Let us, greatly daring, parody the "immortal William" and say:—

"To help or not to help; that is the question:
Whether 'tis nobler in the end to suffer
The ills and maladies which sore beset us,
Or to take arms against a sea of troubles,
And by opposing end them?"

"By opposing end them." "Ay, there's the rub," as Shakespeare exclaims in "Hamlet" a little later. True, he is speaking of mental troubles. His second line unaltered, runs, "Whether 'tis nobler in the mind to suffer," while to-day the prevention of both mental and bodily ailments must form our theme if we are to consider adequately the campaign that has been waged and is being waged in the great cause of public health, a campaign in which your support is desired, both for your own sakes and for that of the visitors who flock to your attractive island. Is it possible by active opposition, by a well-organized campaign, to exterminate those diseases which dog mankind from the cradle to the grave, some of which are indeed operative before his cradle days and which, even when the grave has claimed him, may continue to plague his offspring, having been transmitted from parent to child? The answer is that, in the case of those maladies about which we are well informed, and more especially in the case of what are called communicable diseases, it is in many instances possible, if only we had the courage, tenacity, enthusiasm and, let me add, unselfishness to cope with them properly, and if the public were so educated and became so enlightened that, in all grades of society, there was a vast army of helpers, instead of, as at present, many who help and more who hinder. Happily, this disproportion is yearly growing less, and ere long the helpers will outnumber the hinderers. Even so, it will take many years before our opposition to diseases will end them. Yet in certain directions the goal is in sight and the dream which has been dreamed by several great "helpers in hygiene," as they may be called, is no longer to be regarded as a fantasy or a vague ambition.

The remarkable changes which the last five-and-twenty years have witnessed would have heartened one keen helper in hygiene, the late Sir Benjamin Ward Richardson, a Victorian pioneer and somewhat of a seer in his day. He was the author of a notable book entitled, "The Health of Nations," which all those interested in the history of hygienic endeavour should study, but, for our purposes this evening, I would rather cite a passage in his "Vita Medica," that autobiography which he completed in 1896, two hours before he was seized with fatal illness. He has therein a chapter entitled, "Efforts towards the Extinction of Disease," wherein he says:

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1 An Address delivered under the auspices of the Isle of Man Red Cross Society at the conclusion of Health Week, March 4, 1928.
"The best idea, therefore, is that the disturbance or catastrophe called disease—excluding accidents—is not simply to be met by treatment, although that may be necessary and beneficial, but is to be prevented, and that with so much perfection that it shall altogether become extinct, or remain as a mere historical ghost."

Another prophet, though possibly a somewhat optimistic one, who happily is still with us, was the distinguished zoologist, Sir Ray Lankester, when he wrote, a good many years ago, that if we could only apply our present knowledge properly, all communicable disease could be stamped out in the short course of fifty years.

Now, neither of these men, shrewd, scientific, and well-informed, would have ventured to make such statements unless he had good reason for believing them to be true. They had good reason, for, within the lifetime of each, a veritable revolution had been wrought in our knowledge of the causes and spread of those diseases which can be transmitted from man to man or from some lower animal to man, with or without the aid of an intermediary; in other words, indirectly or directly.

It was the work of Pasteur, the greatest helper hygiene has known, which succeeded in dragging into the light secrets which had lain hidden since the beginning of things, secrets which men had from time to time suspected, which some of them had even explored to some extent, but the true significance of which eluded mankind until the genius of the great Frenchman revealed the mystery of the micro-organism and showed the part which lowly forms of life play in human, animal and plant pathology.

Hard on his heels came Koch, and, as a malady with a direct transmission from man to man, we may take pulmonary tuberculosis, the causative organism of which he discovered and thereby enabled us to fight the great white plague in a manner formerly impossible. For an example of a disease where the transmission is indirect, let us turn for a moment to the tropics. Manson, working at filariasis in China, discovered that the filaria bloodworm was transmitted from the infected person to the non-infected through the agency of a mosquito. He thereby introduced a new and most important idea into the domain of human pathology, namely, the necessary intervention of a blood-sucking insect as a vector or carrier of infection and as a host for a parasite causing a human disease; a host, in the tissues of which the parasite had to undergo a certain development before it was able to enter the body of a second human being and therein reproduce the disease of which it is the cause. In the fullness of time this idea was, at Manson's instigation, applied by Ross to malaria, with the result that the mystery which had for so long shrouded the life-history of that devastating disease was finally dispelled, and new methods for its control and prevention were discovered.

