rapid growth of factory work.

In recent decades there has been a marvellous growth of practical altruism. (See pages 120 and 131.)

The present position of the child is the most striking witness to the progress already attained in social morality. Abortion and infanticide have become exceptional, and the child is the subject of greater care and solicitude than ever in the past; and for the first time in history, in recent years the Government of this country, and to some extent of other countries, has organized official measures in aid of family life, and in other ways has shown its realization that in the child lies the hope of the future. It is on behalf of the child, moreover, that the most persuasive and influential appeal can be made in the interest of sexual morality.

Marital, parental and filial love have built up the family as the social unit of the community, and the organized community, on its side, as indicated above, has reciprocated by the compulsory control of those parents whose social instincts are lacking or aberrant, and by giving in official organized centres counsel and help to the wife and to the expectant mother. We are realizing the fact that it is the beginning of hygienic wisdom to guarantee to the expectant mother adequate nutrition, general conditions of health, and freedom from infections, if the physical and social health of the future is to be improved.

History then leaves us with the satisfactory reflection that in many branches of community life vast increase has occurred in the sense of social responsibility and in practical action resulting from this. In matters of justice, of the prevention of cruelty and of the consequences of destitution,

as well as in the treatment and the prevention of disease, this is conspicuously the case.

The Growth of Sexual Morality.—As regards sexual morality also there is indubitable evidence of improvement. No one can rise from the perusal of some chapters in Gibbon's *Decline and Fall*, or in Lecky's *History of European Morals*, or still less from dipping into the eight volumes of Pierre Dufour's *Histoire de la Prostitution chez tous les peuples du Monde depuis l'antiquité*, etc., without appreciating the increase not only of decency and propriety, but also the improvement in private and public opinion and conduct. Only a few illustrative facts can be mentioned here.

There is, as Westermarck remarks (*History of Human Marriage*, p. 133), "not a shred of genuine evidence for the notion that promiscuity ever formed a general stage in the social history of mankind." Among the Jews polygamy was permitted with rigid regard for women's fidelity. The Greeks were monogamous, thus proclaiming the theoretical superiority of their civilization over that of the Asiatics; but in both the Greek and Roman civilizations outside marriage there was widespread bisexual and monosexual vice. There was keen desire to maintain the sanctity of marriage and keep the domestic circle "unassailed and unpolluted." Every man desired to be certain of the paternity of the children in his family and was prepared for stringent action against "the incursions of irregular passions within the domestic circle" (W. E. H. Lecky: *History of European Morals*, p. 119, ed. 1911). The extent of monosexual vice may be guessed from chap. i, v. 24, of St. Paul's Epistle to the Romans, and history is largely concerned with its unsavoury details. The post-apostolic teaching was an excessive rebound against Greek and Roman corruption.

The efforts of ascetics in the early centuries of the Christian era, while "imprinting on the minds of men a profound and enduring conviction of the importance of chastity," were noxious in relation to marriage, and did little to raise the mass of mankind from sexual vices. Even in the Middle

Ages this mistaken teaching still prevailed, as evidenced by the custom of refraining from the marriage bed on the night of the wedding day when the sacrament had been received. The priestly belittlement of women was further illustrated (Lecky, p. 142) in the sixth century in one province by forbidding women to receive the sacrament with their naked hands. Prostitution was commonly regarded as a necessary evil, and as late as the twelfth century an Anglican Bishop was responsible for licensing a row of brothels near London Bridge.

Lecky (p. 119) sums up the situation not unfairly as follows :

“The obligation of extra-marital purity has never been approximately regarded ; and in all nations, ages, and religions a vast mass of irregular indulgence has appeared, which has probably contributed more than any other single cause to the misery and degradation of man.”

Right through the centuries there is a marked “contrast between the levity with which the frailty of man has been regarded and the extreme severity with which women who have been guilty of the same offence have been generally treated” ; and the problem of social hygiene, from one angle, is to ascertain how an act which even now is regarded as venial in a man and infamous in a woman can by force of public opinion be made equally infamous in the two sexes. There is, it may be remarked parenthetically, no adequate justification for a differing moral judgment based on differences between the sexes in natural passion. These differences are probably smaller than is supposed. The effective differences between the sexes have been those of environment and especially of public opinion ; and these influences can be made as effective for men as for women.

In aiming at a high and equal standard of conduct for the sexes, past history indicates the practicability of progressive improvement. Humanity, notwithstanding some sinister features in the present day, is on the up-grade, and we may well agree with Westermarck's conclusion (p. 550) that

“the history of human marriage is the history of a relation in which women have been gradually triumphing over the passions, the prejudices, and the selfish interests of men.”

But, although we can conclude that sexual morality has improved as compared with ancient or mediæval times, or even with recent centuries in this country, it still remains true that the two great venereal diseases, syphilis and gonorrhœa, are among the greatest causes of sickness and death in our midst, and—what is even more serious—that in many social circles the integrity of the family is disturbed and its high ideals injured by widespread sexual irregularity.

This improvement is not inconsistent with the fact that in circumstances of great national excitement, especially in war, we are made to realize how easily the moral armour of the average youth and maiden may be pierced under the influence of the erotic excitement associated with these upheavals. Here history repeats itself. The desperation and despair of the Black Death of 1348–50, which destroyed nearly a quarter of the population of this country, were associated with a common abandonment of all restraint and a reckless indulgence in wild debaucheries. So also in the plague and famine years of 1491–5, in the words of a mediæval historian, “the corruption of morals reached a height without a parallel in ancient times.” The murders of the French Revolution, 1793, and recent Bolshevik crimes, and in vice the sexual laxity during the Great War, show the mastery which the primitive animal can resume over the inherited human culture of the ages.

Two further factors may be mentioned as having possibly retarded improvement. Probably fear of punishment hereafter has never been an effective motive in the avoidance of vice; and decrease in venereal disease and probably also improvement in sexual morality have historically coincided with the decline of this particular spiritual fear.

A more immediate fear has been that of acquiring disease or of the occurrence of pregnancy, and the use of contraceptives and of prophylactic disinfectants or devices has reduced these risks, although the protection against disease in practice is precarious in the circumstances of pro-

miscuity. To what extent reduction of venereal infection is due to these practices and to what extent to educational measures and to prompt and efficient diagnosis and treatment cannot be stated; but in civilian life measures for preventing infection in irregular sex relations certainly have had a very minor influence on the result.

Our Present Problems.—Furthermore, as already indicated, even were there no venereal diseases, irregular sex relations are the chief enemy of normal family life, on which Christian civilization is based. And our problem, therefore, is how can such irregular sex relations be minimized?

That this is the problem is emphasized by evidence which points to the conclusion that prostitution as a separate occupation is declining, but that there has occurred some increase of less casual temporary unions outside matrimony. In so far as these unions result from mutual affection they may be regarded as on a somewhat higher moral level than the paid relationship of prostitution. It is argued that if pregnancy happens the relationship can sometimes be made permanent by matrimony, and injury to the offspring thus partially avoided; and teachers of morality are expected to be ready either to endorse this view or to repudiate it with reasoned argument. What can be urged from the individual and from the communal standpoint?

Illicit Relations and the Social Order.—If the teaching of history is to have weight, it must be accepted that promiscuity in the sense of casual sexual congress is the chief enemy of the social order, besides being the main source of the great scourges of humanity, syphilis and gonorrhœa.

This is so, among other reasons, because the relationship is merely material, the purchase and sale of a human body. The arguments against promiscuity apply to a modified extent to irregular unions which are non-mercenary, but in the breaking of which cruelty to one partner is commonly involved, and a trend towards promiscuity initiated. The personal and social reasons for pre-marital chastity and post-marital continence and faithfulness have been well given by Miss Neilans, of the Association for Moral and Social

Hygiene, whose statement is utilized in the following summary.

Among the personal reasons the first is that *illicit relations are a sin against love*. Sex needs to be placed before adolescents and adults, not as animal and even disgusting, but as the physical basis of ideal love, the theme of the chief romance of life, and the power which links us with God as conscious creators.

Then *illicit relations are a sin against our own self-respect*. The furtive shifts and the secrecy of such relations introduce an element of dishonesty into life. There is anxiety and disharmony in the entire relationship which react unfavourably on mind and on character.

Illicit relations are contrary to our intuitive sense of right. Apart from State or religious authority or convention, most persons intuitively realize that sex is a serious matter and that regret and remorse follow when we fall below our subconscious ideals.

The *effect of incontinence on the partner in the relation* is degrading. Individual remorse is or should be the fate of one who is responsible for the demoralization of another. A supremely great need is the increasing cultivation of public opinion and conscience, which will destroy the differing view of male and female incontinence. A woman's honour is regarded as her greatest possession, but there is still widespread failure to realize that he is a dastard who deprives her of this possession or who encourages her continuance in an irregular life.

The *effect on present or future wife*, apart from the possible conveyance of disease, is deplorable. It is the last insult to a wife in the words of St. Paul to "make her members the member of a harlot"; and the durability and success of happy married life are endangered when one of the partners fails to bring to it the attribute of chastity.

On the community a serious injury is inflicted by irregular unions, even when mutual love is involved; for one such union is commonly replaced by another, and this is a frequent beginning of promiscuity, and for the woman of prostitution.

Every adult, furthermore, has a serious responsibility to maintain a high standard of sexual conduct, not only for the security of the present generation, but also on behalf of racial quality. Mankind may learn something as to the importance of unsullied race continuity even from the fishes which undertake a perilous migration to their spawning place, leaping weirs and traversing shallow brooks, that their progeny may start life in the most favourable circumstances.

The Double Moral Standard.—A chief obstacle to reform, and a chief reason why improvement through the ages has been so slow, is, as has been already indicated, the double social standard, which regards sexual irregularity as a venial offence in one sex and a serious offence in the other sex. With the spread of knowledge of contraceptives and the possibly increasing replacement of the professional prostitute by the unpaid woman, it is clear that without male chastity female in chastity must become more frequent; that if men do not raise their standard of conduct, it will necessarily be lowered for an increasing number of women. There is an evident need of spiritual motives for sexual self-control. For, as stated by Miss Neilans—

“the penalty of giving rein to irresponsible sexual impulse is not necessarily venereal disease; the penalty is that the man or woman who does so is thwarting and starving his best self, and in consequence is torn with conflicting desires: the social and spiritual nature pulling in one direction and the animal and self-seeking nature in the other.”

Robert Burns well expressed this when he wrote of roving sensual passion:—

“But och! it hardens a’ within
And petrifies the feeling.”

Is the necessarily high standard of conduct which this ideal calls for practicable for the majority of people? A partial answer is suggested in the slow forces which have instituted family life and the altruism implied in it; further hope is inspired by the widening distribution of the desire to secure the welfare of strangers as well as of neighbours.

and of one's own family, and especially by the passion for the welfare of the child; and this hope is confirmed, notwithstanding some sinister features, by the historical evidence of increasing regard for sexual morality as the centuries proceed.

But the progress towards the moral ideal has been terribly slow, and the diseases resulting from contravention of this ideal have never been even partially controlled prior to the active medical measures which were organized in Great Britain on a national scale in the year 1916. Our final questions then are how can this partial medical control be made more effective and how can the partial control, which is all that medicine can supply, be rendered less and less necessary by measures which will diminish sexual irregularities?

Medical Measures.—We need not despise medical measures. They are our first line of attack, and are doing great good. (See page 169.) (As to medical measures and law enforcement, see also page 102.)

Economics of Marriage.—The encouragement of early marriages opens up a wide field for discussion as to the possibility of a less luxurious standard of life, as to taxation in relation to marriage and the size of the family, and as to the encouragement of the study of cookery and domestic management as important accomplishments for the success of married life.

The difficulty of securing house accommodation is a further intricate problem which will only be solved when, in addition to change in the industrial factors of profiteering and inefficiency of work, we are determined to spend a larger proportion of our total income on rents, diverting expenditure from alcoholic drinks and other superfluous expenses.

But when every aid to conduct which is socially ethical has been provided, the essential problem is how can we cultivate the character of each child and adolescent so as to render sexual offences against the community exceptional? The best of heathendom and Christianity always have voiced the universal experience of the grave danger to the spiritual

self of uncontrolled sex-impulse, and the need for assistance from religious as well as other motives in the strengthening and developing of what is best in man. Every approach needs to be utilized, biological, psychological, ethical and religious.

Biology reminds us of our origin, and should make us merciful in our judgment of the many who lag behind in moral progress.

Physiology gives a further reason for mercy in judgment, in our increasing knowledge of the chemical correlations of the endocrine glands, the individual precocity, retardation and acuity of passion varying in accordance with their activity, though in most people within a relatively small range. We know too much to justify our regarding ourselves as ever being the merely helpless victims of these glands; but these physiological differences confirm the need for charitable judgment.

Power of Public Opinion.—A study of society shows that social groupings necessarily impose rigid limitations on animal impulses, and these are especially enforced by the community in respect of the physiological acts leading to reproduction. By such restrictions conduct is made to conform with the prevailing standard of the community; and apart from any higher sanction, it is the praise or blame of associates which gives the standard of "right" for the individual code. Hence it follows that our chief line of social safety in sex matters consists in the cultivation by every legitimate method of right public opinion. In moral matters public opinion is more important than the legislative or executive restrictions which may make this opinion obligatory. But objection to compulsion in moral restraint *per se* is inconsistent with the teaching of history and with the experience of our own times: though, when it comes to questions like restrictions on indecent pictures, on pornographic novels, on plays in which—alas! too often—the ideal is not that of married love, and on unhealthy cinematographs, one must remember that people get what they desire; and unless those who desire clean wholesome literature and plays become persistently vocal and show

that indecency in motive or in plot does not pay, these obstacles to clean life will continue to be rampant. We may well remember that although the gutter and the sewer play a part in real life, we are not bound to wallow in them.

But the moral and spiritual attitude constitutes the hope for the future; and this is only possible if it is cultivated.

Dynamics of Character.—We are thus led to consider the dynamics of character. How is it formed? This is the real problem to which the previous paragraphs are preliminary, and for its solution we look to the balanced psychologist and educator. We require, in Bain's words, a man who is "capable in a crisis of mobilizing his whole strength without conflict of motive or failure of control"; and we need, perhaps more urgently than any other need in modern life, knowledge and appreciation of the possibilities of character-training in the light of knowledge of child psychology.

The infant is entirely governed by instinct; but those inhibitions to instinctive action out of which character grows can be, and commonly are, developed earlier in life than is generally recognized. The excretory functions form a familiar example: in early infancy they can be brought within limits of time and space. An example of development of inhibitory power in even earlier infancy consists in the training of the infant to wait for three- or four-hourly meals. If crying is followed indiscriminately by the offer of the mother's breast, frequent crying is ensured; but if crying fails to secure a too hurried meal, the infant quickly learns to wait the normal time. Thus in earliest infancy the judicious mother is giving to her child the first lessons of postponement of pleasure, i.e., of self-control, on which character is based.

