

THE PUBLIC HEALTH.

THE DUTY OF THE NATION IN GUARDING IT.



THE good old Scriptural designation of three score years and ten as the term of human life, whether based upon the facts or fancies of an elder time, has worn well. It has seen the eager search for the fountains of perpetual youth falter and cease; it has seen the hope of an earthly immortality, in one generation after another, kindle and fade. Why, even at life's best, the physical activities of the body, now a little earlier, and now a little later, but somewhere, as a rule, among the shadows of three score years and ten, should grow tremulous and halt, we cannot certainly say.

We do not usually murmur at the natural term of life, however its brevity at the best may be accounted for. It is the accidents which we deplore and dread—accidents which befall us by the way, halting us as the shadows have only just begun to lengthen, or in mid-career, or when hope and promise as yet are all, and demanding our birthright.

The effect upon the average length of life of these accidents, which come sometimes from without, sometimes from within, and include all diseases, all hereditary misdirection of the body's machinery, and all adverse surroundings, has been so closely studied and so often recorded, that nowadays we have elaborate tables from which one may cast his horoscope, and learn year by year how much of his heritage, by the law of chance, he still can fairly claim, when his residence, his occupation, his age, his sex, and his race are taken into the account. "The expectation of life" is the phrase by which the summing up of this most significant of inventories is known among the statisticians. The fact is, however, that comparatively few people do realize their legitimate three score years and ten. And it is through disease that this sinister curtailment of life's allotted term most often occurs.

Since we have learned that no moral or physical rectitude, no diablerie of the crucible, no appeal or incantation, can much delay the natural ending of life, the dreams and hopes and toils of the minister at the bedside, of the solitary worker in his laboratory, or the stu-

dent at his books, have been leading them toward a new goal—not an extension of life's farthest limit, but its maintenance until it more often nears its natural bourn.

It is not easy—perhaps it is not possible—wholly to realize, as we drift along the busy stream of modern life, that we are just now living through and making an epoch in the knowledge of disease which is full of promise for the welfare of individuals and of nations, such as no other time has ever contemplated, save in dreams. We have long known that clean living, that avoidance of all excesses in work or play, in food or dress, afforded us, under whatever adverse conditions of heredity or environment, the best assurance possible of the fulfilment and enjoyment of life's allotted term. But in the last decade new light has come to us. We have learned little by little, as one by one the toilsome researches into the causes of disease have been brought to light, that a considerable number of the most common and dreaded scourges which so often stop life in the first flush of its promise, or at its full tide of enjoyment and usefulness, may be largely limited, or almost wholly blotted out, by intelligence and care. We now know that these appalling accidents to individuals and communities called plagues and pestilences, which aforesaid have masqueraded in the guise of "visitations of God's wrath," "pitiless calamities of fate," or the working of whatever the time recognized as a public or private Nemesis, are not inevitable factors in modern life.

We may regard the human body as a delicate, complex machine, planned, or fortuitously fitted, if you will, to run on for a certain period. But the delicate adjustment of its various tissues and organs is very liable to be disturbed. These disturbances of adjustment we call disease, and the ways in which they occur are numerous and varied.

A certain number of the diseases which lessen the enjoyment and usefulness of life, or steal it away altogether, are due to hereditary maladjustment of the organism. Some arise from causes which we do not understand. Many more are due to excesses and abuses of the body's powers, which we ignorantly, or carelessly, or wantonly, bring upon ourselves, and these directly concern only the individuals affected. This bartering of one's birthright to the full term of life, at the dictates of passion

or the palate, at the behest of fashion, ambition, or sloth, are common enough, and from these modern Esaus come most often the wailings and complaints at the shortness and fickleness of life.

For those whose birthright is threatened by any of the causes already indicated, the ministrations of the physician and, when not too late, the reformation of the life afford the best outlook. But even a cursory inspection of a table of vital statistics in any country shows us that it is not these inherited weaknesses of the body, or these self-engendered diseases, which are most concerned in that wholesale robbery of man's birthright that has actually reduced his expectation of life, as nowadays he enters upon the scene, to a scant *two* score years and ten. It is the infectious or contagious diseases which have made such inroads upon our little stretch of eternity. It has been fully realized for many years that if we could strike these diseases from the list of life's enemies, we could enter at once into a far fuller possession of our heritage. But how to strike them out? What causes them? Where do they come from? How battle with them in a larger way before they gain a foothold in the citadel?

Recent studies have shown, as most educated people well know to-day, that this whole class of formidable diseases is caused by minute organisms which enter the body from without, and, each after its kind, poison or kill. It is a long and sinister list, with consumption or tuberculosis at the head. In its train follow pneumonia, diphtheria, scarlet fever, typhoid fever, cholera, smallpox, measles, typhus fever, yellow fever, malaria, and more of the devilish brood.