It is of course, as a rule, easiest to master a malady when, as in the case of malaria or plague, which was such a terrifying enigma to our
ancestors, we know both the parasitic cause and the method of transmission, but, in some instances, even though we are ignorant of the cause of a disease, our knowledge of how it is transmitted enables us to cope with it effectively. The most outstanding example of the benefit of such partial knowledge is to be seen in the case of yellow fever. The actual cause of "yellow Jack" remains a matter for conjecture, but, thanks to the work of Reed and his colleagues in Cuba as the last century was drawing to a close, we know for a certainty that a species of mosquito is the vector of the virus or poison, whatever that may be, and, as the habits of this mosquito make it comparatively easy to deal with, at least in the New World, a great triumph has been won and the dreaded fever of ships and seaports and of sailors, as well as of other classes of the community, is no longer, as of yore, a scourge and a menace. Now the tropics are far away, and you may say to yourselves, "Quite so, all that is no doubt interesting, but it leaves us a little cold. Can the matter not be brought home to us?" Of a surety it can. Indeed, this was done for the one type of disease when plague was mentioned, for bubonic plague used to ravage England. It has vanished from this country, and nowadays, even if occasionally it is introduced from abroad, the full knowledge we possess regarding its cause, the plague bacillus, and mode of spread, from rat to man through the agency of the rat-flea, enables us to view the presence of a few cases at some port like Liverpool or Glasgow with equanimity. However, let us cite also typhoid fever, once common enough in all conscience, now rare and becoming rarer because we know that it is due to the Bacillus typhosus, and we know that this organism reaches man, through the medium of food or water to which it has gained access, directly or through fingers or flies, from the source of infection, and, knowing these things, we have and we exercise the power of prevention.

For the other type of disease, that for which yellow fever stands pre-eminent in the tropics, we may take typhus or spotted or gaol fever, at one time a very real danger in this country, but at the present day almost as extinct as the dodo or the great auk. Here, again, we have no certain knowledge of the cause; scientists continue to squabble about it, but happily there has been proved beyond all doubt the truth of the saying, "No lice, no typhus," and, as lice have little chance in a contest with a health officer, typhus fever, the unknown parasite of which they transmit, has ceased to fill the cemeteries.

So far, so good, but it is of interest to reflect that long before Pasteur revealed the world of microbes, and Manson showed how insects play a part in the spread of disease, many helpers in hygiene, by careful observation and sound reasoning had reached conclusions which, when they translated them into action, yielded very gratifying results. True, these men worked in the dark, but they did get hold of some essential facts and so, long before anything was known about the rôle of lice in typhus fever, Lind, the great naval surgeon of the eighteenth century, indicated clearly
and correctly what measures would prove effective against that complaint. Similarly other observers noted the connexion between dirt and diseases of various kinds, notably such intestinal disorders as diarrhoea and dysentery, and preached and practised a hygiene of environment. Long ago, in Scotland, there was a proverb, "The clartier (that is, the dirtier), the cosier," but the slogan of the health reformers was very rightly, "The dirtier, the deadlier," and the deadlier, remember, not only to yourself and your family, but to your neighbours and fellow-citizens. These early reformers were very largely like voices crying in the wilderness. Few heeded them, save in communities like the Army and Navy, where, if the officers commanding were believers, disciplinary measures could be taken, or where pressure could be brought to bear on local authorities and the Government, as when John Howard, shocked and horrified by the condition of the prisons, raised his voice and testified against them.

Mead and Howard, Percival, Ferrier and Currie, the civilians, Lind, Trotter and Blane, the naval surgeons, Pringle, Monro and Jackson, the Army hygienists, lived and laboured and accomplished much good in a limited way. The country doctor, Jenner, by introducing vaccination, conferred upon suffering humanity one of the greatest boons ever vouchsafed to it, and radically altered the situation with respect to small-pox and its victims. It was not, however, until Chadwick, the lawyer, came upon the scene and, with fearless enthusiasm, dogged determination and no little pugnacity, took up the cudgels on behalf of health, that any real and widespread progress was made, apart from what the good Lord Shaftesbury accomplished in the way of factory reform. Then and thereafter, however, a marvellous change ensued, mainly as a result of an organized campaign for cleanliness. What a fight it was, against superstitions and vested interests and supineness and bitter opposition! Although it is true that reform was in the air, that it was a period of quickening and advance in several directions, perhaps the battle might never have been successful had not the country been visited periodically by outbreaks of cholera which swept away hundreds. The scared populace was thankful to listen to those who brought a message of hope, more especially when Dr. John Snow showed that cholera was spread by the intestinal discharges of the sick, and indicated polluted water as a source of infection. It was in great measure fear which made the people of England loosen their purse-strings and provide the wherewithal to obtain pure water, clean dwellings, an efficient removal and disposal of filth and refuse, but, to do these Victorians justice, once they realized they were getting value for their money they gladly bore the burden and so reaped the reward.