In the next two or three years of life self-centred attempts to monopolize every toy, or action in some other direction which, in the adult, would be described as selfish and anti-social, can similarly be controlled by the parent in a manner which serves to build up a socially tolerable character. It

is at this time of life that trails are being blazed, and the initial direction is being given to the motive forces of adult character; and as the child learns to practise self-control in childhood he is making straight his adult path of chastity and sobriety. It is by the power acquired through persistent practice in minor matters that temptation can be resisted when it comes as a whirlwind.

In thus forming the character of the young child, it is the daily influence of the parent, and especially of the mother, which counts most. Not direct teaching, but indirect teaching, especially by example, ensures success, trial and effort, failure and success, all being made to conduce to the same end.

Altruistic action, which makes communal life tolerable, is made possible by suppression of the baser auto-centric instincts and their replacement by emotions which are hetero-centric; the ability to do this depends on the total past of the individual from birth onwards, the environment of the infant and child having a surpassing importance in relation to character.

Much of the success in child-training consists in surrounding children with stimuli—physical, biological, moral—which will serve to build up reactions able to carry the child safely into adult life; and the most important stimuli to this end are supplied by the conduct, more than by the direct teaching of mother and nurse, of father and older brothers and sisters, and of school teachers and associates.

Play is among the most valuable means to moral discipline, and physical education is a mental discipline. It is in the family group and in the play group in childhood that the springs of right action are developed. Play has been well described as the nursery of virtue. The child is imitative and absorptive of the thoughts, feelings, and actions of others. Imitation leads to functioning, and functions being repeated, habits and ideals, good or bad, are formed. Thus the moral character of our children is continuously being formed, and as the result of their impressionableness, sympathy, and imitativeness the traditions and culture of the community are being perpetuated.

With puberty, and often earlier, the individual becomes the battle-ground of an additional set of forces. The sex-instinct becomes the greatest of driving forces in shaping personal destiny; and the need for control is even more urgent than with the ego-centric instincts of earlier life. In earlier life repression is brought into play, and barriers against untimely actions are erected. It has been well said that "civilization, like education, depends in no small measure upon the ability to postpone the satisfaction of desires to appropriate times and places, a postponement which recedes more and more as the cultural demands of the herd make themselves felt." The development and organization of interests aid postponement of sex-impulses, but the self-control gained before adolescence is the best means to ensure rational conduct and non-enslavement to blind impulse.

In the formation of good habits, judicious instruction in the facts of life can be brought in aid. It is regrettable that in the past all sexual knowledge has been regarded as "nasty," and that the enlightenment of the adolescent has been from tainted sources. The remedy for this is not class instruction, but individual counsel and advice, preferably by the parent, if she or he has the intelligence and tact to satisfy the questionings of children as they arise, consistently with modest reticence. To assume, however, that knowledge in itself will have great effect in diminishing venereal disease is contrary to wisdom. Improvement must come in the main through influences which strengthen character and not merely by the imparting of scientific information.

In the preceding discussion of the psychological basis of moral control the case of the normal child has been considered. There are, however, children of exceptional types, whose training—and, when this has been neglected, their reclamation—presents exceptional difficulties. Intelligence may be high and the elements of character deficient, or, conversely, with a high character there may be a low order of intelligence, and such children present problems of difficulty. These conditions may be innate or the result of

defective environment. Each difficult case requires a separate analysis, and the social treatment of children with intellectual or moral defect must be based on accurate knowledge if moral hygiene is to be successfully applied.

CHAPTER XVI
THE STORY OF ALCOHOLIC CONTROL IN
GREAT BRITAIN ¹

At a time when the purpose, method, and results of Prohibition are being keenly debated in the United States, it is opportune to recall that the control of alcoholic consumption is no new thing in history. While the American experiment is the most drastic and extreme ever taken by any nation voluntarily in the interest of national health and well-being, it can be regarded as the logical culmination of various forms of compulsion which have been tried in the past two thousand years, and especially of measures which have been adopted in England and other countries under the stress of war or other emergency.

General addiction to alcoholic drinks probably has a double origin: drinking facilitates feasting and rejoicing, and in early peoples, such as our Danish and Saxon forbears, drinking was a chief method of relaxation; furthermore, when taken in excess alcohol supplied an easy method of escape from the evils of a precarious and difficult life and from self, the better self, an escape which has been a general desire of mankind in the past. Thus drunkenness may be regarded as essentially a savage vice, which, apart from all restrictions, should become less common with the widening of men's interests and the reduction of human misery. The same reflection suggests that absolute prohibition is the necessary policy for savage races in which moral control cannot be expected: and for the savage members of civilized communities, i.e. those who are unwilling or unable to exercise self-control. (See page 138.)

¹ A lecture given at Columbia University Medical School; reprinted from *Survey Graphic* for August 1926.

Wherever men have collected in communities, history shows that such "savages" are found, and that the sale and consumption of alcoholic drinks is associated not only with disorderly living, excessive disease and incapacity, but also with crime. Hence throughout the centuries the control of the liquor trade has been regulated by both Church and State.

It appears to have been the amount of alcoholic excess among his followers that led Mohammed (died A.D. 632) to prohibit alcohol for the faithful. In the fifth chapter of the Koran we read of "wine . . . an abomination of the work of Satan." There was general prohibition, although in practice there was not universal abstinence. As Mohammedanism at the end of some 1,300 years is the religion of one-fifth or one-sixth of the human race, it may be said that the sword of Islam has been a chief agent in restricting the consumption of alcoholic drinks by mankind.

Apart from minor royal and ecclesiastic decrees, the next great step in the control of the consumption of alcoholic drinks came with the establishment of the licensing system in England in 1552, when an Act was passed empowering justices of the peace to restrict the number of "Alehouses or Tippling Houses," limiting the right to sell ale and beer to such places as they "should think meet and convenient." Thus a great trade monopoly was placed in the hands of selected persons.

Licensing evidently did not secure adequate reform, and in 1599, in Queen Elizabeth's reign, justices were specially enjoined to limit the number of new licences. In 1589 brewers had been forbidden by statute to supply unlicensed persons, except for private consumption; and in the same year Parliament passed an "Act for repressing the Odious and Loathsome sin of Drunkenness."

In the next reign, that of James I, further restrictive measures were attempted; all persons convicted of drunkenness were to be fined five shillings with the alternative of six hours in the stocks; and in 1609, still further restrictions were imposed. The preamble of the Act of that year "For the Reformation of Alehouse keepers" is significant

of the extent of drunkenness : " Whereas, notwithstanding all former Laws and Provisions already made, the inordinate and extreme vice of excessive Drinking and Drunkenness, doth more and more abound, etc." It was about this time that Francis Bacon, Lord Verulam, said, " Not one man of a thousand dies a natural death ; and most diseases have their rise in intemperance."

Little or no success attended the restrictive efforts, for they obviously did not represent the will of the people themselves, but of arbitrary authority. In 1627 new measures were added, including the imposition of a fine of twenty shillings or a whipping for keeping an alehouse without a licence. During the Commonwealth, Cromwell attempted to suppress drunkenness ; the wearing of the " drunkard's cloak "—a beer-barrel with opening for the arms—figured among the list of punishments. In 1654 the London Sessions gave orders that no new licences should be issued for two years. According to one statement three-fourths of Londoners were drunkards. During the greater part of the Stuart period the consumption of beer, the chief alcoholic beverage, continued on a gigantic scale ; and in 1695 Lecky notes that although the consumption of beer had then declined, still almost a third of the arable land of the Kingdom was devoted to barley.

Excise duties were introduced in England toward the end of the seventeenth century and have never been withdrawn ; a considerable portion of the Government's income is derived from this source. Excessive duties on beer led to increasing consumption of gin and whisky, and this greater evil was fostered by the prohibition of importation of foreign brandy in 1690. A general permission was accorded to anyone to distil and retail spirits made from English corn. The Government favoured the new traffic, no licences were required, and " dram shops " multiplied everywhere. Often cheap gin was given in lieu of wages, and a general pandemonium of drunkenness developed. This conversion of malt into spirit was most calamitous to the country. The development of the practice of toasting and the growth of club life, as well as the exhaustion of the supply of light wines

owing to war with France are given by Webb as among the causes of the general drunkenness and debauchery at the end of the seventeenth century. Notices were to be seen in some shops: "Drunk for 1*d.*, dead drunk for 2*d.*, clean straw for nothing."

The state of affairs prevailing in 1726 is illustrated by a representation made by the College of Physicians in that year to the House of Commons to the following effect:

"We have with concern observed for some years past the fatal effects of the frequent use of several sorts of distilled spirituous liquor upon great numbers of both sexes, rendering them diseased, not fit for business, poor, a burthen to themselves and neighbours, and too often the cause of weak, feeble and distempered children, who must be, instead of an advantage and strength, a charge to their country."

The better part of the country became alarmed, petitions to Parliament against the evil multiplied, and in 1729 Parliament reversed their policy. A duty of £20 per annum was imposed for the spirit retail licence, and dealers in spirits were placed under the same regulations in respect of licences as innkeepers. This duty was almost tantamount to a prohibition of the retail sale of spirits. The Act led to a large amount of smuggling into the country of Holland gin and Nantes brandy; and in 1733 it is recorded that farmers in several parts of Kent could scarcely obtain labourers at any price, on account of the large numbers of men who were employed in smuggling along the coast. At this time also the deaths in the area of the metropolitan Bills of Mortality approached their maximum number.

In 1736 the Government went a step further, and struck a blow which was intended to destroy the gin traffic. Sale of spirits without licence was prohibited and the cost of a licence was increased to £50. *The Act in fact meant prohibition* as regards spirits. But there was no attempt to prevent the manufacture of spirits; the legislation limiting sale had no backing of public opinion, and Parliament did not represent the people; who, alas, were so far debauched by preceding conditions that the law made them desperate. Riots followed and gin was sold openly in the streets, some-

times camouflaged by the addition of a small quantity of wine or by druggists as "cholera mixture." The poor were gin-mad and no one would listen to reason. In the next seven years only two licences were issued, but the unlicensed vendors were so numerous that the Government was helpless. In 1743 this Act of 1736 was repealed, and the policy of revenue duties on manufacture was adopted, with a licensing fee which was first made £5 and then £1. Magisterial supervision over licence-holders was prescribed.

It is significant that parallelism was common between the figures in the London Bills of Mortality (death records) and the amount of spirit drinking. In 1757-8 there was great scarcity of grain and distillation of spirits was compulsorily suspended for three years. It is noted that the deaths in London in 1757 had numbered 21,313, in 1758 they were 17,520. In 1797, owing to failure of crops, distilling from corn was again prohibited, with the result that although food was dear, "the poor were better fed than at any period for some years before." The eighteenth century may be said to have been characterized by almost complete free trade in gin; and all the contemporary records show the devastating moral and physical evil associated with it.

In the earlier part of the nineteenth century there was manifested an increasing desire to avoid interference with the pleasures of the people, and the statutory duties of the justices in issuing licences were regarded as merely formal. By 1831 Parliament once more had become alarmed at the results of their policy, which had been substantially one of free trade in beer. Some restrictions as to character of holders of licences and hours of sale were introduced; but notwithstanding this, as Sidney and Beatrice Webb point out in their *History of Liquor Licensing in England* (1903), the current in favour of free trade in drink still ran strong in 1860, and off-licences to sell wine and beer were being granted. But in the second half of the eighteenth century a new set of influences had already emerged which became increasingly powerful as time passed.

Humanitarian and religious motives, largely under the

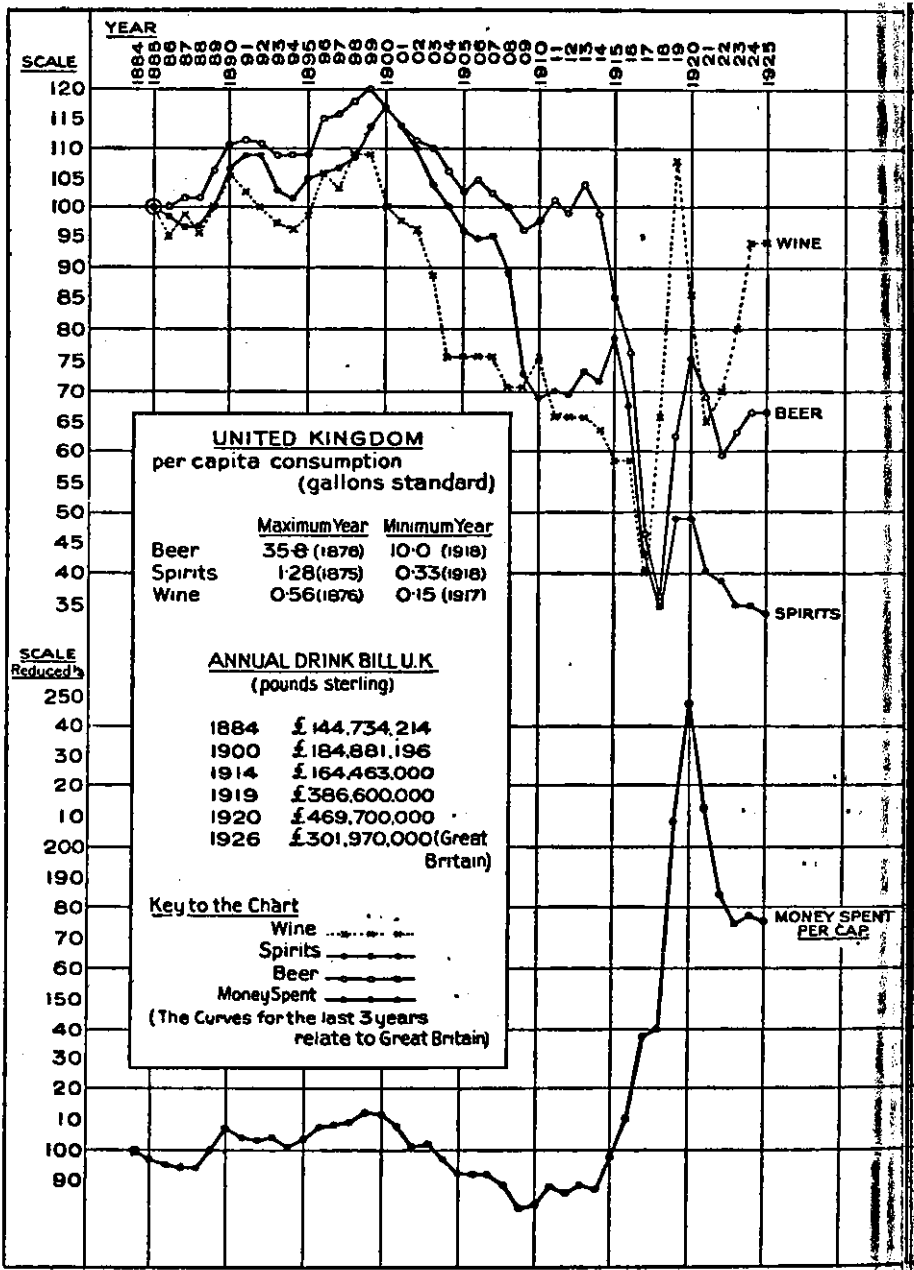


FIG. 3.
RELATIVE FIGURES OF PER CAP. CONSUMPTION OF BEER, WINE AND SPIRITS
(1885-1925), AND OF EXPENDITURE ON ALCOHOLIC DRINKS (1884-1925).

influence of the religious revival associated with Wesley, began to tell. In the industrial and sanitary spheres of life these motives were the means of compelling reform; and active agitation against intemperance found contemporaneous expression. Advocacy of total abstinence from alcoholic drinks increased. Benjamin Franklin, working in a London printing house in 1725, was a water-drinker, and in the end many of those in the same works ceased to be "great guzzlers of beer," and followed his example of taking instead gruel crumpled with bread and sprinkled with pepper and a bit of butter.