Twelve years ago we knew practically nothing of these invisible enemies, the pathogenic germs, which nevertheless carried off prematurely and under untold suffering a large part of the human race. To-day some of them are present at the roll-call in every well-furnished bacterial laboratory; their pedigrees, their lurking-places, and their habits are as distinctly matters of record as are those of larger criminals in statelier prison-houses. To-day we know something of the stories of nearly all of them, and of many how they produce their dire effects in the body; we know the conditions under which they thrive; we know how, outside of the body at least, they can be killed. Now and again it has seemed as if the veil were parting, and we could catch glimpses of a time not far off when we shall be able to battle with these intruders, even in the body, when their ravages are already under way.

But as yet the great practical result of this decade of discovery lies not so much in the power which we have acquired to cure, as in

the power to prevent, bacterial disease. We have learned that in a large number of bacterial diseases the inciting germs have no breeding-places outside the bodies of those men or animals which are their victims, and that if all materials thrown off from these be at once destroyed by heat, by fire, by chemicals, or in any other way, all danger of transmission is removed.

In regard to such diseases, then, as typhoid fever, cholera, diphtheria (and in large measure the same is true of consumption and pneumonia), our point of view has entirely changed. They are not inevitable accidents, even under the complex and in many ways unfavorable conditions of life in crowded communities. When to-day we hear that this or that useful citizen has fallen by the way, stricken with typhoid fever, or when diphtheria claims the light of the household, we know that ignorance or carelessness, be it private or official, is alone to blame. We cannot always, we cannot often, trace the fault, so complex are the conditions of modern life. It may be the milk-dispenser, it may be an inefficient street-cleaner, it may be a polluted water supply, or the filthy folly of trailing skirts along the streets, which has brought the germs to the victim. They are sown by indiscretion, and fostered always by ignorance and neglect. Diphtheria claims yearly in this land its hundreds of thousands of child victims, uselessly sacrificed on the altars of public apathy or private indolence. A conservative comparison and estimate shows that in the State of Michigan alone, during the three years 1886-88, at least 10,000 cases of diphtheria were probably prevented, and more than 1700 lives saved, by intelligent isolation and disinfection.

Consumption counts in its harvest about fifteen per cent. of all who die. A large proportion of these the faithful application of definite and simple preventive measures might save. Typhoid fever need no longer work such havoc among us if only once and forever men would insist that sewage, though diluted, is not fit to drink, and, so insisting, would see to it that by no official carelessness, by no false municipal economy, should drinking-water be polluted, or, if polluted, used without proper cleansing.

Science, then, has pointed out the way in which a great curtailment of serious disease may be brought about, and a large share of man's lost heritage in life may be restored, and is now feeling her way slowly and toilsomely toward the solution of the problems of cure. The fact is, sanitary science is far in advance of sanitary practice.

But for the effective prevention of bacterial disease two sets of forces must act in concert:

First, the people must know wherein the great sources of danger lie, and that by simple, intelligent cleanliness these sources of danger may be largely sealed. It requires only a moderate degree of intelligence, and the mastery of only a small domain of fact, to make each person a most useful agent in this new crusade against disease; nor is it necessary that such knowledge and such helpfulness should involve much or sustained attention. Ours has been aptly enough called "an age of pitiless enlightenment"; but if now and then, at the dictates of Hygeia, we must lend attention to the bald, gruesome dangers which crowd in menace upon our path, surely she is cruel only to be kind. The cleanliness which Hygeia demands to-day is a little cleaner, that is all, than that which has been hallowed these many years. It is only necessary to be a little more discriminating regarding the pedigree of dirt, and to realize that dirt from infectious sources can kill.

But the fact that his danger of acquiring infectious disease comes to the citizen largely from without his walls, and from sources which he cannot directly control, leads us to the second and greater force which must be brought to bear if we are to enter into and retain our restored inheritance—that is, to the individual and concerted action of local health boards. These organized bodies of men devoted to the interests of the public health must now add to the powers which they have wielded so long and so well the weapons won from the new knowledge. To see to it that water supplies are kept unpolluted; that human waste is safely disposed of; that food supplies are not derived from infectious sources; that streets and other public places are kept clean; that overcrowding in schools, tenements, and lodging-houses is not allowed; that proper measures of isolation, disinfection, and cleansing shall be practised wherever infectious disease occurs; that the citizen may be intelligently counseled whenever in doubt about his sanitary surroundings, or coerced to cleanliness when ignorantly or wantonly at fault—these are some of the tasks which rest in the hands of local health authorities, and upon whose intelligent and faithful execution our immunity from infection so largely depends.

But while these tasks are deputed by the citizen to his agents in the health department, he should not forget that such officers must be men carefully chosen for their fitness, experience, and special knowledge, and not from the flotsam and jetsam of the political ocean, from which too often strange, uncouth things are stranded in offices where misfeasance may mean death to some, disease to many.