There were, however, other directions in which these early helpers of hygiene exhibited activity. The health of the individual was not altogether neglected, though it is true that, for the most part, the individual received attention chiefly because he formed part of a community. It was, in other words, communal, rather than personal, hygiene to which the earlier
workers devoted themselves. Take, for example, Lind's efforts to get scurvy stamped out of the Navy by the issue to the individual sailor of a ration of lemon juice. Consider how the individual slave benefited from certain efforts affecting his personal welfare, made by Wilberforce and others in their campaign against the appalling conditions of the trade in black ivory.

Until quite recently, I fancy that few had any idea that some of the recent developments on which we pride ourselves had their counterparts long ago. Dr. Mabel Buer, of Reading University, has unearthed some interesting facts which show that considerable attention was paid to infant and child welfare in the latter part of the eighteenth and the beginning of the nineteenth century. There was actually a baby clinic in London in 1815, the year of Waterloo.

Now whence came these more enlightened ideas on the saving of young lives? From a study of the ancient Greeks, that nation of heroes, athletes and philosophers, who certainly were well versed in all matters relating to bodily health? It is unlikely. From the ancient Romans, that race which performed remarkable feats in sanitary engineering, and had inherited some of the hygienic wisdom of the Greeks? It is improbable, for the Romans appear to have had little thought for child life.

I cannot help wondering if it was not a legacy from a very remarkable man, a great helper in hygiene, and, indeed, not only a helper but a leader. So far as I can discover, his name and fame have in this country been wholly forgotten, though upon the Continent, where he lived and worked, they are remembered, and they are known also to certain American hygienists. Perhaps in England there has been too great a tendency in matters hygienic to say we are, or were, the people, and wisdom remains with us. In other words, knowing that England led the way in public health legislation, English students of the subject are a little apt to imagine that modern hygiene originated in this country, and are not disposed to look abroad and see what other nations had done in pre-Chadwickian days. It is true that the English first, of all peoples, placed hygiene on a sound basis, established a definite system of organized sanitary control, and enlisted the power of the law in regulating and enforcing public health procedure. Let us, however, remember that when England was sunk in dirt and squalor the cleanliness of the Dutch was proverbial, and let us pay homage to the memory of that leader of whom I spoke, who was no other than John Peter Frank.

You will not find his name in the "Encyclopædia Britannica," though quite a respectable space is devoted to another Frank, one Jakob, who, of all things on earth, was a Jewish theologian! Yet our Frank was once a name with which to conjure, and Napoleon, no mean hygienist himself, tried in vain to obtain his services. He was born at Rotalben, in Bavaria, in 1745, the year before Culloden, when the death-rate in London was 50 per 1,000—in 1926 it was 11·6—and life had an uncertainty about it to which it is now a stranger, save in the matter of motor vehicles. His
father was French. After studying at Heidelberg, Metz, and Strasburg, he gravitated to Göttingen and then to Pavia, eventually becoming Director-General for Sanitation in Lombardy, somewhere about 1786. Think of that! In 1795 he was called to Vienna by the Emperor of Austria as consultant for the health of the troops. Thereafter we find him as a Professor at Wilna, then at St. Petersburg, and finally back again in Vienna, where he died, full of years and honours, in 1821.

He must have been a man of courage and humour. When he lay dying there were eight eminent doctors round his bed who had been summoned to attend him. He smiled and said: “This reminds me of the end of a French soldier, wounded by eight musket shots at the battle of Wagram. ‘Morbleu!’ said he, dying, ‘it takes not less than eight bullets to kill a French grenadier.’”

Frank was a voluminous writer and covered a wide field, but I mention him to-night because as a hygienist he was far ahead of his period, and because he wrote a truly astonishing book, entitled, “A Complete System of Police Medicine.” This, the first authoritative work dealing with public hygiene, appeared in successive volumes between the years 1779 and 1817.