A general movement for social reform was in progress. Numerous local restrictions on alcoholic indulgence of varied character were attempted; and most of the suggestions of more modern reformers were anticipated at one time or another. John Wesley, writing in 1773, attributed the high price of grain to the immense quantities used in distilling spirits, declaring that but little less than half of all produced was used in manufacturing a poison that destroys the strength of life and morals of his countrymen.

He added:

"O tell it not in Constantinople, that the English raise the royal revenue by selling the flesh and blood of their countrymen." (Wesley's *Works*, Vol. VI, p. 54.)

. It was about the same period that Henry Fielding (in *An Inquiry into the Causes of the late Increase of Street Robberies*, p. 22) said:

"Should the drinking this poison be continued at its present height during the next twenty years, there will by that time be very few of the common people left to drink it."

That there was a similar state of affairs in America is shown by the remark of Dr. Benjamin Rush, a physician who signed the American Declaration of Independence (*Medical Observations*, p. 63):¹

"Spirituous liquors destroy more lives than the sword: war has its intervals of destruction, but spirits operate at all times and seasons upon human life."

¹ Also Dr. Rush's *Essay on The Effects of Ardent Spirits on the Human Body and Mind*, 1785.

These evidences of increasing realization of the evils of alcoholic excess were followed by advocacy of total abstinence on both sides of the Atlantic, the advocacy being directed as a rule against "ardent spirits," which undoubtedly were causing the maximum amount of mischief. At a meeting of the American Temperance Society in Boston, May 1831, it was proposed by Dr. E. Alden of Randolph, Mass., and seconded by Reverend Dr. Fay of Charleston, Mass. :

"That the use of ardent spirit, by men in health, is a violation of the laws of life, and as such ought to be abandoned by the whole community."

It was further proposed by Professor Hitchcock of Amherst College and seconded by the Reverend Lyman Beecher of Boston :

"That the traffic in ardent spirit, as an article of luxury or diet, is inconsistent with the Christian religion, and therefore ought to be abandoned throughout the Christian World."

In 1830 the First English Temperance Society was formed. Like the American organization, it directed its propaganda chiefly against ardent spirits, without venturing to throw doubt on the medicinal value of alcohol as a routine remedy in illness. It is evident that in the early part of the nineteenth century there was emerging among social reformers a conviction that spirit drinking was a chief enemy of health and life and of the social order, and that its repression was called for. At this time the amount of drunkenness was appalling, and gradually the idea of restriction of supply as supplementary to moral suasion came above the social horizon.

Father Matthew (born 1790) began his labours as a temperance advocate in Ireland in 1839. At that time the known consumption of whisky was a gallon and a half per person per year. In three or four years, as the result of his fervent and untiring activity and great personal popularity, the consumption of whisky was halved, and the prisons became almost tenantless. Between 1839 and 1843 he had enrolled six million total abstainers, but the

effect was evanescent, disappearing in the great famine of 1847-9 and the exodus which followed it. Similarly J. B. Gough's oratory (about 1855) illustrated the fact that persuasion alone cannot make a people temperate unless it is supported by an educated public opinion, which takes time to form, and by compulsion applied to the minority who are unable to exercise self-control.

The slowness of improvement by moral suasion was followed by increasing attempts, especially in America, to control alcoholic habits by legislation. In 1850 Vermont passed a prohibition law, only partially effective, giving the relatives of drunkards the right of action against anyone selling liquor to them. This and a later enactment in 1869, making the drink-seller liable for any damage done by a drunken person to whom he has supplied the drinks, and the New Hampshire law empowering the detention of an intoxicated person until sober, and then compelling him, on pain of imprisonment, to declare on oath where he obtained the liquor, were valuable enactments, which might be more widely adopted with advantage.

The course of events in Great Britain since 1885 as measured by the *per capita* consumption of beer, wine and spirits can be seen in Fig. 3. It must be admitted that the course of annual *per capita* consumption approximated to that of trade prosperity, and that the remarkable reduction in the war years and the after-war years manifested in the curves, although representing much real improvement in social habits, exaggerates this improvement, because it reflects also the position as to sparsity of means.

Fig. 3 also shows the relative annual figures of cost to consumers of their alcoholic indulgence, the amount for 1884 being stated as 100 and subsequent values in relation to the value of that year. This is stated per person in the entire population, but as the majority of women and practically all children under 16 (who are three-tenths of the entire population), as well as a large number of men, are total abstainers, the cost in other families must represent a very high share of the total family income. In the year 1923 the amount spent in Great Britain meant a *per capita* expenditure of

£7 2s.; and if we assume that of the total ten million families only nine take alcohol, the average drink bill for each family is £35 or about \$170. It is no consolation that more than half of this sum goes into the national exchequer, for it could be more easily contributed to the Government in other forms, without the terrible social harm now associated with the alcoholic evils involved in this method of taxation.

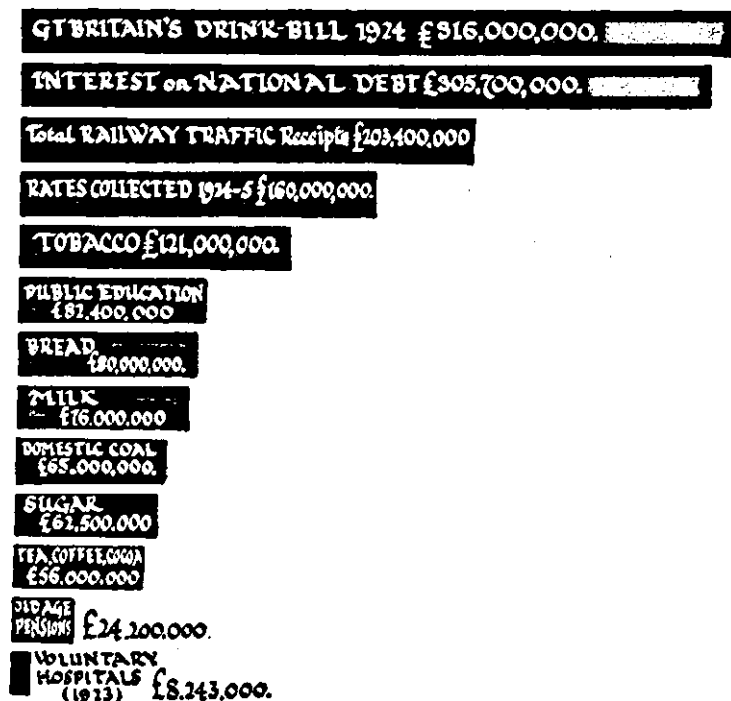


FIG. 4.—COMPARISON OF NATIONAL DRINK BILL WITH THE EXPENDITURE IN OTHER DIRECTIONS.

The relative expenditures on drink and other commodities and services are given in Fig. 4, which is derived from the *Alliance Year Book*, 1926.

The gigantic increase in expenditure on alcoholic drinks during the War was associated with an equally remarkable reduction in their consumption; and the taxation which produced this dual result was, and was doubtless intended

to be, severely restrictive of alcoholic consumption. The course of events during the War is most instructive, in the light it sheds on restrictive measures when endorsed by preponderant public opinion.

At the beginning of the War and during its first year excessive indulgence prevailed in Great Britain to an extent which constituted a serious national disability, English war experience in this respect forming a continuation of its experience in time of peace. Restrictions in many directions were enforced to promote success in warfare: means of transport both on land and water were made the subject of rigid Government control, and during the latter part of the War food supplies were rationed, and their distribution rigorously regulated. The sinister character of the drink trade led to its interfering seriously with the efficiency of the general work needed in the national interest; and under stress of national need the war-time control of this trade was carried further than at any previous period.

At first moral suasion was attempted, but although this was backed by appeals from leaders in the Christian Churches and in the army and by the personal example of King George, it had little success. In this respect, as Dr. Shadwell has put it, it was proved once more that "men themselves create their own social ills, and that they cannot be trusted to do the right thing even in their own interest."

Increased price of alcoholic drinks contributed to the reduction in their use. The price of beer rose from 3*d.* to 7*d.* a pint, of spirits from 4*d.* to 1*s.* 2*d.* a glass. This explains why, although the estimated *per capita* consumption of proof spirit in 1922 was 38 per cent. lower than in 1914, the estimated average expenditure for each man, woman and child increased in the same period from £3 10*s.* 10*d.* to £7 9*s.* a year. This increase in cost must have affected consumption, notwithstanding the greater abundance of money among non-enlisted men and among women.

The restriction of the supply of alcoholic drinks was, however, a more important factor. This was brought about gradually. First, in November 1914, came an increased war tax on beer. "Treating" of any members of the fighting

forces was prohibited; and the hours of sale in public-houses were curtailed. By an Act passed in May 1915 the control of the liquor trade was transferred to a Central Board acting for the Government and endowed with drastic powers. The most important lines of action taken by this Board were: great reduction of the hours of sale in public-houses; the application of public-house rules to clubs; the dilution of spirits; the restriction of the hours when spirits could be sold; and the prohibition of "treating" for civilians as well as for sailors and soldiers, except in conjunction with meals.

The following scheme sets out some of the main restrictions imposed by the Central Control Board. Some of these were gradually introduced, and the statement is not complete, but indicates the general scope of the measures which were taken.

BEFORE THE WAR	DURING THE WAR
<i>Hours of Sale.</i>	
In towns outside London, 17 hours in 24.	5½ hours in the 24.
In London, 19½ hours.	2½ hours midday, and 3 in evening. Closing at 9.30 p.m.
<i>Sunday Closing.</i>	
England, except for 7 hours. Wales and Scotland, all day.	General Sunday closing and no sale to travellers or in clubs.
<i>Lowered alcoholic strength.</i>	
Whisky, brandy and gin not less than 25° underproof. Gin 25°.	All spirits must be 30° underproof; permitted to be 50°.
<i>Conditions of Sale.</i>	
No restrictions except for children.	Treating prohibited. Prohibition of sale on credit.

Allusion has already been made to the enormous increase in price of alcoholic drinks, which is illustrated in Fig. 3. There was also a drastic reduction of the total supply of alcohol available for consumption, which occurred independently of the Control Board, as the result of direct State action and of the intervention of the Food Controller.

Although all these measures conduced to the desired end, there can, I think, be little doubt that the increased price of drink and still more its strictly limited supply had a chief

share in producing the increased sobriety of the war period. But the restriction of hours of sale, which led to a limitation of sales to not more than 5½ hours daily throughout the country, was also an immense aid to efficiency of work and to domestic prosperity. The hours of sale were fewer than on Sundays prior to the War; and their carefully devised distribution meant the cessation of forenoon drinking, while the afternoon closure and the earlier evening closure diminished the temptation and opportunities for the chronic toper. The prohibition of "treating" also bore a part in the general beneficent result.

What was the effect of these drastic restrictions?

Any statistical statement for men must necessarily be of dubious value as several millions of men were under military or naval discipline. We must therefore obtain evidence from the experience of women, who, it must be borne in mind, were engaged in exhausting industrial and clerical or nursing work to which a high proportion of them were totally unaccustomed.

This evidence is summarized in Fig. 5, in which curves are shown of the annual death rates from cirrhosis of the liver (a disease generally accepted as most often resulting from alcoholism) and from acute and chronic alcoholism among women, reduced to relative figures by giving the death rate in the year 1911 in each case as 100, and stating the death rate in each subsequent year in proportion to this. By this means it becomes possible, without distortion, to compare these two curves with the curves similarly treated showing the annual consumption of beer *per capita* and the annual number of convictions for drunkenness in women. The convictions for drunkenness decreased somewhat more than the consumption of beer; but both these curves and the death-rates from disease due especially to alcoholic excess show a remarkable drop during the years of war. Since the War the disease curves have risen again with relaxed trading conditions, though they are rising more slowly than the curves for drinking.

The sequence of events in the War, confirming as it does the effect of restrictions previously imposed whenever backed

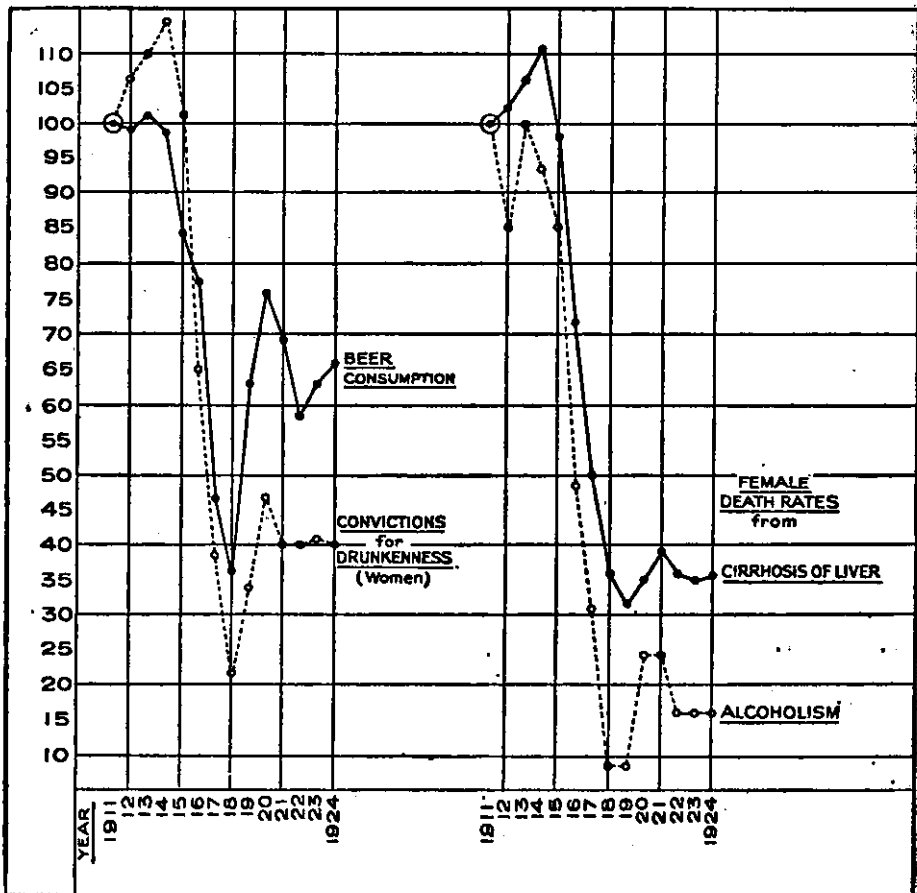


FIG. 5.—RELATIVE PER CAP. CONSUMPTION OF BEER, 1911-24, COMPARED WITH RELATIVE NUMBER OF CONVICTIONS FOR DRUNKENNESS IN WOMEN, AND WITH DEATH-RATES FROM ALCOHOLISM AND CIRRHOSIS OF LIVER IN WOMEN.

by an adequate force of public opinion, makes it impossible to avoid the conclusion that a nation can be made relatively sober by legally enforced restrictions. In Dr. Shadwell's words the record of events during the War "furnishes fresh proofs of the need of control in the public interest." It furthermore gives valuable guidance as to the possibilities and methods of control which will carry with them an increasing volume of public opinion.

