AN ADDRESS

ON THE

PRESENT POSITION OF STATE MEDICINE IN ENGLAND.

Delivered at the Soirée of the British Medical Association at Owens College, Manchester, on Tuesday, August 7th, 1877.

By ARTHUR RANSOME, M.D.,
Lecturer on Public Health and Hygiene in Owens College.

THE history of a science seldom flows onwards like a stately river, in a steady even course of uninterrupted progress. There are usually successive steps in knowledge, each taking its starting point from some great generalisation, or from some discovery that opens up new fields of research, fresh regions for further inquiry. Within the bounds of these "induction-periods", as they have been termed by Dr. Whewell, there are epochs of comparative quiescence, times even of depression, in which knowledge may be lost, and may have to be rediscovered; or at best, times in which men are simply engaged in building the details of the science up to the framework already raised by some preceding "master mind". Then come signs of the approach of some further great generalisation—preludes to further discovery—and at length another wave of knowledge breaks upon the world.

The history of State Medicine presents no exception to this course of events—though unhappily the quiescent periods have often been wearily long—and the truths that have been lost sight of and that have needed fresh discovery are unusually numerous. On many points our knowledge is only now again abreast with that possessed ages ago by the Jews, and by the ancient people of Assyria and Egypt, and our practice in many respects still falls lamentably behind that of the Romans and the Greeks. In England the course of preventive medicine shows many long stagnant periods, and not a few heavy penalties for the neglect of hygienic laws that had long before been discovered. Each great step forward is, however, usually marked by the disappearance of some disease that had previously weighed heavily upon the nation; and thus we may note either some unconscious advance of the people in hygienic practice, or the recognition by the State of the possibility of preventing some cause of disease. In the disappearance from our shores of such diseases as leprosy, the "sweating sickness", the great plagues, and other epidemics of the middle ages, we probably see evidence of the reformation of national social habits in matters of clothing and cleanliness, and other modes of life. In the decadence of others, such as ague, typhoid fever, and cholera, the improvement has coincided with improved drainage and better water-supply; but in the amelioration of these diseases, as well as in the banishment of such fearful complaints as the jail distemper and scurvy, we may mark the direct outcome of legislative interference. The deplorable outbreak of the last-named disease in the Arctic Expedition of 1875 was simply an instance of the slowness with which truths well recognised by our profession filter down into non-medical minds.

When we look around us to learn the present position of sanitary reform, it might at the first glance appear as if we were now advancing on the top of the wave of progress. The importance of the national health has been fully recognised by the Legislature. Two ministries have attempted to deal thoroughly with the subject, and though we may have had recalled to us more than once, in reference to it the sad utterance of Solomon, "Vanity of vanities, all is vanity", still there can be no doubt that the attention of the people has been aroused; sanitary boards and officers of health have been elected in all districts, and the education of the country in sanitary knowledge is fairly begun.

But, notwithstanding these encouraging marks of progress, it would be unwise to omit to notice certain indications in a contrary direction. These may be, and probably are, merely the reflux to the wave, the backward ebb that accompanies even the incoming tide; but, just as in all governments, there is an "opposition" more or less active, and ready to take advantage, and to make capital out of any mistakes in the administration, so it may be now in sanitary matters. At best there may be misunderstanding of the teaching of scientific men, and this may lead to battle—battle in the palpable interests of the pocket, as against questionable future gain in the direction of health. In many parts of the country, doubtless, local boards are to be found taking full advantage of the counsel of well instructed medical officers, whose capacity and zeal are tempered with discretion; but in others there are

coteries too often led by self-interested persons, who, under the specious cry of extravagance, render ineffective all sanitary measures. Worse still, for truth should be told, we have heard of attempts to reduce medical officers to ignominious and disgraceful silence, by intimations that on this condition alone shall they be permitted to retain their salaries.