It dealt with nearly every aspect of hygienic activity, including what we are pleased to regard as modern developments. The author writes on sexual hygiene and maternity and child welfare. He discourses on the education of children. He considers the value of foundling institutes and orphanages, and looks at schools and gymnasia from the public health standpoint. A volume is devoted to the problems of nutrition, food and drink being considered and the importance of moderation stressed. Housing is discussed and health conditions generally. The question of cemeteries is not forgotten, and there are disquisitions on the healing art and on schools of medicine. The importance of veterinary knowledge and its relations to medicine receive attention, and altogether it is startling to find how Frank anticipated posterity. I can find no record of his great work being translated into English or even into French, but a treatise which he wrote on the method of rearing healthy children was translated into the latter tongue, and hence it is conceivable that it was his influence which led to the early movements in infant welfare of which we have spoken. In addition to being a great clinician, a man of affairs and an illustrious hygienist, Frank was a dreamer of dreams. He formed the conception of a State guided by public health considerations, a kind of Utopia wherein Hygeia should reign supreme, and where affairs would be conducted for the true and lasting benefit of mankind.

It is not surprising that, with his knowledge and acumen, he should have conceived such an idea when, all around him, he saw the misery and wretchedness produced

1 Its German title is “System einer vollstandigen medicinischen Polizey.” The word “Polizey” here has a wider significance than “police.” It may perhaps be translated “public security.”
by successive wars and reflected on the welter of intrigue and politics as well as on the endeavours of the proletariat to obtain a place in the sun. Remember, he lived through the days of the French Revolution, when, with much that was vile and repellent, there were the germs of great things and indeed, in some ways, the beginnings of a new world.

Whatever may have been Frank's influence on England, there can be no doubt he left his mark on the State medicine of Germany, Scandinavia and Russia, but he lived, for the most part, in troublous times, and even after his death the continental nations had not the means to put his precepts generally into practice. The man who followed him was Max von Pettenkofer, but we need not consider his exploits as a helper in hygiene.

Rather let us skip the intervening years, including those when Sir John Simon, as Dr. Simon and Central Medical Officer to the General Board of Health, was making history, ably assisted by Southwood Smith and others, albeit remembering that Lecky has penned a noble epitaph for these stirring and fruitful times. He wrote: "The great work of sanitary reforms has been, perhaps, the noblest legislative achievement of our age, and, if measured by the suffering it has diminished, has probably done far more for the real happiness of mankind than all the many questions that make and unmake ministries."

Its history is set forth in Simon's classic, "English Sanitary Institutions." The fight was won but the position had to be maintained, and furthermore, it soon became evident that the victory, though great, was not complete. In addition it came gradually to be recognized, as Frank had long before envisaged, that new methods of warfare had to be adopted. Let us dwell on these matters for a space.

To maintain the position an adequate health organization was required, and that is why England and Wales have now a Health Ministry, advised by a chief medical officer. Its Medical Department has separate sections dealing respectively with general health and epidemiology; maternity and child welfare, in which section very fittingly a woman is senior medical officer and the medical officers and inspectors are all women; tuberculosis and venereal disease; the supervision of food supplies; general practitioner services; sanitary administration in relation to infectious diseases, and Welsh Board of Health to deal with the public health interests of the principality.

I will comment on some of these immediately. Meanwhile, let us continue the tale and note that other central departments of Government have important health interests, and so are helpers in hygiene. The Board of Education with all its responsibilities for the health of school children and the sanitary condition of schools, the Home Office with its control of the health conditions in factories, mines and workshops, are appropriate examples.

The duties of the Medical Department of the Health Ministry are,
speaking broadly, advisory and supervisory, and cover a wide range which you will find listed in that masterly memorandum, written by Sir George Newman, and entitled, "An Outline of the Practice of Preventive Medicine." Every community intent on hygienic progress and, more especially, every backward community striving to amend its ways, should be familiar with its pages. Perhaps the type of the Ministry's activities which will appeal most strongly to an audience of this kind is that whereby an expert is sent from the Ministry to assist the local health officer of a district where either some obscure infectious disease has made its appearance, or where some communicable disorder is prevailing as an epidemic and has not yielded to ordinary measures. Medical officers of health greatly appreciate such skilled help, which is also naturally of very definite benefit to the local community and sometimes to the country as a whole.

The official local helpers in hygiene are the councils of the areas into which the country is divided. These are the County Councils. There is, as you know, a county of London, and that county, small in area but packed with people, has its council, and the council has its medical and health organization, a large and most important department charged with most onerous duties.