The course of events since the War cannot be regarded as entirely satisfactory. There has been some relaxation of hours during which public-houses are open; treating is no longer forbidden; and beer has been cheapened. Slowly, apparently with some hesitation, the curves of convictions for drunkenness and of deaths from alcoholism once more are creeping upwards. It is fairly certain that this upward tendency is being retarded by lack of national prosperity, and that reduction of unemployment will be associated with some further increase in this upward trend.

There are, however, important influences tending in the opposite direction. The gross economic waste implied in the national consumption of alcoholic drinks in Great Britain is being increasingly realized; local option and Sunday closing of public-houses are more universally accepted in all temperance circles as the line of policy to be pressed, and it is probable that a steady reduction in the number of public-houses, and an increase in the number of areas in which no public-houses exist, will occur. It may also be hoped that there will be no reduction of the present high taxation on alcoholic drinks. Beyond this it is perhaps unsafe to make a forecast. Two important lines of evidence indicate that progress towards national abstinence may be even more rapid than the above remarks indicate:

Physiological researches made by investigators of undoubted authority have shown, time after time, that efficiency in all forms of work, mental and physical, is reduced by even small doses of alcohol, and this fact is becoming increasingly appreciated by the general public.

It is also being increasingly realized that economic power is seriously affected by the consumption of alcoholic drinks; and

that in present circumstances a country whose inhabitants consume considerable quantities of alcoholic drinks is hopelessly handicapped, physiologically and economically, in competing with another country in which consumption of alcoholic drinks is an exceptional phenomenon.

The failure of severe and spasmodic restrictive measures in the eighteenth century cannot be quoted as evidence for the inefficiency or undesirableness of restriction. These restrictions were not imposed on the people by a majority of the people themselves through their elected parliamentary representatives; the people themselves were uneducated, and a very large proportion of them were living in conditions of chronic misery, from which the easiest escape was through intoxication.

The present world position may be thus summarized :

1. For many parts of Africa the policy of prohibition of spirits has been endorsed by seven of the Great Powers.

2. Alcoholic restrictions now are approved by the majority of the people in many countries, and the hankering for the narcotizing effect of alcohol has become less intense with altered customs, with diversified outlets for recreation and amusement, and with a higher standard of general social life. The minority therefore for whom in the communal interest severe compulsory restriction or prohibition is necessary can be controlled with increasing prospect of success.

3. In imposing such restrictions it is inevitable that they may, owing to the complexity of such inhibitory means as are practicable, work inconvenience or even a like inhibition on those against whom in the interest of the family or of the community they are not needed. But the facts, dispassionately considered, indicate the need for rigid restriction of this trade; they call upon men of moderate views to show their willingness to suffer some personal inconvenience, to undergo some limitation of their personal liberty, in order that by so doing they may help those still enchained in the bondage of alcoholism to regain the liberty which freedom from temptation to drink will give them. In thus acting, the moderate man cannot truly be said to suffer from restricted liberty; he is living in the higher liberty which characterizes Christian idealism.

CHAPTER XVII

THE INTERNATIONAL ASPECTS OF ALCOHOLIC CONTROL

EAST and west, north and south, the consumption of fermented drinks dates back to ancient times, and this fact has frequently been adduced as evidence that these drinks satisfy some deep-rooted desire if not some essential need of humanity. That they do not fulfil the latter indication is plain on the face of history ; for in Mohammedan countries, and for a very large part of the entire population of the world, they have been forbidden for ages, and abstinence, with but minor exceptions, has been general. It is true that the abstaining peoples, chiefly Eastern, have not been foremost in promoting and adopting the advancing complexities of civilization ; and this also has been quite commonly adduced as an argument against abstinence. But civilization is too composite a whole to be thus explained. Essential differences of race need to enter into the estimate ; and it is highly probable that northern races living in tropical and sub-tropical countries, and subjected for many centuries to the enervating influence of these regions, would, if they survived notwithstanding indulgence in alcoholic beverages, present the characteristics now commonly found in these regions. Knowing what we now know of the experience of persons of British origin in tropical countries, it is clear that abstinence from or the only occasional and extremely moderate drinking of alcoholic beverages is an important condition of health and survival in those countries.

That the retention of alcoholic beverages is not an essential or even an important need of humanity is further evidenced by the experience of the majority of women and of all children, and by the experience of some millions of men in this country, and of more millions in America for two or

three generations ; and perhaps is demonstrated best by the evidence of relative duration of life in abstainers and non-abstainers. Abstainers can obtain more favourable terms in life insurance than non-abstainers, and as insurance societies are not run on a philanthropic basis, and have no differential bias in favour of abstainers, this evidence may be taken as conclusive. The possibility that a small proportion of the non-abstainers are intemperate does not invalidate the conclusion that in actual experience the abstainer, on the average, lives longer than the non-abstainer. The only opening left for the upholder of the utility of alcoholic beverages is the assumption that quality of life is more important than its duration ; and that herein non-abstainers have much gain. This elusive will-o'-the-wisp need not be followed.

We must fall back, then, on the supposition that alcoholic drinks satisfy some deep-seated desire of humanity. That by a large section of mankind they are regarded as doing so is evident. Man's struggle upwards through the ages has involved more suffering (but surely also more joy) than we can easily realize ; and in his painful journeying man has welcomed an agent which gives him a sense of temporary exhilaration or which gives him forgetfulness of the troubles of his everyday life.

Its application to these ends is illustrated in Proverbs xxxi. 4-7 :

“ It is not for kings, O Lemuel, it is not for kings to drink wine ;
 nor for princes to desire strong drink :
 Lest they drink, and forget the law,
 And pervert the judgement of any that is afflicted.
 Give strong drink unto him that is ready to perish,
 And wine unto the bitter in soul :
 Let him drink, and forget his poverty,
 And remember his misery no more.”

This means for securing passing forgetfulness having been discovered, it is not surprising that those in despair or distress in all ages have attempted to drown their sorrows in drink. By this means—and similarly in the East by

opium—mankind has sought to escape from himself, from his better self, and to forget his current worries and anxieties.

In this sense drunkenness must be regarded as a vice of savage life, which, apart from all restrictions, should become less common with the widening of men's interests and the reduction of human misery. The same reflection suggests that absolute prohibition of alcoholic drinks is the necessary policy for savage races in whose members moral control cannot be expected: and for the savage members of civilized communities, i.e. those who are unwilling or unable to exercise the self-control called for in communal life.

In regard to alcoholic drinks there are three classes in the community.

(1) Those who either through knowledge or instinctively or by the influence of social example, or as the result of their realization of responsibility as their "brother's keeper," have decided that the pseudo-exhilaration produced by moderate amounts of alcohol is accompanied by serious drawbacks, and that to obtain forgetfulness of trouble by means of intoxicating doses of alcohol is a cowardly action, even apart from its evil effect on family and community; and they are accordingly abstainers.

(2) Those who have a strong sense of the value of individual liberty of action, who are confident that moderate amounts of alcohol represent a gain in life, and who whether this be so or not decline to surrender their liberty for the benefit of the next group.

(3) Those who in regard to alcoholic drinks are still savages; whether they be members of the native African or Indian races, for whom all agree that prohibition is desirable, or whether they live in a civilized country, and become savages only as the insidious result of the formation of an evil habit.

Let us first consider the case of the "savages" in our midst. As we all know there has been great improvement, and that the number of "savages" as previously defined has greatly declined. Thus, comparing 1910 with 1925, the annual consumption of beer *per capita* (standard gallons) has declined in Great Britain from 26.31 to 17.97 gallons,

of spirits from 0.65 to 0.32 gallons, and of wine has increased from 0.28 to 0.30 gallons.

In 1910 in England and Wales there were 161,407 convictions for drunkenness, in 1925 these had declined to 75,077. But this number of convictions for drunkenness, although happily declining, is still a serious social evil. It implies that about 1 person in 517 of the total population, or about 1 in 275 adults, is convicted annually, or a smaller proportion of the total population is convicted more than once. It appears not unlikely, in view of the above figures, that 1 per cent. of the total adult male population gets drunk at least once in the course of a single year.

When we remember the evils associated with drunkenness, and the even greater evils associated with drinking to an extent which never reaches intoxication,—vice, disease, destitution, neglect of wife and children, crimes of violence, insanity, suicide, premature old age and death,—we realize that there remains, notwithstanding great national improvement, a social problem of supreme national and international importance requiring the application of the remedies within our reach.

It may be said that the remedy required is educational and social; and there can be little doubt that modern physiological research, showing that alcoholic drinks even in small doses diminish efficiency in work of any kind and increase the risk of accidents, has greatly influenced the habits of the community. The fact that in medical practice alcohol is now prescribed to an extent which when compared with the past is almost negligible, also has had great influence in changing the public outlook on the subject. But it would be a serious blunder to believe that these influences, and the increasing desire not to cause our weaker brethren to offend, have been solely responsible for the improvement already secured. They have been made effective by the contemporaneous restrictions on drink which have been enforced. At this point I may give one illustration. The consumption of spirits, as we have seen, declined by about 50 per cent. between 1910 and 1924. Let us hear what the Chairman of the Distillers' Company has to say on this

(*The Times*, July 17, 1926). Referring to the fact that whisky is the main product of the company, he goes on to say :

“ How long it will remain so depends largely upon how long the Chancellor of the Exchequer means to exact the present exorbitant rate of duty which is gradually but surely bleeding the whisky trade to death.”

This is excellent confirmation of the experience of Great Britain during the War, which demonstrated that severe restrictions, carried out with the active consent of the representatives of the people, can reduce drunkenness and drinking to an extent which disproves the adage that people cannot be made sober by Act of Parliament.

You remember how this was done during the War.

1. The price of alcoholic drinks was very greatly increased.
2. The strength of the stronger alcoholic drinks was greatly decreased.
3. The supply of these drinks was rationed by restricting the use of malt and other materials for brewing and distilling.
4. The hours of sale were greatly reduced, and the intervals of closure were much prolonged.
5. Other auxiliary measures were taken, as the forbiddal of treating, the enforcement of Sunday closing, etc.

It is pleasant to have the more recent testimony quoted above that taxation with the consent of the people can be carried to an extent which will increase sobriety, without bringing about the smuggling and illicit distillation which in an unprepared community may accompany action of a more drastic character.

The relation between voluntary and compulsory restriction of the terrible evils produced by alcohol is of fundamental importance as bearing on social reform. There is commonly assumed to be an antithesis between these methods of restriction. This antithesis in large measure is fictitious. But at this point we must distinguish between countries in which there is democratic government, and those in which this does not exist ; and among the latter it is necessary, furthermore, to state separately the problem of the primitive races for whom representative government is inapplicable and may remain so for decades or centuries to come.

The difference between representative and non-representative government may be illustrated by the experience of England itself in pre-Reform days. In those days England was controlled by a monarchy aided or hindered by a Parliament which could not represent the balance of popular opinion.

But measures against national intemperance and the rioting and disorder in ale and beer houses became necessary; and so in 1552 the English Parliament passed an Act empowering justices of the peace to restrict the number of "Alehouses or Tippling Houses." Here was the beginning of a restriction on the number of shops at which a given commodity could be sold, differentiating this from all other industries in the community. It was a necessary restriction, compelled in the interest of the public; but it incidentally led the way to the development of a great trade monopoly, in the hands of selected persons,—a monopoly which is now a chief impediment to further reduction in the number of licensed premises.

The further historical efforts at control of the liquor trade are set out in the preceding chapter.

The early English experience here briefly indicated is valuable in several respects. It shows how under the influence of governmental encouragement the drinking habits of a people can be changed for the worse. (And if so, why not also for the better? This latter was shown during the Great War.) It shows also how compulsory restrictions can be evaded by smuggling or by illicit manufacture, when too rigid or sudden, and when not backed by public opinion. And it shows, lastly, how legislation even when not enacted by a representative Government can be temporarily effective when facilitated by a natural calamity like the failure of the corn crop.

Leaving our glance at the historic past, we may turn to recent events in countries which have representative government. A preliminary remark is needed. Passing sentiment, the imitativeness of mankind, the influence of intensive propagandism, cannot singly or together explain the fact that in Great Britain and Ireland, in Norway and Sweden,

in Iceland and Finland, in the United States and in Canada, in India and in Egypt, even in the German countries and in France there has for several decades been an advancing tide of conviction as to the dangers of alcoholic drinks, and movement towards increased compulsory restriction of their use. Such compulsion has existed in this country for centuries, but both in this and in other civilized countries there has been steady or intermittent progress towards restriction on an increasing scale.

There must be behind this world-wide movement a realization, based on increased physiological and medical knowledge, and on increasing sensitiveness of the public conscience, that serious physical, mental and moral evils are associated with alcoholic indulgence; and along with this, there must be a growing realization that for efficiency in daily work,—including freedom from accident in doing it,—every impediment must be put aside, alcoholic indulgence being one of the most obstructive impediments. The impoverishment of the nations by the Great War has further brought us up against the need for economy in unnecessary expenditure, and especially expenditure on alcohol, which reduces the general efficiency of all classes of workers.

The story of Norway is particularly enlightening.

Heavy spirit drinking has prevailed for many years; and in 1845 and 1848 private distillation was forbidden, and the sale of spirits was placed under strict regulations. In 1870 the Gothenburg system was tried and in 1894 local option. At the beginning of the Great War the sale of all liquors containing more than 12 per cent. of alcohol was prohibited, and in 1919 the question of making this permanent was submitted to a referendum which gave a majority in favour of prohibition; but nearly a third of voters refrained from voting. The enforcement of prohibition led to the rapid establishment of a smuggling trade; private distillation also increased. The difficulties were increased by the trade between Norway and Spain and Portugal, Norway in order that she might keep this foreign trade being compelled to import more brandy and

heavy wines than she had imported before she adopted a policy of prohibition. It is not surprising, therefore, that in October 1926 a new referendum has produced voting of 5 to 4 against the continuance of prohibition. It is difficult to see that Norway could have done otherwise; but it is clear that by high excise duties and rigid regulations as to sale she can still pave the way to increased sobriety.

In Sweden in 1922 as the result of a referendum there was a relatively small minority against prohibition (888,459 for, 924,550 against). Omitting the three chief towns, there was a clear majority for prohibition. Apart from prohibition, the legislature has forbidden the production of beer containing more than 3.2 per cent. of alcohol; and it makes large subventions to the work of anti-alcoholic societies.

In 1925 local option was adopted in Denmark, and there is an active anti-alcoholic movement.

Iceland, like Norway, has been compelled to resume the importation of Spanish wines; but there is a widespread expression of an intention to resume prohibition as soon as economic circumstances permit it.