There have been of late also certain utterances by men high in authority in the sanitary and scientific world, which, though they may provoke a smile, should on an occasion such as this be treated seriously. More than one of the presidential addresses recently delivered have contained ominous references to so-called Malthusian theories, and the humorous opinion of Montaigne has been seriously adopted, that "it is of little use to attempt to abridge the course of evils—whoso attempts to shorten them by force, only lengthens and multiplies them, and irritates in place of appeasing them". Quetelet's doctrine also finds favour that, "if by dint of care, the art of healing attains to the closing of some few of the hundred gates that lead to death, others do not delay to open wider still".* Then, also, we are referred to the "much-belied Malthus", as he is called, and we are told, *à propos* of our present fearful rate of infant mortality, that if it were not for this, "the increase of the population would be prodigious, for it is the means whereby the annual excess of births over deaths is kept down to the reasonable proportion of 12.8 per 1,000 of the population" (Dr. Letheby), and we are reminded even at the present rate of increase that, by the rule of geometrical progression, "at the end of another generation the population of England will become 42,000,000; at the end of the second, 74,000,000; at the end of the third, 130,000,000; at the end of the fourth, 230,000,000; at the end of the fifth, 400,000,000", and so on,† heaping Ossa upon Pelion, until, "at the end of the twentieth generation, there would be more than fifteen such worlds would contain, each as densely populated as our globe is at present". (Presidential Address of T. Hawksley, C.E., delivered before the Health Section of the National Association for the Promotion of Social Science.)

It can hardly be supposed that there has been any conscious intention of bringing these opinions to a practical issue, or of pushing them to their logical conclusions. No man is likely to propose the euthanasia of even sickly infants, or to suggest that we shall return to the ways of our forefathers in the matters of drainage, scavenging, or water supply; but, seeing the high standing and influential character of the men who have put them forth, there is good reason to fear that they may increase the natural apathy of men's minds towards these questions, and that they will materially impede the progress of practical sanitary reform. More than once have I been asked by intelligent men whether we are not doing more harm than good by our sanitary work. Now, in the first place, never was man more belied than Malthus is by his new found friends. He never, like them, proposed to rest satisfied with a high rate of mortality—nor to look calmly on while this modern massacre of innocents was taking place—for he says, "a decrease of mortality at all ages is what we ought chiefly to aim at". "It is undoubtedly our duty, and in every point of view highly desirable to make towns and manufacturing employments as little injurious as possible to the duration of human life"—and, again, a large infantile mortality is most wasteful to a state, as "a large part of its produce would be distributed without return to children who would never reach manhood". "A young person saved from death is more likely to contribute to the creation of resources than another birth. It is a great loss of labour and food to begin over again". It is very clear, therefore, that the sentiments to which I have just taken exception, have no right to claim the authority of Malthus to give them currency. It is almost amusing to notice the perplexities into which men fall when they give themselves up to theories of population. Malthus himself never attempted to prove the chief propositions upon which his theory is based, and the experience of this country has amply proved that the power of getting food may exceed manifold the growth of the population. Again, all the preventive checks named by him, except the prudential check, must inevitably lead to a grievous deterioration of race. The checks that he never really sanctioned, but with which our friends are apparently afraid to interfere, pestilences, unwholesome trades, misery, and vice, all these necessarily lower the standard of life, and endanger the future well-being of the nation. The prudential check to population would

* In a recent sanitary report of an eminent health-officer, we have the following paraphrase of the above passage:—"Although we have in a measure stopped ravages of some diseases, still, in order to bring up the death-rate to what may be called its normal percentage, other diseases must have and have increased in a like ratio."—Dr. C. Meymott Tidy, *Report on the Sanitary Condition of Islington for 1875*, p. 9.

† "Long before that time arrived," says Dr. Letheby, "the sanitarians who struggle to bring about this condition, would be considered dangerous enemies to the public weal."

of course be a splendid invention, if it could itself be prudently regulated, or if individual judgment could be trusted. It is still a question how far restrictions upon marriage can be imposed by the State without harm; but, if the matter be left to individuals, as Galton has shown, only the improvident will breed, and the race will infallibly become of a lower type.

Sadler's theory of population, again, brought out as a counterblast to Malthus, was shown by Macaulay to be destitute of all foundation; and Doubleday's theory, though more may be said in its favour, turns out when examined to be even more alarming than that of Malthus. Doubleday shows, in accordance with our every day gardening experience, that "whenever a species or genus is endangered, a corresponding effort is invariably made by Nature for its preservation and continuance, by an increase of fecundity or fertility, and this especially takes place whenever such danger arises from diminution of proper nourishment or food". But in his anxiety to controvert Malthus, Doubleday has been unable to see that, under certain very probable contingencies, his supposed law intensifies the danger of over-population. Mankind, according to him, is in a position of unstable equilibrium; let it once reach a certain degree of starvation and misery, and it will then propagate at a frightful rate, and will soon fill the world with hungry and therefore prolific beings. Our only safety from such a fate would thenceforward lie in universal aldermanic feeding, in public kitchens for turtle-soup, or else in a timely recourse to cannibalism.