Outside London the work of the County Councils is reinforced by that of the Local Sanitary Authorities, be they urban, rural or port. There are three types of urban local authorities, namely, the county boroughs, the municipal boroughs and the urban districts, all acting through their respective councils. The county boroughs are represented by big towns, each with more than 50,000 people, the municipal boroughs are as a rule smaller towns, the urban districts, as the name implies, are also townships and may indeed be very large and important places which happen never to have had conferred upon them by Parliament the title of County Borough. As a type take Gosport, with its 33,000 people. The rural authorities are the councils of rural districts, which vary a good deal but which all answer to the description of country districts with comparatively small and scattered populations. In these districts, however, there may be small towns or clusters of villages. The state of matters as regards ports varies in different places and may be distinctly specialized. Great ports like London and Liverpool, for example, are under different guidance and control in health matters to the cities whose names they bear.

Now the councils of the above-mentioned boroughs and districts are concerned with various aspects of local government—not only with health work—and so, as a rule, at least in places of any size, the care of the people's health is entrusted to a Public Health Committee. Such committees consist for the most part of laymen, and hence must have executive and advisory officers who are experts. These experts are the medical officers of health, and in all important places, and I think I may say in all progressive and thoroughly up-to-date places, the medical officers of health are full-time officials. Here, in the great towns, the lesser towns, the
villages, the countryside, we find what Newman calls the fighting-line of the never-ending, though usually unobtrusive campaign against inefficiency, disease and death. The medical officers of health and those who assist them and work with them, the sanitary inspectors, health visitors and nurses, are, like Uriah the Hittite, in the forefront of the battle. So, too, are the executive officers of port health authorities. It is these men and women who are actually up against the forces of death, and remember that under the banner of the arch-destroyer there marches a multitude of legionaries, communicable and non-communicable diseases, ignorance, poverty, vice, drink, gluttony, greed, spite, selfishness, and so forth. It is these workers, the majority, capable and devoted, who are the greatest helpers in hygiene. They are the greatest in the sense that the private soldier, to whom Lord Haig paid tribute, is the greatest fighter. But for their numbers, skill, energy, patience, staunchness and devotion to duty, there would be another tale to tell from that which is told in the columns and obituary notices of the newspapers, in the medical press and in the reports of the Health Ministry and of the Registrar-General. The commander-in-chief and his staff may plan a campaign. They cannot win it save through the deeds of the rank and file.

What are these deeds in the health campaign? It would take a long time to enumerate them in full, but from what has already been said you have no doubt gathered, if you knew it not previously, that they fall into two chief groups which we may conveniently term environmental and personal. The former are those which the pioneers in this country chiefly practised when they fought and won under the war-cry, Sanitas, sanitatis, omnia sanitas; the latter embrace the principles which the far-sighted genius of Frank perceived to be essential, and others which he did not visualize, but which have established themselves throughout the fruitful years when the public health pendulum swung from the old order of things to the new.

And here let me remark that, although it cannot be said to have swung too far, for the hygiene of the individual is of paramount importance, yet interest in the new has, I fear, led to some neglect of the old. How otherwise can one explain the filthy condition of some of our streets and highways, the shocking manner in which much of our food is handled, the refuse dumps one encounters in rural areas, foul blots upon fair scenes? It is true protests are raised, but the faults continue, while one can imagine that in earlier days, say about 1860, the fervour of the reformers would have swept them away. Let us strive to preserve a balance and, in pursuit of new triumphs, not permit that insidious enemy, dirt, to regain positions from which he has been ousted. Even when dirt does not spell disease it leads to a lowering of tone, to a lack of self-respect, to a slackening of fibre. The trouble is partly due to the fact that much of the sanitation which formerly very closely concerned the medical officer of health has been relegated to other control. In the earlier days he had to fight like
the devil, or shall we say like a good angel, to secure pure and sufficient water supplies, to get sewerage systems established, to ensure the healthiness of dwellings. Nowadays, for order has long since succeeded chaos, water supplies, sewerage and sewage works, house drainage, and so forth, are in the hands of competent engineers. Minor engineering and house sanitation is looked after by well-trained and certificated sanitary inspectors.

Good and well, but from what I hear and what I see, I believe it would be an advantage if our medical officers of health had a little more time to keep in personal touch with these matters. This, I believe, is even more true in the case of the removal of nuisances and of refuse, one of the chief environmental duties in the olden days, and still in tropical countries a most essential part of the health officer's routine.