In Finland prohibition has not succeeded well, especially in the Swedish section of its population. As in other countries there has been much contraband and illicit distillation.

The case of Russia may be mentioned in passing. The prohibition of spirits in 1914 evidently did not carry with it the consent of the people; and many years will probably elapse before the needed anti-alcoholic education becomes generally effective.

In Belgium spirits are not allowed to be sold for consumption on the premises, though the law appears to be often broken. In Turkey the National Assembly at Angora in 1924 abolished prohibition by a large majority.

In Ireland public-houses are allowed to be open from 9 a.m. to 9.30 p.m. on weekdays; and there is Sunday closing except in the large towns from 2 to 5 p.m. In Northern Ireland there is complete Sunday closing, as in Scotland and Wales. The restrictions on sale in England are well

known ; they do not come up to what public opinion desires, and would enforce, could it be brought into action apart from political considerations. I need not dwell on the case of Scotland, in which localities can decide by local vote at intervals of five years whether they wish to maintain the *status quo*, or to decrease the number of licensed premises, or to have complete prohibition. Only limited progress has been made under these powers ; but the periodical revision of the local position rendered possible by the Scottish law is a most valuable educational agent, in addition to its possibilities of organized restriction.

In the North American continent the course of events is intensely interesting. In Canada three of its provinces recently were under a regime of prohibition and six without prohibition. In recent years there has been reaction against prohibition, a system of Government sale replacing it in some areas. Quite recently Ontario has abandoned prohibition. There can be no doubt that the tremendous ease of smuggling and the practice of illicit distillation have had much to do with modification of prohibition ; and that the success of prohibition in the United States is being partially disturbed by the same practices. It would be altogether unreasonable to expect complete immediate success for the great American experiment. Many factors would render this unlikely. There is a large Latin population, who take kindly to domestic manufacture of wine. The proportion of Germans and of people of Slavonic origin is also very high, and among them a desire to evade prohibition is not surprising ; 41 per cent. of the population of New York City is foreign born, 36 per cent. of that of Chicago and of Boston. Nor is the population as law-abiding as that of England. In 1914, there were 87 murders in Chicago, as against 5 in Liverpool, 16 in London, and 92 in the whole of England and Wales. Then there is the great financial profit associated with smuggling and illicit distillation. The United States has an immense border of land and lakes and an extensive sea coast along which smuggling is difficult to detect ; and the difficulties of England in the early part of the nineteenth century to

prevent the smuggling of French Brandy into this country must have been small as compared with the colossal present difficulties of America.

A common error in regard to American prohibition may be exposed. It was not in the main a spasmodic emotional resolution arrived at under the influence of war.

In 1846 Maine secured the first State prohibition law. Other States and parts of States followed. Year by year the struggle spread; relapses from prohibition occurred; and sometimes prohibition, although enacted, was ineffective. But in State after State, first came local option, and then State prohibition which is an extension of local option. For eighty years it has been the policy of an increasing proportion of the American people to secure the abolition of the sale of alcoholic drinks; and when America first joined in the Great War, for a population of 48,400,000 prohibition was in force in entire States, and was in force under local option for 14,360,000 more people, while there were 29,200,000 not under any form of prohibition. War prohibition for the entire country came into operation on July 1, 1919; and it is interesting to note how this became the permanent law of the land. Each American State is self-contained, so far as legislation affecting that State is concerned. To make prohibition effective it was necessary to propose an alteration in the Federal Constitution. After the cessation of war-prohibition, it might have been wiser to proceed by the slower process of extension of local option and State prohibition; but that the mass of the people desired the more rapid process necessitating an amendment to the Federal Constitution cannot be doubted. The precautions against hasty and ill-advised alteration of the constitution are very elaborate.

1st. A resolution deciding to submit to the individual States a prohibition amendment to the Federal Constitution was adopted by the U.S. Senate by 65 to 20, on August 1, 1917.

2nd. This was endorsed by the Federal House of Representatives on December 17, by 282 to 128. The resolution then sent to the States was one for the prohibition for

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beverage purposes of the manufacture, sale, or transportation of intoxicating liquors within the United States.

In order to make this resolution effective it was necessary—

3rd. For three-fourths of the State legislatures—in the two Houses in each State—to endorse it. Let us see what happened.

RATIFICATION OF THE 18TH AMENDMENT BY THE SEVERAL STATES.

<i>No. of States</i>	<i>Senate.</i>	<i>House.</i>
Unanimous vote in favour . . .	14	7
Majority more than 4 to 1 . . .	17	22
Majority between 4 to 1 and 2 to 1 . . .	7	6
Lower Majorities	7	10
	<hr/>	<hr/>
	45	45

Three States, Connecticut, Rhode Island and New Jersey, refused to ratify, but 45 States with a population of over 100 millions formally approved.

The matter then came back to the Federal House of Representatives and the National Prohibition Act was passed by 287 to 100. The Senate then passed it without a roll call, and as the President vetoed the Bill, it was subsequently passed over his veto by majorities of 176 to 55 in the House of Representatives and of 65 to 20 in the Senate.

In view of the above course of events, it cannot reasonably be said that the 18th Amendment did not represent the considered will of the people checked by ample safeguards against hasty action. The course of law enforcement has not been smooth. There has been and is smuggling and illicit distillation on a considerable scale, though I have little doubt that as time progresses these will decline. In view of the erroneous statements which are prevalent, it may be noted that since the Volstead Act was passed, which makes the alteration of the Constitution operative, there have been four Congressional elections. The first three were each successively drier than its predecessor. The last was as dry as the third (Nov. 2, 1926). We cannot forget the great gains already secured by America by prohibition and by the public opinion behind prohibition, and without which it could not succeed. Not a single saloon or public-

house can legally exist in the United States. When we remember that public-houses with us are commonly associated with impoverishment of the people who frequent them, with neglect of wives and children, with drunkenness and vice, with incitement to crime of violence, and that they are a great social scourge, we can envy America on their abolition from her midst, and on the rapid increase of alternative resorts for recreation. True there is secret drinking, and evasion of law is evil morally as well as legally; but this is an argument for improving administration, not for revocation of the law; and unless prohibition ceases to be the will of a majority of the people, there is no doubt that it will continue the law of the land. It is a great mistake to attach high importance to the one-sided reports reaching this country. Doubtless there is an active minority intending to make prohibition inoperative; there are large financial interests involved, and vast sums of money are being spent in propaganda, and in corrupting those responsible for carrying out the law. But although evasions of the law are numerous and will only slowly decrease, two things may be noted: (a) for the greater part of the community, especially the wage earners, prohibition is effective; (b) a younger generation is growing up who have not seen a saloon and cannot without difficulty acquire the habit of drinking alcoholic liquors.

The gain in industrial and commercial efficiency in America is enormous. The spending of money on alcoholic beverages is always wasteful, and it gives relatively little employment for the expenditure incurred.

Industrial efficiency was one of the chief reasons for prohibition. It is conservatively estimated (p. 159, Irving Fisher's *Prohibition at its Worst*) that at least 10 per cent. has been added to national production by prohibition; and I see no reason to modify what I wrote in 1921: "Great Britain ere long will be compelled to travel far in American footsteps, if she is to recover expeditiously from her financial embarrassments and to hold her own in the struggle for national efficiency. No nation liveth to itself. A social example in one country, unless discredited, has world-wide

influence. The American experiment in my view will not be discredited." That is still my view; but perhaps the difficulties are greater than were anticipated, and State prohibition might preferably have been promoted and extended, rather than that the prohibitionist position of the rest of America should have been prematurely imposed on those Eastern States, where possibly a majority are still opposed to it.

So far I have discussed restriction of alcoholic drinking by legal restriction only from a practical standpoint. My views as to whether interference with the personal habit of a minority by a majority of a popularly governed community is ethically justifiable, have been set out in Chapters X and XI and more fully in *Prohibition in America, and its Relation to the Problem of Public Control of Personal Conduct* (P. S. King & Son); and two observations must suffice on this aspect of the problem.

1st. Interference with personal conduct in many ranges of life is inevitable if communities are to avoid shipwreck of their utility. So long as there remains a 20th man or a 50th man who will not conform to the average standard of the community, compulsion is unavoidable. There must be social coercion at some point, if social ends are to be gained. In using coercion to prevent anti-social acts we are commonly ascertaining and enforcing the real will of a man against his temporary aberrations.

2nd. A large measure of such interference is universally agreed to be necessary and desirable.

Furthermore, although it may be argued that coercion to any line of conduct, implies a certain amount of moral pauperization, such coercion is necessary in the young, whose will has not been completely trained, and is equally needed for those adults who throughout life have incomplete control over their passions, or who lose a previously existent control.

In matters of sanitation, in the diminution of economic injustice, in the prevention of cruelty to animals and to children, in the prohibition of certain occupations for women, in factory legislation, in the control of hours of work in

certain occupations, in the statutory enforcement of a shop half-holiday, in the enforcement of a minimum wage in certain industries, and in many other relationships the law steps in between vendor and purchaser, between employer and employed, between the master and his horse or dog, between the parent and his child, and restricts liberty of action.

Children must receive school education whatever the views of their parents ; and we are compelled to pay for the cost of the education of other people's children. Nor are the mass of the people allowed entirely to save or not to save in their own way for old age, for sickness, and for one's wife and children, in the event of these becoming widowed or fatherless. We must all contribute against these possible emergencies in the life of one-third of the entire community.

Restriction of alcoholic drinking then does not stand alone as an isolated phenomenon. Nor is this restriction of freedom to drink in certain particulars objected to by "the trade." Removal of the licensing system would doubtless be strenuously opposed by them. The right to sell is restricted as well as the right to buy, so also are the opportunities for buying, and the price at which we can buy. A few years ago the liberty to sell was restricted to only one person in 356 in England and Wales ; and "the trade" would be among the chief opponents to unrestricted licences to sell.

Compulsion, causing inconvenience or actual privation of what a considerable minority of the population desire, requires for its justification : (1) that the evil sought to be remedied by restriction or prohibition is serious from a national standpoint ; (2) that no remedy short of compulsion is likely to be successful within a reasonable period ; (3) that the compulsion is proposed with the consent, and by the will of a persistent majority of the people ; (4) that compulsion is likely to be practicable and effective ; and (5) that no countervailing evils are likely to arise from compulsion. On all these grounds restrictions on the sale of alcoholic drinks are justified and necessitated by national conditions, and in nearly all civilized communities are being attempted.

So far I have considered only the case of communities in which the will of a persistent majority of the people can be made effective. We have seen that for children and, I may add, for the mentally defective there is common agreement in forbidding indulgence in alcoholic drinks. We have seen that for adults there is common agreement as to the need for limitation of number of licensed premises and hours of sale, however great may be the difference in deciding these limits.

I have no doubt that there would be common agreement—could a practicable plan be devised—to prohibit the sale of alcoholic drinks to drunkards, or to those habitual drinkers, who, though never drunk, are injuring their wives and families or are endangering their own capacity to earn their living, as the result of their pernicious habit. Progress on this last-named line has been attempted at various times and in different countries. If it could be enforced it would be a partial remedy; but, owing to the difficulties in the necessary legal proof, it could do little more than remove the fringe of the evil. We are left then with a serious social problem; a problem which notwithstanding improvement is still concerned with one of the greatest social evils of the day; and it is for the public to decide whether they are contented with the slow conversion of all—if this is ever practicable—to the teaching of medical science and morality; or whether they desire—as they may rightly desire—to aid the progress towards sanity and sobriety by further legally enforced restrictive measures.

The need for and the justifiability of further restrictive measures is illustrated by our relation to the coloured races and to the people of the East.

The partial breakdown of Mohammedan prohibition has already been noted. The precepts of the Koran are being increasingly broken, as Moslems become exposed to Western influences. In Palestine this evil is said to be increasing; and in many parts of Africa and in S.E. European countries which are Moslem in religion, the drink traffic is proving a decimating scourge.

In 1919 Lord (then Mr. Walter) Long, Secretary of State for the Colonies, said :

"Some time ago I made up my mind that it would be my duty to advise the representatives of the British Government at the Peace Conference to propose, on our own initiative, the abolition of the liquor traffic in West Africa. We ought to put an end to this traffic, for it has certainly been conducive to great evil and to great misfortune."

This recommendation was carried out, and the Peace Conference in the Covenant of the League of Nations, Article 22, referring to the responsibility of each Mandatory for the territory to be administered, declared it to be subject, amongst other things, to "the prohibition of abuses such as the slave trade, the arms traffic, and the liquor traffic."

The Covenant was presented to Parliament in June 1919, and on September 10 in that year the Convention was signed at St. Germain-en-Laye; under Article 1 the High Contracting parties undertook

"to apply certain measures for the restriction of the liquor traffic in the territories which are or may be subject to their control throughout the whole of the continent of Africa, with the exception of Algiers, Tunis, Morocco, Libya, Egypt and the Union of South Africa. The provisions applicable to the continent of Africa shall also apply to islands lying within 100 nautical miles of the coast; this article applies to all Colonies and Protectorates other than those mandated by the Supreme Council."

(From *Drink; A West African Problem* by Thos. Welsh.)

It was thus internationally agreed that the only hope of saving African races from ruin lay in forbidding the sale, importation, and possession of ardent spirits of any sort.

I do not propose to follow the course of subsequent events—the difficulties of enforcing this international agreement, the dispute as to definition of terms, the relation between imported and non-imported spirits. It suffices for my present purpose to emphasize the point that so far as the native races are concerned, prohibition is internationally decided to be necessary, and the Governments of the Western countries are agreed, on paper at least, in the will to make this prohibition effective.

Habit-forming Drugs.—The story of efforts to control indulgence in various habit-forming drugs, such as cocaine, heroin and other opium derivatives, forms an instructive

chapter in the history of attempted compulsion in regard to personal habits. Many attempts have been made. Since the Hague Convention of 1912 the control of the traffic in dangerous drugs has been anxiously discussed in several congresses. It has been proposed to establish under the League of Nations a Permanent International Central Board with wide powers of inquisition, and possibly with powers to ration the raw materials and manufactured narcotics among the nations in accordance strictly with their needs and available supplies. Although these proposals have not been acted on, the control of the production of manufactured narcotics appears to be possible, drug factories being relatively few. The difficulty in restriction is not with opium, but with the less bulky concentrated derivatives of opium and other drugs of addiction. In stopping the transmission of such substances which in small quantities fetch large prices, the police are almost powerless; and it is this fact which has led to the proposal to control the supply of cocaine from factories. The dearer the substance the greater the risk of smuggling. Evidently the problem is beset with great practical difficulties. One thing, however, is clear. The representatives of civilized nations desire absolutely to control this traffic, and the practicability of doing so on an international scale alone prevents complete prohibition except for strictly medical purposes.

In the control of alcoholic drinks and of the use of the narcotic drugs named above, we are faced with a momentous and intricate problem of world-wide dimensions; and the opening up of Africa, the British mandates in the East, and the Turkish attitude towards Mohammedanism are all indications of its increasing international importance. There will doubtless continue to be difficulties as to the legitimate scope of compulsion, in regard to alcoholic drinks. This difference of opinion has disappeared as regards opium, heroin, and cocaine. Compulsory privation except medically is practically the unanimous desire of normal humanity; the only problem remaining—a most knotty problem—is how to make this unanimity effective.