The remedy for over-population apparently in favour with modern sanitarians, is, however, the worst of all, for, if we may judge from the addresses I have quoted, it would chiefly consist in giving full swing to the causes of disease. I cannot understand for what purpose the spectre of over-population has been paraded before an audience of Medical Officers of Health or a Social Science Congress, if the inference were not intended to be drawn that we must not be over-active in our sanitary measures. Nay, by some it is boldly affirmed. "Medical science", says Mr. Greg, "is mitigating suffering, and achieving some success in its warfare against disease; but at the same time it enables the diseased to live. It reduces the aggregate mortality by sanitary improvements and precautions; but those whom it saves from dying prematurely, it preserves to propagate dismal and imperfect lives". It appears to have been forgotten that most of the evils that we deplore in our town populations, the diseases and feebleness of constitution from which they suffer, are the direct outcome of the unhealthy circumstances in which they live. If the conditions of existence in towns remain as they now are—if the fever nests, the breeding places of scrofula and consumption, the temptations to intemperance and vice, are left unchecked to do their malignant work, then indeed we may certainly look for deterioration of race. But sanitarians will not be responsible for the result.

Without in any way undervaluing the importance of the subject of overcrowding, yet, as a medical man, I protest energetically against its being brought forward as it has been in these discourses. It is only too certain that we shall, from time to time, have to deal with the results of overcrowding, and to do our best to diminish infant mortality; but I submit that the control of the growth of the population is in no way our concern, as guardians of the public health. It will be the first duty of statesmen to consider how best to deal with the augmenting masses of people collected together in our towns, to favour movements of the population, to promote emigration, to remove restrictions on trades, and to give no encouragement to improvident marriages by an injudicious system of poor-law relief—but these are simply our duty as citizens, not as medical men; and even if it were desirable we can see plainly enough that no efforts of ours will avail to check the natural expansion of the nation. The increase of the population in geometrical progression has, as Dr. Farr has shown, nothing "fatal or inexorable" about it. At any time it may become a decrease in geometrical progression in certain groups of the population. "Old families outlive not three oaks", says Sir Thomas Browne; heiresses are notoriously unprolific; whole races of men, who enjoyed all the comforts and luxuries of life, have ceased to be—"the high Athenian breed has decayed and disappeared", and "a surprising number of the ablest men have left no descendants". (Galton, *Hereditary Genius*, pp. 343-346.) The average growth of the nation is in truth brought about simply by a preponderance of the fertile over the infertile marriages, and thus may be compared to many natural operations, whose course depends upon the opposing influences of favourable or adverse conditions. At any time, by the action of the latter, it may be checked or altogether hindered. Hard times, bad harvests, and many other circumstances are well known to affect the marriage and the birth-rate, but there are probably others that have yet to be discovered. The direct influence of food and drink, the counteracting effects of intellectual and moral culture, the pressure of civilisation upon the inferior types of mankind,

these all in their way affect the rate of increase, and I think we may safely leave the issue in the hands of Providence, and say with Montaigne, "Laissez faire un peu à la Nature, elle entend mieux ses affaires que nous".

But there is another count in the indictment against sanitary science, somewhat contradictory to the first, perhaps, but this does not prevent its being used. Having pointed out the dangers of over-population and of extending the average term of human life, our critics next proceed to taunt sanitary science with its powerlessness in this regard. The death-rate of England has notoriously been nearly stationary (at about 22 per 1,000 during the past thirty or forty years), and because it has not varied, therefore they say it is invariable, and, by way of enlisting in their favour the powerful genius of the pocket, they point out the uselessness of vast expenditure of public money upon sanitary works. "Sanitary science, as at present applied", says Mr. Hawksley, "although in other ways of infinite benefit to the community, is not capable of materially extending the limits of life which Nature has in her wisdom prescribed. Our municipal debts, principally incurred on this head, now amount to nearly one hundred millions of pounds sterling, and are fast increasing...without any remarkable effect having been produced in or towards the prolongation of life."*

There is undoubtedly something very seductive in the sight of an uniform series of figures. Even hasty conclusions based upon them smack somewhat of the authority of inductive science. It is not surprising, then, that men should begin to think that the persistently heavy death-toll of the nation was their fate, not to be avoided by any efforts of theirs, and accordingly we come upon such phrases as the "normal death-rate" and "the limits of life which Nature has in her wisdom prescribed." But we hardly need to be warned that sometimes statistics are "like the sieve of the Danaides, beautifully reticulated, orderly to look upon, but which will hold no conclusion." (Carlyle, *Past and Present*, p. 7.) In this case, assuredly, the supposed induction utterly fails, and I affirm positively that there is no natural law that causes nearly half the children born to die before they are five years of age, as in Liverpool; nor that limits the average duration of life, as in Manchester, to twenty-nine years. It would be as correct to speak of drunkenness as the "normal condition" of mankind, or of a "reasonable proportion" of murderous assaults, or of the atrocities in Bulgaria as having been benignly ordered by the wisdom of Providence. By a parity of reasoning, it would have been equally just for the former master of the Rotunda Lying-in Hospital, in Dublin (from 1753 to 1785), to have affirmed that the "natural" mortality of infants within the first fortnight was one in every six born alive, and yet improved ventilation alone reduced the rate to one in every 104.