As of yore, the other environmental deeds comprise action relating to housing and town-planning, smoke prevention, the inspection of food, the control of infectious diseases and inquiries into offensive trades. I cannot list them all, but, with the exception of the control of infectious diseases, they have slipped a little into the background, for a multitude of activities relating to the hygiene of the individual now falls to the lot of the medical officer of health and certain of his assistants. In the matter of practical application these new duties are a product of this century, and comprise maternity and child welfare work, the special and intensive control of tuberculosis and the venereal diseases from the standpoint of the infected individual, the care of the health of the school child, the care of the blind, and occasional duties arising out of the National Insurance Act.

Formerly the great idea was to stamp out disease, especially communicable disease. That great idea persists, but along with it there is now the conception of rearing a sound and healthy race from the start, of extending the campaign to diseases called non-communicable, like rheumatism, rickets and cancer, and even to minor maladies such as dental caries, oral sepsis, discharging ears, habitual constipation, the common but crippling cold, and the dyspepsias which cause so much chronic ill-health and lead to so much inefficiency. There is a move also towards investigating and dealing with worm infestations, which in the past have been somewhat neglected.

Public education in hygiene has become a feature of the new campaign, and you have just had evidence of this development in the Health Week which you have been celebrating.

Enough has been said to indicate that hygiene in this country must now be spelt with a very large H, and it must be evident that the health organization is complicated, as indeed it could scarcely fail to be considering its origin, the way it developed, the fact that over a long period of years there have been shifts and adaptations and modifications, the manner in which new legislation has been grafted upon old, the necessity for conforming to altered conditions of life.

Some of the helpers have been mentioned, but there are many others.
The school teacher inculcating simple rules of health helps the cause, so does the wise parent, so does the child who puts precepts into practice. The schools of medicine help, and will help more when they adopt as the chief object of their training the permeation of the medical curriculum with the preventive idea. Specialist medical officers help, like those in charge of tuberculosis and venereal disease clinics. In this category comes also the school medical officer and, despite all that is urged against him and his doings, the public vaccinator. The medical practitioner helps, and his help will increase in value when he co-operates to a greater extent than at present with the officers of the public health service, and if and when the idea of periodical health examinations takes root. The medical press helps, and it is gratifying to note how much attention it now pays to the preventive side of medicine. Veterinarians help by dealing with tuberculous milch cows, and stamping out diseases of animals transmissible to man. Employers of labour help when they make provision for the welfare of their staffs and employees. The tradesman helps when by his cleanly methods he handles human food in a way to command respect and confidence. I always take my hat off to the maiden in the sweetstuff shop who uses a scoop instead of her hand, be the latter never so dainty.

Those engaged in research help, as, for instance, the great army of workers under the ægis of the Medical Research Council and those engaged in many scientific institutions upon problems affecting every branch of hygiene. There are many voluntary agencies, like the League of Red Cross Societies, which help, some more wisely than others, but all in some degree so that we recall an old proverb of Portugal which says: "One grain fills not a sack but helps his fellow." The lay press helps, often very greatly; occasionally, perhaps, not to the best advantage, but with opportunities vouchsafed to few of those who aid the cause. Its influence in the past has been widespread, and in the future will become more effective when those best fitted to advise the public can make use of its columns for propaganda purposes. The Church helps in various ways, and might help more if it recognized to a greater extent that sick bodies are specially apt to be tenanted by sick souls, and that there is something to be said for giving bodily and mental hygiene a first innings in any attempt to elevate the masses and improve moral tone. The Law helps, though it is better not to invoke its aid and to try what persuasion and education can do in the first instance.

But the lesson to-day, the lesson your Health Week has been inculcating, is that everyone can help. There is no mystery about the business. Once a few essential facts are mastered, simple rules of health can be adopted and practised by any person of average intelligence. A vast deal of public health practice is common sense applied to everyday affairs. Long ago it was different. A pall of ignorance shrouded the medical faculty and the laity alike. Visitations of disease were supposed to be the outpoured vials of wrath of an outraged deity. Superstition was
rampant. Fatalism held sway. The people perished for lack of knowledge. Now all is changed, and, though we are still ignorant in certain directions, for example, the causes of influenza, measles and the so-called "sleepy sickness" still elude us, we have a firm grasp of principles and in large measure are masters of our fate. Who can doubt it? Consider what has happened.

The death-rate of the whole country has fallen to a figure which fifty years ago would have been regarded by many as beyond the dreams of the most optimistic. The infantile mortality has been halved in the course of a generation, the tuberculosis death-rate has steadily declined; some diseases have become extinct, others nearly so. The expectation of life, that is, the number of years a person may expect to live from the time of birth, has greatly increased, i.e., from about forty-five in 1900 to fifty-five to-day. In the U.S.A. it is fifty-eight, in New Zealand sixty-two. In British India, a land where hygiene has as yet made little progress, it is only twenty-three. What we now have to fight is not so much death as damage. Life has not only become safer but infinitely more comfortable, though there is still great need for improvement.