As regards alcoholic drinks, their immediate effects in

small doses are less injurious, their habit-forming effect is slower and less universal than in the case of opium or cocaine; but the aggregate mischief now being done by alcoholic indulgence is greater than that produced by either cocaine or opium. The problem of alcoholic control remains therefore to be solved. Economic considerations may—when they are fully realized—help to solve it; a more general knowledge of the fact that even small amounts of alcohol always diminish the efficiency of the worker in every branch of work will doubtless secure a gradual change in social habits; improvements in housing; provision of adequate facilities for recreation and amusement; better domestic cooking, and general management; and the increasing sensitiveness of the individual conscience to responsibility for our fellows will all be factors in the future improvement. But there are in our midst a considerable proportion whom I have denominated “savages”—as defined earlier; and for them and to protect the community against them, compulsion in some form or other, perhaps in many forms, is indispensable. It is for every “civilized” member of the community to consider his debt to the community, and to decide how far he is willing to limit his own liberty and convenience of drinking, in order to secure the needed action against those who have lost or are in danger of losing self-control.

CHAPTER XVIII

THE POPULATION PROBLEM

IN preceding chapters the effect of health problems on organized society has been considered as if the numbers and initial quality of those born into this society were outside the scope of the discussion. This in the main has been the attitude of public health workers in the past ; and until our knowledge becomes more exact advice on these underlying problems is beset with difficulty. Where, however, childbearing is demonstrably dangerous to the mother, or the children born will be likely to be affected with serious disease or disablement, advice for the avoidance of childbearing has been given. It will be evident from the short sketch of this subject which is attempted in this and the next chapter, that departure from this attitude on the part of health workers will in many respects necessitate the recommendation of action in difficulties, the right treatment of which is the subject of most acute differences of opinion and of ethical outlook.

The main impression derived from study of the many treatises and papers written on the population question is the need to avoid dogmatic statement, and meanwhile the importance of holding fast to all work which conduces to the physical and moral welfare of mankind. In view of the current trend of national statistics we cannot attach excessive importance to the pronouncements of those who regarded the nation as endangered by an "Avalanche of infants" who "infest" the slums of our towns. Nor in view of the points advanced in Chapter XIX can we regard as firmly founded the fear of those who consider that society is being increasingly replenished from strata, which are characterized by inferior *innate* qualities. There is no inconsiderable danger that half-truths in biological teaching

may become widely believed, and that thus a new dogmatism may be imposed which has no better justification than some theological dogmatisms of the past. These chapters are a plea for suspended judgment, though they frankly show the personal bias of the writer.

The problem to be considered is whether health officers and social workers, who have hitherto aimed to preserve life and to improve both physical and moral health, should also concern themselves with the numbers born, and with the possible selection of births according to the presence or absence of certain desirable innate qualities.

Until recently the chief discussion has been concerned with numbers, and in this chapter the growth of population—apart from consideration of its quality—is considered. An excellent outline discussion of the subject is given in Professor A. M. Carr-Saunders' *Population* (Oxford Univ. Press, 1925). Reference may also be made to my *Elements of Vital Statistics*, 1923, Chapters IX and X.

The actual history of mankind is not one of interrupted increase of numbers. The hypothesis that there are cyclical changes in the physiological fertility of mankind, is unproved. Other obvious factors suffice to explain the restriction of population through the ages, and its unexampled growth in the earlier half of the nineteenth century. In the older past wars, pestilence and famine have been applying the scythe to the human race at irregular intervals; though it is likely that restriction of marriage and marriage relationships, along with the practices of abortion and infanticide have been more continuous factors in restricting population.

Confining our further survey to events in England since 1800, it appears that before civil registration of births began in 1837, and from that year up to 1876, the birth-rate varied little, remaining at 34 to 35 per 1,000 of the population. After that year it began steadily to decline, and in 1925 it was 18.3, the death-rate for the same year being 12.2 per 1,000.

Now in 1801 the population of England and Wales was somewhat over 9 millions, nearly 23 millions in 1871, 36 millions in 1911, and nearly 38 millions in 1921. This

more than four-fold increase of the population evidently has not been due to *an increase* in the birth-rate. This rate has steadily declined since 1876. The increase has been caused by an increasing balance of births over deaths, owing to the phenomenal reduction of the death-rate. In the thirty years 1841-70 the death-rate averaged 21.1 per 1,000, while in recent years it has been only 11 to 12 per 1,000; and the actual number of deaths in 1925 was smaller than in 1867, when the population was only about 56 per cent. of that estimated for 1925. The exact share which increased national prosperity, improved industrial conditions, and general sanitary reform have borne in securing this result may well be left an open question.

The present rate of increase of population in this country, by excess of births over deaths, is short of 1 per cent. per annum; and inasmuch as a declining birth-rate implies that the average age of the population is increasing, and that the proportion above childbearing ages will soon increase, it follows—assuming a continuance of existing conditions,—that the number born for a given number living will steadily decrease. In a couple of generations from the present time we may expect the margin of increase to disappear, if actual decline of total population has not already started.

That this change in the trend of the population—a trend which is showing itself in Western European countries generally and in America—is due in the main to increasing volitional control of conception cannot, I think, be seriously disputed, though other factors are doubtless concerned (see pp. 103-111 of my *Elements of Vital Statistics in their Bearing on Social and Public Health Problems*, 1923).

The decline of the birth-rate has been shared by most western nations, though for a shorter or longer period and to a varying extent; and bearing in mind the forbiddal of contraceptives in Roman Catholic communities, the relatively slow adoption of these in Eastern Europe, and the apparent unlikelihood of early adoption of similar procedures on a national scale among the yellow and black races, it would not be difficult to frame a forecast of prospec-

tive substitution of Slavonic, of Jewish, of Mongolian and of Negro for the Nordic and allied communities. While making this statement, I refrain from suggesting the inherent superiority—though there are differences—of one section of white people over others, or of white over yellow or black peoples. But caution in making forecasts is needed. This is an age of vast changes in social and moral values; and the current of events may be inscrutably changed. It is highly improbable, however, that the phenomenal increase of population in the eighteenth and nineteenth centuries will be repeated; or that any future industrial revolution will be associated with a repetition of the unique growth of population of this recent period.

Malthus' forecasts as to relative growth of population and means of subsistence have so far been falsified in the events. He died in 1834; and during the last hundred years it is estimated that the world population has increased from 6 or 7 hundred millions to 17 or 18 hundred millions. In England the population has increased more than four-fold; but allowing for the doubled purchasing power of money "we were (i.e. *per capita*) in 1914 about four times as well off as we were in 1800" (Carr-Saunders quoting Sir Josiah Stamp).

The occurrence of a vast amount of unemployment does not prove excessive population; it points rather to failure of adjustment in the industrial system; and present unemployment is caused chiefly by the loss of much of our export trade since the Great War. Nor does the present position appear to have been associated with a general lowering of the standard of comfort. There is evidence that both in nutrition and clothing children generally are in better condition than before the War. Present circumstances, furthermore give little support to the forecast made by Mr. Keynes (in *Economic Consequences of the Peace*) a few years ago, that in Europe

"the danger confronting us . . . is the rapid depression of the standard of life of the European populations to a point which will mean actual starvation for some" (quoted by Dean Inge in his *England*, p. 204).

England at least notwithstanding such avoidable calamities as the great coal strike, is slowly recovering its prosperity. We may advantageously recall the Victorian forecasts as to "shooting Niagara" and the fact that continental writers soon after Waterloo (1815) compared England to Carthage; and Dean Inge's quotation of the following remark (Dec. 18, 1816), contained in an address of the Common Council of the City of London to the Prince Regent, is not without encouragement in the even more serious post-bellum period, 1819-26.

"Under the irresistible pressure of distress and misery the commercial, agricultural, and manufacturing interests are rapidly sinking."

That either by volitional control, or apart from this, checks and counter-checks come into action under the impulsion of great forces, is indicated by Professor Bowley's investigations into poverty in a group of English industrial towns. Prior to the Great War, 11 per cent. of the families in these towns were living in a state of poverty; after the War the proportion of such families was found to be 6½ per cent. The effect of increased wages in producing this reduction of poverty was twice as great as that exercised by diminution in number of large families [p. 22 of *Has Poverty Diminished?* by A. L. Bowley and M. H. Hogg, 1925 (P. S. King & Son.)].

Similar considerations lead us to receive with doubt, almost with incredulity, Dean Inge's forecast:

"I have already given reason for thinking that a hundred years hence England will be once more preponderantly agricultural with a much smaller population than it has at present."

Nor can we accept his view (in *England*, p. 136) that the Great War was a necessary blood-letting for congested populations, that "the loss of numbers occasioned by the War was in itself an advantage," and that the shrinkage of population was not "so pronounced as the needs of the European countries demanded." There was needed rather a different spirit between the nations, co-operation taking the place of cut-throat rivalry, and a further need for freedom of trade, subject to equitable conditions of work,

to replace artificial barriers in the sale of the products of industry.

So far from agreeing with Dean Inge that " a decrease in numbers would be very beneficial to England " (p. 201), we regard the fears of over-population as now unfounded. J. A. Spender has pointed out (*The Public Life*, Vol. II) that the whole population of the world could find standing room on the Isle of Wight, and that the Congo Basin and the valley of the Amazon would grow wheat for the whole world. The general standard of living is rising, even among the backward peoples, but the limits of production have not been reached. Great advances are being made in controlling and extending the production of both animal and vegetable foods ; and it would be difficult to state limits for the possible and even probable extensions of our food supplies. Meanwhile the socially momentous discovery has been made that human fertility can be controlled by contraceptive devices, while sexual congress continues ; and whatever view may be taken as to the wisdom or the morality of these procedures, no doubt can be entertained that they are already practised on almost a national scale, and will in time become available for all who desire them.

THE ARTIFICIAL CONTROL OF FERTILITY

Health and social workers are necessarily concerned with the question of contraceptives ; and in considering this problem they need to avoid unnecessary intrusions into the sanctities of family life, which may possibly help to lower its standards, and thus undermine what is most precious in communal life.

There is needed careful teaching of the elements of biology and a cessation of the " silent obscurantism " of the past. Many teachers themselves are untaught ; and teaching and example alike, and the increasing force of public opinion are required to help parents to instil into the minds of their boys respect for their own bodies, and to prevent this from being counteracted by sniggering obscenity outside the home, whether in conversation, in picture shows or plays, or in newspapers.

Personal responsibility in such matters should be based on precise knowledge ; and this knowledge should not be derived from the foolish and mischievous books on the subject which at present are allowed to set out information on sexual subjects in voluptuous chapters.

Both in regard to venereal diseases and to " birth-control " there has been a general departure from the older practice of reticence since the issue of the Report of the Royal Commission on Venereal Diseases in 1916 ; and this greater openness of discussion can be made conducive to morality and health if wisely directed.

The voluntary restriction of size of family has, as already indicated, been practised through the ages, abortion and infanticide being often resorted to, as social circumstances ceased to favour marital abstinence for prolonged periods ; and these three chief means were frequently adopted in various countries, and are still in partial operation, where ignorance or carelessness or other causes have prevented the use of contraceptives. There is still considerable production of abortion, by surgical means or by administration of lead or other abortifacients, in some countries and in certain limited circles, although its practice is legally a crime ; and the prevention of conception by mechanical or chemical agents as compared with the production of abortion may be regarded as an advance in civilization. But the use of contraceptives is beset with objections, which can only be briefly summarized here. Their use in the first place implies almost inevitably a lowering of the ideal of marital union ; and to encourage it in the newly married at the beginning of their life together is in my view unjustifiable. The primary objects of marriage are to create a family, and to secure the mutual comfort of husband and wife ; and the refusal to complete the family is anti-social, except in instances in which for either medical or strictly defined social reasons, this is desirable.

It can be urged, furthermore, that the general sanction of the use of contraceptives in married life, greatly weakens the objection to their use extra-maritally ; and there is reason to think that practice based on this view is having

very serious anti-social consequences. I do not regard the fear of pregnancy in such irregular unions as an adequate motive for continence ; but the absence of this fear caused by the spread of contraceptive information undoubtedly is leading to much sexual evil. There is needed, for counteracting this new danger, the inculcation of an elevated view of the sexual functions and the idealization of love, with appeals to self-respect and to the sense of right. Such appeals are weakened by the general practice of contraceptive methods of "birth-control" in married life.

There is much inconsistent testimony as to whether health is adversely affected by the use of contraceptives. Evidence, which is free from possible error, is scanty ; and I am not convinced that nature can always thus be cheated for years in succession without physical and psychical mischief occurring in addition to the lowering of moral outlook which the indiscriminate use of contraceptives appears to me to imply.

But whatever view be taken of the use of contraceptives, their use is becoming increasingly general, and it is futile to "draw an indictment against a nation." It may be also that the use of contraceptives is only a passing phase. We appear to be almost within reach of the ability to pre-determine sex. It may also become possible to control fertility by dietetics or by actinic or other methods, which do not imply a recurrent degradation of married life. But that the majority of men and women, having once acquired the power voluntarily to control the number of their children, will refrain from exercising this power by some method or other appears to be highly improbable. Restriction of population has always been an established practice ; but its restriction by current methods constitutes a revolution in the conditions of modern society, the consequences of which in the circumstances of each individual family need to be carefully weighed from every point of view. In such judicial consideration the need for idealization of married life should take first place ; next should come the interest and welfare of the children to be born—a consideration which will involve a decision as to whether a child should

be deprived of the inestimable advantage of a graduated family life—economic and social considerations will always be weighed, and in this connection a desire for a more comfortable life and an excessive ambition for one or two children may imply loss in the realities of life for these which would have been forthcoming had there been four or five children. It would be unfair to suggest that in the sections of society in which the family comfort of a single or two-child family is preferred to the abstract obligation to contribute a larger share to the next generation, the motives are chiefly selfish ; but it should be emphasized that unless parents have at least three children who survive the risks of early life, so far as they are concerned, the population will not even remain stationary, but must decline.

At this point there necessarily arise the difficult problems involved in the so-called differential birth-rate.

CHAPTER XIX

THE UNEQUAL SOCIAL DISTRIBUTION OF THE BIRTH-RATE

THE number of children per family varies greatly, as is well known ; and this difference holds good on the average for large social groups of the population. Dr. Stevenson, in his official report on Fertility based on national data (1911) for England, has shown that the most fertile 25 per cent. of the population produced 31.4 per cent. of children born and 30.5 per cent. of the children surviving to higher ages. If for marriages which have lasted thirty to forty years the number of surviving children for the upper and middle class be stated as 100, the corresponding number of children for unskilled workers was 132, for textile workers 114, and for miners 145 (see p. 98, *Elements of Vital Statistics*). Is this unequal social distribution of the net or efficient birth-rate conducive to maintenance of the national status in inherited health and other desirable qualities? Or is the result dysgenic?