But after the intelligent and careful citizen has fulfilled his duties in matters sanitary to his neighbors and to himself; after local health authorities have used their larger powers in banishing or controlling the common enemy, there yet remain, in a great country like ours, imperative duties to be done, large vital problems to be solved, which must be undertaken by such forces as the National government alone can command.

The most obvious way at the present moment in which the National government can be useful in preserving the public health is in the assumption of the powers and duties involved in the establishment of a national quarantine, to the end not only that serious infection be not poured in upon us from foreign countries, but also that in holding aloof disease and its carriers, such barbarities as have been lately witnessed at our greatest port may never again be repeated.

Furthermore, it is unquestionably the duty of the National government to share in and to foster those toilsome researches into the causes of disease, and the methods of curtailing its ravages, which have already given such beneficent results, but which hitherto in this country have found few devotees outside of privately supported laboratories, or the shelter of the colleges. Good work has been done by the health boards of certain States, but these and their limited resources are mainly occupied with the practical application to the preservation of health and life of facts elsewhere elicited.

Of great importance, too, is the recording and making available the statistics of disease in all parts of the nation, the effects of our varied climates, of race, occupation, etc., on the general health. Further, the study of the effects of certain diseases of cattle upon man is of the utmost importance, and could most efficiently be done with the power and resources of the Federal government. The establishment of a Museum of Hygiene and Sanitary Appliances, which should serve as a great object-lesson and a record of progress, would materially further the ends in view.

A National Bureau of Health would command, as no other less important organization could, the learning, experience, and counsel of sanitarians and experts from all parts of our domain. Such a bureau would be useful in the wide dissemination of sanitary knowledge, through which alone can this or any nation share in the harvest of lengthened life which science has so patiently fostered and now freely offers to whomsoever will enter in and reap.

In arranging for harmonious action and uniform procedures among local health organizations; in raising the standards toward which

all sanitation should be ceaselessly striving ; in exalting the dignity which belongs to the office of a public minister of health in village, town, or State, such a bureau could hardly fail to benefit every citizen in the land.

This is no new experiment which is suggested. In other countries national health departments have long ago amply justified their establishment by the strong bulwarks which they have formed against the dissemination of disease, and the new facts and principles which they have brought to light.

Some of us admire, others wonder at, the courage and placidity with which England faces a threatened invasion of cholera. This is because she is ready to encounter it, not only with intelligent sanitation well under control all over the land, but because she meets it as a unit, and not as we are still forced to do, in haphazard fashion, as the resources and the sanitary intelligence of a single State may decree, or as the whim of an autocratic officer may dictate.

A great central Bureau of Health, in which administration, instruction, research, and record in matters concerning the public health should center, and to which in stress local authorities could turn for help and counsel,—a department which, representing the sanitary and hygienic interest of this great nation, could make common cause with similar departments long since established in other lands against the ravages of disease,—such a Bureau of Health is urgently needed in the United States to-day, and should soon be established. Such a

bureau might well be organized in the Treasury Department, and consist primarily of an executive board of trained sanitarians under a competent head, which, in coöperation with the Marine Hospital Service, and, if desirable, with the medical services of the army and navy, should perform all those far-reaching functions in the interest of the national health which the Federal government alone could safely and effectively assume. An advisory board composed of physicians and sanitarians of experience and established repute, from different sections of the country, selected by the President and confirmed by the Senate, should be called in council by the executive force of the bureau, in deciding upon the general scope and nature of the work to be done at all times, and be ready to advise and sustain them in times of special danger. No agency could so certainly avert panic and commercial disaster in the face of threatened pestilence, and none so surely stay its progress. The economic interests alone which are involved in a more widespread prevention of disease, and in the prolongation of the average term of life, should effectively commend the establishment of such a Bureau of Health at the nation's capital.

It is surely thus, and thus only, that this country can justify its claim to stand among the nations of the earth which are foremost in advancing the welfare of mankind. So, and so only, can it fulfil its mission, long since declared, to secure for its citizens, one and all, "life, liberty, and the pursuit of happiness."

T. Mitchell Prudden, M. D.

"IF SPIRITS WALK."

I have heard (but not believed), the spirits of the dead
May walk again.

—WINTER'S TALE.

IF spirits walk, Love, when the night climbs slow
The slant footpath where we were wont to go,
Be sure that I shall take the self-same way
To the hill-crest, and, shoreward, down the gray,
Sheer, graveled slope, where vetches straggling grow.

Look for me not when gusts of winter blow,
When at thy pane beat hands of sleet and snow ;
I would not come thy dear eyes to affray,
If spirits walk.

But when, in June, the pines are whispering low,
And when their breath plays with thy bright hair, so
As some one's fingers once were used to play —
That hour when birds leave song, and children pray,
Keep the old tryst, sweetheart, and thou shalt know
If spirits walk.

Ellen Burroughs.