The facts are convincing, but these kinds of fact do not always appeal to the multitude, and, in any case, there are many people who, quite rightly, always consider the cost, their motto being, "Is the game worth the candle?" and their candle meaning hard cash. Not only so, but perhaps because there was some truth in Napoleon's sneer about a nation of shopkeepers, not a few folk in Great Britain and, I take it, the Isle of Man, want return for their outlay, if not actually in what used to be called "jingling Geordies," at least in terms of guineas or of pounds, shillings and pence.

Both classes may rest satisfied, for it is well worth while spending money on health, which is in a high degree a purchasable product, and, moreover, hygiene pays. It is a good and sound investment both for the individual and for the nation. If, after your Health Week, any sceptics remain, they will naturally say, "Submit your proofs, and in plain language which can be understood, not camouflaged by scientific verbiage or rendered unintelligible by the use of what the Scotch call 'lang-nebbit words.'" Well, here they are—a few of them—there is not time for many, though they could easily be multiplied.

First, let us consider the monetary value of human life. What is that enigma, a human being, worth in coin of the realm? Well, his or her value varies according to age. The latest calculations come from America and are, of course, not applicable to this country, especially as they are based on earning capacity. However, it is interesting to consider them. Dublin and Lotka have recently shown that in 1924 the potential value of a male child at birth was no less than £1,866, and, what is more, they have demonstrated that since 1901 its value has increased by £356, or nearly twenty per cent, owing to improved conditions.
Woods and Metzger have shown that in 1927 the average per capita value of the population of the United States was £3,113. There have been more or less vague guesses on the subject this side of the Atlantic, and one feels that Dr. Nankivell, the Medical Officer of Health of Plymouth, was distinctly cautious when he said: "It is not an exaggeration to suppose that a life is worth on an average at least £100 to the community." Working on this modest basis and comparing the Plymouth of to-day with that of seventy years ago, he concludes that the improved health of the city represents a large annual financial saving which for 1926 he estimates at £100,000. "Nothing," he says, "costs the individual ratepayer more than sickness and mortality."

There you have a calculation concerned with all kinds of preventable disease. Let us look at another limited to a single malady, but a malady which takes heavy toll and which is one of the "four scourges" to which Dr. Fremantle devotes a chapter in his interesting book, "The Health of the Nation."

The malady is syphilis, that "hidden hand in pathology," as it has been called, and Colonel Harrison, writing about it in England and Wales, points out that "in 1920 there were reported to the clinics about 42,000 cases. Of these probably 6,000 would have died of some sequel of syphilis had it not been for the treatment afforded by the free clinics." He assumes that the value of a man's life is £60, which he admits is a very low figure considering that the deaths would have occurred in persons at the most productive period of life. As a matter of fact, £500 would have been nearer the mark, and, as we have seen, in the United States an infinitely larger figure would be quoted. However, if we put it at £60, the loss would have been £360,000 by 1927. This represents only the saving of life. The average patient prior to death is ill for about three years. Hence the system of free treatment, a great ally of hygiene, by which many thousands of people are prevented from becoming burdens on the community at a time of life when they should be national assets must be of immense value to the nation.

Take another disease—small-pox—which in a mild form we now permit to run riot in certain parts of England. Dr. D. Rocyn-Jones, the County Medical Officer of Monmouthshire, estimated that the recent small-pox outbreak there had cost the ratepayers £10,000 in capital expenditure and equipment, while the maintenance of 200 beds for six months means another £13,000. That is a pretty state of things brought about by the neglect of a measure, the value of which in preventing small-pox has been abundantly proved and proved up to the hilt.

Sickness in relation to its cost in industry formed the title of an interesting paper by G. F. McArthur, the chief Lady Welfare Superintendent of the London Midland and Scottish Railway Company. She quotes statistics issued by the Ministry of Health to show that, in 1926, there were 15,000,000 cases of individual sickness drawing benefits under
the National Health Insurance Act, and that 27,000,000 weeks of working time were lost owing to illness, much of it, remember, if not most of it, preventable. The loss of wages to the workers is estimated roughly at a minimum of £30,000,000, and this means a corresponding loss to the nation in spending power. There remains the loss to production faintly reflected, as she puts it, in the 27,000,000 weeks of lost working time. Approximate though they admittedly are, these figures are probably under than above the mark, and they should give one furiously to think. It must be clear that money spent in diminishing this drain is money well spent, and, as a matter of fact, a comparatively small expenditure will bring about a great reward and in two directions. As McArthur well says: "If every industry would examine its sickness cost with the same thoroughness as it examines its manufacturing costs, and with the same motive of reduction, the result would not only be to bring down the premium of the health insurance societies, but to bring 'peace in industry' many milestones nearer its longed-for fulfilment."