That the aggregate effect of the higher birth-rate in the section of the population which lives in the poorest circumstances is unfavourable to a high standard of health and general well-being cannot be doubted ; though even in this respect a somewhat guarded statement is needed. That those who can provide more satisfactorily for their offspring in respect of nutrition, of greater possibilities of mental and ethical culture, do not, in some sections of society contribute as many children as will prevent actual decrease of numbers, is clearly inconsistent with the communal interest. On the other hand, there is abundant evidence that the relative (not absolute) poverty of larger families in countless families is compensated for, largely if

not completely, by the care of devoted parents, and by the inestimable value of the social training in what is best in life which a complete family affords.

Assuming, however, that the cultural conditions of the families of the poorer classes as a rule imply some inferiority of accomplishment in life—whether in health or in intellectual attainment—is the result dysgenic, in the sense that there has been an excessive propagation of inherited inferiority? Or would the result be remediable by conceivable improvements in the circumstances of the poor? If we are to resolve this doubt, we must be able to distinguish clearly defect or inferiority which is essential or inherent in the parental origin of the child, from that which may have resulted from unfavourable conditions affecting the child during intra-uterine life, at birth, or after birth. This distinction is commonly ignored, and it is difficult and may be impossible to separate inherited and environmental influence.

Most writers on this subject have no hesitation in affirming that the present position is dysgenic. Thus Dean Inge (in *England*):

“We shall be safe in rejecting the most extreme positions on both sides, but certainly not in contending that there is no intrinsic inferiority in the crowds of unwanted children who infest the alleys of our great cities.”

Were this statement scientifically correct—although stated in words that jar—we might accept Dr. Inge’s conclusions that a reduced population is desirable for England, and that “measures ought to be taken to encourage methods of birth-control among the masses of the population” (loc. cit., p. 208).

In another paragraph he states more sweepingly the inferiority of the more fertile classes (loc. cit., p. 213):

“There is not really the slightest doubt that whatever tests of physical and mental proficiency are chosen, the children of the upper and middle classes are [intrinsically] far better [endowed] than the children of the unskilled labourers.”

A statement which might pass muster, if the words

which I have enclosed in brackets, as presumably intended to represent inherited superiority, were omitted.

But in both of these quotations the two possible factors, implying two different explanations of the "inferiority" of certain sections of the population, are almost unavoidably—it must be admitted—confused; and whether the "inferiority" is inherited or acquired cannot with certainty be determined, excepting in the case of a number of rare diseases in which there is satisfactory proof of true heredity, e.g. hæmophilia, colour-blindness, and night-blindness.

It is unnecessary to discuss here the vast literature bearing on the problem as to the relative importance of heredity and environment in life; but it may be mentioned that recent experiments on animals appear to have demonstrated the importance of environment both in originating mutation and in selecting the variants.

In regard to most conditions no means has yet been discovered for distinguishing clearly between inherent or biological unfitness and unfitness acquired as the consequence of social and economic evils. In the past, for instance, congenital deafness due to syphilis in the parent has been regarded as truly hereditary. Ante-natal infection or toxic poisoning and defects of the environment and of the food of the expectant mother are now recognized as responsible for much disease and for many defects in children which were formerly regarded as the result of heredity. It may be said that feeble-mindedness in children is a serious exception to this statement; but even in this instance, exact investigation is showing that many feeble-minded children owe their condition to accident, as, for instance, injury at the time of birth, or to disease occurring during intra-uterine life or after birth. Even on the supposition that a majority of the cases of mental defect are hereditary, the number who have actually defective parents form only a small proportion of the total cases. Marriage of persons of defective intellect should, of course, be prohibited, even if their condition were never inherited, for such persons cannot support a family; but we cannot expect by any method of segregation or sterilization of the feeble-minded

to secure more than a relatively small reduction in the total number of such persons.¹

Before more definite action is practicable, vastly extended knowledge of the multiple causation of mental defect is needed; and when our knowledge has been thus increased, it will probably be found that the ill-effects of infection, of toxæmia, of nutritional defects, of accident and prior disease have been seriously underrated.

That inheritance plays an essential part in determining intelligence, as well as such physical characters as stature, colour of hair, and other family peculiarities, is undoubted. But we know so little about the laws of mutation and the origin of sudden changes in inheritance—as witness the emergence of the great men of literature and of science in undistinguished families—that dogmatism as to the inherited distribution of intelligence, for instance, is scarcely justified. We may agree that inherently there are remarkable differences between families in potential intelligence; though even the facts given in Galton's *Hereditary Genius* fail to show that a large share of what is attributed to heredity is not the resultant of superior culture—using this word in its widest signification—from conception to birth, and from birth onwards to adult life, to which must be added the social advantage in producing a distinguished career which belonging to a distinguished family implies. What is not disproved is that in multitudes of families, few if any members of which have become distinguished, "mute inglorious Miltons" have been prevented from finding voice and expression in life by adverse social and economic conditions. And until we possess—if we ever shall possess—accurate tests for potential intellect, it cannot safely be asserted that one social class more than another possesses an exceptionally high or low proportion of intellectual ability.

¹ This subject and many other aspects of heredity are very fairly discussed in Major Leonard Darwin's *Eugenic Reform*, in which he quotes the statement that "the majority of the feeble-in-mind are either the children of parents who appear to be normal or of such as are suffering from mental abnormalities which do not come within the scope of the English Act"; but contends that, nevertheless, granting the truth of this statement, "might not even the partial elimination from the nation of this unfortunate class be a result well worth striving for?"

Donkin's words (quoted by Prof. A. Thomson, p. 88, *Towards Health*) bear on this point :

“ The mind of the human adult is mainly a social product ; and can only be understood in relation to the special environment with which it is in perpetual interaction. . . . Man's mind, like his body, is certainly born and made, but his adult mind is much more made than born.”

The biometrician—when he makes such statements as the following (Prof. K. Pearson) : “ The influence of environment is not one-fifth that of heredity, and quite probably not one-tenth of it ”—is displaying an appearance of exactitude which cannot fail to excite mistrust.

Without attempting to discuss in detail the problem of heredity certain important points need to be recalled. In the first place either heredity or environmental factors may sometimes bring about the same result. Thus a certain stature runs in families ; but the lower average stature of children of the labouring classes is due in part at least to defective nutrition ; and “ a cubit ” can be added to the stature in these instances by “ taking care.” There begins, when conditions improve, a return towards the average height of the race or family, which has been temporarily disturbed. Furthermore, heredity and environment, nature and nurture, can only act in conjunction. Certain defects are truly hereditary (see above) ; but no disease is inherited. The liability to certain diseases may be greater in some families than in others ; but this liability does not materialize unless favoured by circumstances ; and we are not certain that an acquired tendency to disease may not gradually become a truly inherited tendency. We cannot separate heredity and environment, and, as Thomson has put it, “ we do not discuss the relative importance of the lock and its key.” There is no human being who in the words of Prospero is

“ A devil, a born devil, on whose nature
Nurture can never stick ” ;

though initial potentialities may vary as greatly as differences in human nurture.

Although we must desire our knowledge of heredity, as of all science, to become quantitative in character, it is not possible with our present knowledge to agree with statements made by biometrical investigators that drinking habits of parents, the industrial occupation of mothers, artificial feeding of the infant, etc., have but little influence on health and survival of children (see Chapter XLV of my *Elements of Vital Statistics*).

The effect of excessive infant mortality on the physical welfare of the survivors has been discussed with some heat, and this has been especially the fate of the extract quoted below. In a report to the Local Government Board on "Infant and Child Mortality, 1910" (Cd. 5263) I threw doubt on the generally assumed selective influence of infant mortality. I found that in England heavy or light mortality in infancy was followed by corresponding heavy or light mortality at higher ages, and stated:

"If natural selection during infancy has left a juvenile population less prone to disease, the effect of this selection is most effectively and completely concealed by the evil environment, which causes the hypothetically stronger survivors to suffer from excessive mortality, so long as they can be traced through life."

This statement, although consistent with the view that infant mortality was not selective, did not separate between intrinsic and environmental influences. The statistics on which the statement was based merely showed that in the common experience of this country

"environment has a preponderant influence in determining the magnitude of infantile and child mortality in a community; and the increasing efforts of hygienists to improve environment need not be embarrassed by suggestions that such efforts may exert an inimical influence on the quality of mankind" (*Elements of Vital Statistics*, p. 359).

In the above-quoted study of this subject, the concurrent experience of infants and older children in the same population was examined. In later investigations attempts have been made to follow the same children in successive years of life. The most recent of these inquiries is Dr. J. S. Falk's

investigation on Chicago children (*Journal of Preventive Medicine*, Vol. I, No. 2, 1926), based on the experience during 1910-25 of some 46,500 children followed up to the age of 10 years. His results confirm the earlier English national results, based on concurrent observation of vital statistics, variations in infant mortality being positively correlated with corresponding variations in the mortality of the subsequent nine years of life of the same children. We can confidently conclude that, as indicated in the preceding extracts from my reports, reduction of the evils which cause excessive infant mortality implies also improved health of the survivors to higher ages from non-lethal diseases.

The hereditary predisposition to tuberculosis is still occasionally regarded as an important factor in the causation of this disease. Evidently the frequency of tuberculosis in the same family does not prove this, as it is better explained by infection, without which we know tuberculosis cannot occur. Nor does the escape of the partner of a consumptive patient point to the conclusion that heredity is more important than infection, in view of the oft-times prolonged latency of tuberculous infection, and the fact that when simple precautions are taken throughout illness, the protracted or massive infection needed for what I have called *effective infection* need not occur. Whether, however, infection favoured by malnutrition, or by industrial or other conditions, is the essential factor for all, or these need to be favoured by an inherited weakness, it is obviously undesirable that those suffering from tuberculosis should bear children or remain in prolonged contact with them. (See the discussion in my *Prevention of Tuberculosis*, 1908, pp. 183-90.)

Alcoholic indulgence on a national scale is still regarded by some as a wholesome means for the elimination of those neurotic or otherwise undesirable persons who fall victims to alcoholism. National experience when correctly read does not support this conclusion; in France, for instance, in which wine and cider have been the universal beverages for many generations, excess in spirit-drinking has become a source of serious national anxiety.

Nor do the experiments on animals by Stockard and others justify sweeping generalizations as to the selective value of alcohol. Experimental results are discrepant; and even were it true that the terrible evils of alcoholism are mitigated by its selective influence on humanity, we cannot in a civilized country contemplate the desirability of "promoting drunkenness to-day in order to diminish drunkenness to-morrow" (*The Need for Eugenic Reform*, by Leonard Darwin, p. 89). Nothing is more evident—notwithstanding misleading statistics based on imperfect social investigations, and in spite of experiments on small animals—than that alcoholic excess is a great source of personal and family degradation.

There is frequent mental confusion between the presence of *inferiority* and the occurrence of *deterioration*. If much physical or mental defect is found in a group of observations it is too readily assumed that conditions are becoming worse, and that our population is deteriorating. The absence of reliable data on a considerable scale for more than ten or twenty years renders such statements untrustworthy; while observations of children of corresponding age, sex, and social position before and after the Great War gives evidence of definite physical improvement, as regards weight, height, and amount of rickets.

Children can be graded physically according to the size of the dwelling; and similarly infantile diseases, tuberculosis, etc., become less fatal as the number of rooms in each dwelling increases. This points to environment as the chief cause of difference in physique and in amount of disease. It would be a mistake to assume that housing by itself explains the differences. The housing must be taken as an index of cleanliness, of nutrition, and of parental care, to which should be added the initial efficiency of the parents themselves.

In preceding paragraphs an attempt has been made to show how limited is our knowledge of the laws governing the inheritance of health, intelligence and character, and disease. Dean Inge himself is aware of this limitation, as indicated by his remark in *England*:

“ Applied eugenics might remedy the evil, *when more is known* about the laws of heredity than has yet been established with any certainty.” (Italics added.)

Major Leonard Darwin, in his judicious work on *The Need for Eugenic Reform*, 1926, is equally cautious. He emphasizes the supremely important condition that “ our most important aim in all social reform should be to improve human behaviour ” ; and he lays down the dictum that, as judged by experience, “ moral acts never do harm, while immoral acts never fail to do so.” He also wisely objects to “ any general or promiscuous propaganda in favour of family limitation ” (by contraceptive methods), while advocating that it should be available for married women on demand, and while stating that “ a knowledge of the methods of contraception certainly greatly tends to intensify this harmful result of family limitation ” (i.e. a more rapid rate of multiplication of stocks deficient in such natural endowments as favour prudential behaviour).

Throughout our consideration of this problem, at every point there arises the difficulty of distinguishing between nature and nurture. The two extremes of thought both present a distortion of truth : and neither school appears to give adequate recognition to the importance of moral character which is the individual's own acquisition. The belief that we are the creatures of fixity of inherited characters or on the other hand that we are clay in the potter's hand formed by the circumstances of life, are alike detrimental to the rational and complete life which is possible to the vast majority of mankind. Biological Calvinism and environmental determinism form a double enslavement, if we accept them as compassing the circle of life. Environment is the material out of which character is formed ; but man can vary his environment at will, and can thus in large measure determine his character, and in this way supply the chief requirement for a really prosperous human community. Hence, while accepting that a child can only develop into what he was potentially to begin with, we are brought to realize the importance of nurture, embracing the many complex elements of shelter and clothing, of sanitation, of

adequate nutrition, of protection from infections, of the daily culture of satisfactory society and training, of scholastic and extra-scholastic education, of rest and recreation, of play and amusement, of adequate work, and of avoidance of undue or unwholesome excitation by cinemas, plays, or suggestive novels or pictures. The totality of environment for the idealist means the utilization of every channel of stimulus and training, including development of the power of inhibition, in the upbringing of children. He does not minimize the importance of heredity, or deny the superiority of some human strains over others; but recognizing the multiplicity of possibilities in every family and that in nature new varieties are all the time being created, he deprecates the attempt prematurely to intrude that interference in the formation of families which crude and imperfect knowledge suggests; reserving interference for the rare instances in which action against an evil can be based on exact and adequate scientific evidence.

The ideal is one of social rather than of individual progress; and of maintenance of the social standard, as represented by its highest present attainment. The historical outlook on social progress, especially on its moral side, inspires hope for the future (see Chapter XV). The moral discipline of modern social life has rendered possible the great achievements of the last century in industrial, sanitary, and social amelioration. The limited moral outlook of the period of industrial reform, an outlook which still persists too widely, was concerned chiefly with self-respect and efficiency rather than with service to others. Now, happily, a wider and more altruistic attitude is becoming less rare, and a large portion of society is imbued with the ideal of rendering it possible for each person to live a useful and a not impoverished life, restrained only so far as is necessary for the well-being of society. The political economy of Adam Smith and of Malthus, although it removed many economic fallacies, "de-humanized industry" (Whitehead, A. N., F.R.S., *Science and the Modern World*, 1927). It reduced human relations to cast-iron merciless dimensions. It answered God's question to Cain—"Am I my brother's

keeper? ”—in an emphatic negative. Now we are slowly emerging from this stage ; and in this process, we need to proceed with all forms of good work. As Whitehead has put it :

“ The evils of the future . . . dangerous and threatening . . . the loss of religious faith, the malignant use of material power, the degradation attending a differential birth-rate favouring the lower types of humanity ”—

must be viewed from the standpoint that these evils are not new.

“ From the dawn of history, mankind has always been losing its religious faith, has always suffered from the malignant use of material power, has always suffered from the infertility of its best intellectual types. . . . At the present time, as at other epochs, society is decaying, and there is need of preservative action.”

But, in Professor Whitehead’s words, “ if mankind can rise to the occasion, there lies in front a golden age of beneficent creativeness.”

The struggle for existence has too exclusively been regarded as implying attempts at the destruction of others. But success in this struggle, especially for mankind, has been achieved by his triumph over his environment, and by his so modifying his environment that both he and his fellows benefit. It is in this continuing modification of the environment, especially of our social and moral environment, that human hope for the future lies. There is ample current evidence of instability of standards, and this may sometimes cause dismay ; but in history the great ages have been ages of instability ; and reflecting on the transformation of mankind’s habits and mentality which has been secured, we can in the presence of much social upheaval maintain our confidence in the future.

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which I have enclosed in brackets, as presumably intended to represent inherited superiority, were omitted.

But in both of these quotations the two possible factors, implying two different explanations of the "inferiority" of certain sections of the population, are almost unavoidably—it must be admitted—confused; and whether the "inferiority" is inherited or acquired cannot with certainty be determined, excepting in the case of a number of rare diseases in which there is satisfactory proof of true heredity, e.g. hæmophilia, colour-blindness, and night-blindness.

It is unnecessary to discuss here the vast literature bearing on the problem as to the relative importance of heredity and environment in life; but it may be mentioned that recent experiments on animals appear to have demonstrated the importance of environment both in originating mutation and in selecting the variants.

In regard to most conditions no means has yet been discovered for distinguishing clearly between inherent or biological unfitness and unfitness acquired as the consequence of social and economic evils. In the past, for instance, congenital deafness due to syphilis in the parent has been regarded as truly hereditary. Ante-natal infection or toxic poisoning and defects of the environment and of the food of the expectant mother are now recognized as responsible for much disease and for many defects in children which were formerly regarded as the result of heredity. It may be said that feeble-mindedness in children is a serious exception to this statement; but even in this instance, exact investigation is showing that many feeble-minded children owe their condition to accident, as, for instance, injury at the time of birth; or to disease occurring during intra-uterine life or after birth. Even on the supposition, that a majority of the cases of mental defect are hereditary, the number who have actually defective parents form only a small proportion of the total cases. Marriage of persons of defective intellect should, of course, be prohibited, even if their condition were never inherited, for such persons cannot support a family; but we cannot expect by any method of segregation or sterilization of the feeble-minded

to secure more than a relatively small reduction in the total number of such persons.¹

Before more definite action is practicable, vastly extended knowledge of the multiple causation of mental defect is needed ; and when our knowledge has been thus increased, it will probably be found that the ill-effects of infection, of toxæmia, of nutritional defects, of accident and prior disease have been seriously underrated.

That inheritance plays an essential part in determining intelligence, as well as such physical characters as stature, colour of hair, and other family peculiarities, is undoubted. But we know so little about the laws of mutation and the origin of sudden changes in inheritance—as witness the emergence of the great men of literature and of science in undistinguished families—that dogmatism as to the inherited distribution of intelligence, for instance, is scarcely justified. We may agree that inherently there are remarkable differences between families in potential intelligence ; though even the facts given in Galton's *Hereditary Genius* fail to show that a large share of what is attributed to heredity is not the resultant of superior culture—using this word in its widest signification—from conception to birth, and from birth onwards to adult life, to which must be added the social advantage in producing a distinguished career which belonging to a distinguished family implies. What is not disproved is that in multitudes of families, few if any members of which have become distinguished, “mute inglorious Miltons” have been prevented from finding voice and expression in life by adverse social and economic conditions. And until we possess—if we ever shall possess—accurate tests for potential intellect, it cannot safely be asserted that one social class more than another possesses an exceptionally high or low proportion of intellectual ability.

¹ This subject and many other aspects of heredity are very fairly discussed in Major Leonard Darwin's *Eugenic Reform*, in which he quotes the statement that “the majority of the feeble-in-mind are either the children of parents who appear to be normal or of such as are suffering from mental abnormalities which do not come within the scope of the English Act” ; but contends that, nevertheless, granting the truth of this statement, “might not even the partial elimination from the nation of this unfortunate class be a result well worth striving for?”

Donkin's words (quoted by Prof. A. Thomson, p. 88, *Towards Health*) bear on this point :

"The mind of the human adult is mainly a social product ; and can only be understood in relation to the special environment with which it is in perpetual interaction. . . . Man's mind, like his body, is certainly born and made, but his adult mind is much more made than born."

The biometrician—when he makes such statements as the following (Prof. K. Pearson) : "The influence of environment is not one-fifth that of heredity, and quite probably not one-tenth of it"—is displaying an appearance of exactitude which cannot fail to excite mistrust.

Without attempting to discuss in detail the problem of heredity certain important points need to be recalled. In the first place either heredity or environmental factors may sometimes bring about the same result. Thus a certain stature runs in families ; but the lower average stature of children of the labouring classes is due in part at least to defective nutrition ; and "a cubit" can be added to the stature in these instances by "taking care." There begins, when conditions improve, a return towards the average height of the race or family, which has been temporarily disturbed. Furthermore, heredity and environment, nature and nurture, can only act in conjunction. Certain defects are truly hereditary (see above) ; but no disease is inherited. The liability to certain diseases may be greater in some families than in others ; but this liability does not materialize unless favoured by circumstances ; and we are not certain that an acquired tendency to disease may not gradually become a truly inherited tendency. We cannot separate heredity and environment, and, as Thomson has put it, "we do not discuss the relative importance of the lock and its key." There is no human being who in the words of Prospero is

"A devil, a born devil, on whose nature
Nurture can never stick" ;

though initial potentialities may vary as greatly as differences in human nurture.

Although we must desire our knowledge of heredity, as of all science, to become quantitative in character, it is not possible with our present knowledge to agree with statements made by biometrical investigators that drinking habits of parents, the industrial occupation of mothers, artificial feeding of the infant, etc., have but little influence on health and survival of children (see Chapter XLV of my *Elements of Vital Statistics*).

The effect of excessive infant mortality on the physical welfare of the survivors has been discussed with some heat, and this has been especially the fate of the extract quoted below. In a report to the Local Government Board on "Infant and Child Mortality, 1910" (Cd. 5263) I threw doubt on the generally assumed selective influence of infant mortality. I found that in England heavy or light mortality in infancy was followed by corresponding heavy or light mortality at higher ages, and stated :

"If natural selection during infancy has left a juvenile population less prone to disease, the effect of this selection is most effectively and completely concealed by the evil environment, which causes the hypothetically stronger survivors to suffer from excessive mortality, so long as they can be traced through life."

This statement, although consistent with the view that infant mortality was not selective, did not separate between intrinsic and environmental influences. The statistics on which the statement was based merely showed that in the common experience of this country

"environment has a preponderant influence in determining the magnitude of infantile and child mortality in a community ; and the increasing efforts of hygienists to improve environment need not be embarrassed by suggestions that such efforts may exert an inimical influence on the quality of mankind" (*Elements of Vital Statistics*, p. 359).

In the above-quoted study of this subject, the concurrent experience of infants and older children in the same population was examined. In later investigations attempts have been made to follow the same children in successive years of life. The most recent of these inquiries is Dr. J. S. Falk's

investigation on Chicago children (*Journal of Preventive Medicine*, Vol. I, No. 2, 1926), based on the experience during 1910-25 of some 46,500 children followed up to the age of 10 years. His results confirm the earlier English national results, based on concurrent observation of vital statistics, variations in infant mortality being positively correlated with corresponding variations in the mortality of the subsequent nine years of life of the same children. We can confidently conclude that, as indicated in the preceding extracts from my reports, reduction of the evils which cause excessive infant mortality implies also improved health of the survivors to higher ages from non-lethal diseases.

The hereditary predisposition to tuberculosis is still occasionally regarded as an important factor in the causation of this disease. Evidently the frequency of tuberculosis in the same family does not prove this, as it is better explained by infection, without which we know tuberculosis cannot occur. Nor does the escape of the partner of a consumptive patient point to the conclusion that heredity is more important than infection, in view of the oft-times prolonged latency of tuberculous infection, and the fact that when simple precautions are taken throughout illness, the protracted or massive infection needed for what I have called *effective infection* need not occur. Whether, however, infection favoured by malnutrition, or by industrial or other conditions, is the essential factor for all, or these need to be favoured by an inherited weakness, it is obviously undesirable that those suffering from tuberculosis should bear children or remain in prolonged contact with them. (See the discussion in my *Prevention of Tuberculosis*, 1908, pp. 183-90.)

Alcoholic indulgence on a national scale is still regarded by some as a wholesome means for the elimination of those neurotic or otherwise undesirable persons who fall victims to alcoholism. National experience when correctly read does not support this conclusion; in France, for instance, in which wine and cider have been the universal beverages for many generations, excess in spirit-drinking has become a source of serious national anxiety.

Nor do the experiments on animals by Stockard and others justify sweeping generalizations as to the selective value of alcohol. Experimental results are discrepant; and even were it true that the terrible evils of alcoholism are mitigated by its selective influence on humanity, we cannot in a civilized country contemplate the desirability of "promoting drunkenness to-day in order to diminish drunkenness to-morrow" (*The Need for Eugenic Reform*, by Leonard Darwin, p. 89). Nothing is more evident—notwithstanding misleading statistics based on imperfect social investigations, and in spite of experiments on small animals—than that alcoholic excess is a great source of personal and family degradation.

There is frequent mental confusion between the presence of *inferiority* and the occurrence of *deterioration*. If much physical or mental defect is found in a group of observations it is too readily assumed that conditions are becoming worse, and that our population is deteriorating. The absence of reliable data on a considerable scale for more than ten or twenty years renders such statements untrustworthy; while observations of children of corresponding age, sex, and social position before and after the Great War gives evidence of definite physical improvement, as regards weight, height, and amount of rickets.

Children can be graded physically according to the size of the dwelling; and similarly infantile diseases, tuberculosis, etc., become less fatal as the number of rooms in each dwelling increases. This points to environment as the chief cause of difference in physique and in amount of disease. It would be a mistake to assume that housing by itself explains the differences. The housing must be taken as an index of cleanliness, of nutrition, and of parental care, to which should be added the initial efficiency of the parents themselves.

In preceding paragraphs an attempt has been made to show how limited is our knowledge of the laws governing the inheritance of health, intelligence and character, and disease. Dean Inge himself is aware of this limitation, as indicated by his remark in *England*:

" Applied eugenics might remedy the evil, *when more is known* about the laws of heredity than has yet been established with any certainty." (Italics added.)

Major Leonard Darwin, in his judicious work on *The Need for Eugenic Reform*, 1926, is equally cautious. He emphasizes the supremely important condition that " our most important aim in all social reform should be to improve human behaviour " ; and he lays down the dictum that, as judged by experience, " moral acts never do harm, while immoral acts never fail to do so." He also wisely objects to " any general or promiscuous propaganda in favour of family limitation " (by contraceptive methods), while advocating that it should be available for married women on demand, and while stating that " a knowledge of the methods of contraception certainly greatly tends to intensify this harmful result of family limitation " (i.e. a more rapid rate of multiplication of stocks deficient in such natural endowments as favour prudential behaviour).

Throughout our consideration of this problem, at every point there arises the difficulty of distinguishing between nature and nurture. The two extremes of thought both present a distortion of truth : and neither school appears to give adequate recognition to the importance of moral character which is the individual's own acquisition. The belief that we are the creatures of fixity of inherited characters or on the other hand that we are clay in the potter's hand formed by the circumstances of life, are alike detrimental to the rational and complete life which is possible to the vast majority of mankind. Biological Calvinism and environmental determinism form a double enslavement, if we accept them as compassing the circle of life. Environment is the material out of which character is formed ; but man can vary his environment at will, and can thus in large measure determine his character, and in this way supply the chief requirement for a really prosperous human community. Hence, while accepting that a child can only develop into what he was potentially to begin with, we are brought to realize the importance of nurture, embracing the many complex elements of shelter and clothing, of sanitation, of

adequate nutrition, of protection from infections, of the daily culture of satisfactory society and training, of scholastic and extra-scholastic education, of rest and recreation, of play and amusement, of adequate work, and of avoidance of undue or unwholesome excitation by cinemas, plays, or suggestive novels or pictures. The totality of environment for the idealist means the utilization of every channel of stimulus and training, including development of the power of inhibition, in the upbringing of children. He does not minimize the importance of heredity, or deny the superiority of some human strains over others; but recognizing the multiplicity of possibilities in every family and that in nature new varieties are all the time being created, he deprecates the attempt prematurely to intrude that interference in the formation of families which crude and imperfect knowledge suggests; reserving interference for the rare instances in which action against an evil can be based on exact and adequate scientific evidence.

The ideal is one of social rather than of individual progress; and of maintenance of the social standard, as represented by its highest present attainment. The historical outlook on social progress, especially on its moral side, inspires hope for the future (see Chapter XV). The moral discipline of modern social life has rendered possible the great achievements of the last century in industrial, sanitary, and social amelioration. The limited moral outlook of the period of industrial reform, an outlook which still persists too widely, was concerned chiefly with self-respect and efficiency rather than with service to others. Now, happily, a wider and more altruistic attitude is becoming less rare, and a large portion of society is imbued with the ideal of rendering it possible for each person to live a useful and a not impoverished life, restrained only so far as is necessary for the well-being of society. The political economy of Adam Smith and of Malthus, although it removed many economic fallacies, "de-humanized industry" (Whitehead, A. N., F.R.S., *Science and the Modern World*, 1927). It reduced human relations to cast-iron merciless dimensions. It answered God's question to Cain—"Am I my brother's

keeper? ”—in an emphatic negative. Now we are slowly emerging from this stage; and in this process, we need to proceed with all forms of good work. As Whitehead has put it :

“ The evils of the future . . . dangerous and threatening . . . the loss of religious faith, the malignant use of material power, the degradation attending a differential birth-rate favouring the lower types of humanity ”—

must be viewed from the standpoint that these evils are not new.

“ From the dawn of history, mankind has always been losing its religious faith, has always suffered from the malignant use of material power, has always suffered from the infertility of its best intellectual types. . . . At the present time, as at other epochs, society is decaying, and there is need of preservative action.”

But, in Professor Whitehead’s words, “ if mankind can rise to the occasion, there lies in front a golden age of beneficent creativeness.”

The struggle for existence has too exclusively been regarded as implying attempts at the destruction of others. But success in this struggle, especially for mankind, has been achieved by his triumph over his environment, and by his so modifying his environment that both he and his fellows benefit. It is in this continuing modification of the environment, especially of our social and moral environment, that human hope for the future lies. There is ample current evidence of instability of standards, and this may sometimes cause dismay; but in history the great ages have been ages of instability; and reflecting on the transformation of mankind’s habits and mentality which has been secured, we can in the presence of much social upheaval maintain our confidence in the future.

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