Professor Collis, quoted by Dr. Deardon, is even more emphatic on the "savings" question. He considers that medical science properly applied to British industry would result in an annual saving in labour turnover of from 60,000,000 to 70,000,000 sterling, in lost time of 50,000,000 to 60,000,000, in industrial convalescence of many millions more, and that to assess the total saving at £140,000,000 a year would be quite reasonable and well within the range of possibilities.

Lastly, for figures are apt to become wearisome, let me refer to an act of great significance. Insurance companies know the value of money and are careful about their investments. The American has never been accused of lack of appreciation of the dollar. Yet we find an American company, the Metropolitan Life Insurance, generously supporting public health work in Canada and the United States. Why? Because it is good business.

There is another aspect to this financial question which strengthens the argument that hygienic measures pay. In the absence of adequate preventive measures employers of labour may have to compensate their workpeople. Not very long ago, the widow of a coal-miner in Scotland obtained compensation because it was shown that her husband had died of a disease called infectious jaundice, and that he had become infected in the pit from a rat or rats harbouring the parasite of that disease.

With all these facts and figures before us, what are the investments which can safely be recommended to the inhabitants of this island? From a study of statistics and from information kindly supplied, it is clear that anti-tuberculosis gilt-edged stock, if it can be secured, would yield good returns. Well, it can be got if, at the same time, you take some ordinary temperance, I don't say teetotal, shares, and secure also some housing debentures. I call these debentures because money put into good houses and devoted to lessening overcrowding may well result in a repayment of principal in addition to interest.
Segregation cumulative preference shares may be commended. In other words, put money into an hospital where cases of communicable disease can be received and the danger of spread of infection thereby lessened. You may see little or no result one year, but the time will come when this investment will prove a boon and a blessing.

Milk bonds are indicated, for there is much need for the consumption of more milk, and such milk should be pure and cheap.

Douglas has already put money into what we may call ordinary water shares with the ordinary result, which at one time would have been looked upon as extraordinary, that typhoid fever has been abolished in the town. It still, however, lingers in the other districts, and so anti-typhoid stock is indicated for purchase. It is, as has been hinted, of different kinds.

Finally, funds may well be devoted to obtaining education trustee securities, another gilt-edged stock. Making yourselves trustees for public health propaganda, you can put money into this type of investment without being liable for depreciation. In any case, there should be no depreciation, nor should any of these ventures fail. The Isle of Man is favoured in many ways. It is comparatively isolated during part of the year, and isolation in health matters has its advantages. Its climate has much to commend it. It enjoys a fair measure of prosperity, and yet is free from the graver industrial problems. It is interested economically in keeping healthy, for it derives much of its revenue from its visitors, and typhoid and tourists are incompatible.

Its death-rate, 14.6 per 1,000 in 1926, is a fairly respectable figure, and is less than its birth-rate. Its infant mortality rate is not very high and is improving. Altogether it would appear as if the Isle of Man, starting, it is hoped, on a new race for health, has an excellent handicap. There really seems no reason why it should not achieve a record. It would be a proud boast in years to come if this little island could wrest the laurel wreath from another island, from New Zealand, which has already achieved several records and is all out to make others. It is worth trying, for everyone benefits in the process, except perhaps undertakers, sextons, and the proprietors of cemeteries and crematoria, and, after all, these good folk can never be quite ruined, for all must, in the long run, die. The great thing, however, is to die as we are meant to die, peacefully at a good old age, and to live as we are meant to live, healthily with sound minds in sound bodies.

You may have heard of the old parson in the Clyde estuary, who was wont to pray for the greater and the lesser Cumbraes and the adjacent islands of Great Britain and Ireland. Let us pray that the people of the Isle of Man and of its adjacent islands will devote themselves more and more seriously to the pursuit of health and the prevention of damage and of disease, remembering the stirring words of a great poet:—

"Men, my brothers, men the workers, ever reaping something new;
That which they have done but earnest of the things that they shall do."