A similar acquiescence in the laws of fate might have led us to regard the mortality in the army before the Crimean war as the "normal death-rate" of men who had been chosen for their health and strength; and yet, year after year, these men died at twice the rate of the unhealthiest populations of English towns. Happily, this view was not taken by the Royal Commission which considered the subject in the year 1854.

The regular rise of small-pox every five or six years, as shown by the mortality from this cause in Sweden, might have been regarded as inevitable before the introduction of vaccination; and yet, by means of Jenner's great discovery, how completely it has been avoided in this country since the year 1810. If any proof of the efficacy of sanitary measures were really needed, it would in truth be afforded by an inspection of that very "stationary" death-rate that is now regarded as an opprobrium to the science of public health; and we may say further that, so far from encouraging a tendency to "rest and be thankful", it should urge us to make more strenuous efforts lest worse things come upon us. A very brief survey of Dr. Farr's most valuable supplement to the Registrar-General's return shows that the death-rate of England is by no means uniformly stationary from decade to decade. It is the nature of most steady averages that they are made up of a sufficient number of varying figures to give constant results, and accordingly we find that this apparently uniform formula contains both increasing and diminishing figures—returns, 1st, from a large number of places in which the death-rate is diminishing, and, 2nd, I am sorry to say, from a still larger number in which it is stationary or increasing.

Now, with regard to the first series of districts in which there has been a palpable diminution of the death-rate, we are at once struck

* Address by Thomas Hawksley, C.E., p. 14.

"A feeling is rapidly gaining ground that the sanitary schemes which have been imposed upon the country by Parliament, are either of very questionable utility, or have been carried out by local authorities in a very negligent and inefficient manner, while the enormous and rapidly increasing expenditure which they involve is becoming a matter for very serious consideration."—Mr. Baxendell, *Proc. Lit. and Phil. Soc.*, vol. xvi, p. 70.

with the fact that, in nearly every case, important sanitary works have for a number of years been steadily carried on in them; that in many cases the improvement in the health of the places immediately followed the introduction of improved drainage or better water-supply, and further that the chief amelioration took place in those classes of disease ranked as preventable by sanitarians. Dr. Buchanan's table published in 1866 shows this in a striking manner; and, since then, the Registrar-General has published a list containing several other striking examples of the same facts. (For both these tables, see Appendix.) I have also taken pains to extract from the Registrar-General's tables all the towns in which there is a diminishing death-rate, and I find the coincidence between this improvement and long-continued sanitary work almost universal.

Unfortunately, the saving of life in the first series of districts is balanced by the increased number of deaths in the second class, and this is truly a matter for national concern. We have seen that the sneer at the powerlessness of sanitary reform is unfounded; but it is evident that, in a large number of districts, this work is either inefficiently carried out, or that the pressure of forces hostile to life has increased beyond the power of sanitary measures to cope with them. It is probable that both these conditions are at present conducing to the evil result, and it behoves all men who love their country to inquire concerning them, and to do their best to change the direction of the current of mortality. It is not difficult for anyone to see that, within the last few years, several morbid agencies have materially increased in their pressure upon English populations, and it may perhaps be possible, in the case of some of these influences, to make an approximation to the actual extent to which they have affected the death-rate.

Let us take three only of the hostile circumstances that have thus increased, and we shall find that they will more than account for the heavy mortality, and that still more disastrous results would have been produced had not some ameliorating power also been at work amongst us:—1. The altered character and increased size and density of town populations; 2. Increased use of intoxicating drinks; 3. Imperfect care and instruction of children.

1. Let me try to bring home to you the baleful change that has come over most of our great towns in the course of the last thirty years, and let us take this city as an example. Hollingworth, the old historian of Manchester, writes thus enthusiastically of it rather more than two centuries ago:—"It farre excellethe the towns about it, for the beautiful shew it carrieth, and for resort to it. Yea! it is the fairest, largest, and most populous town in all the country;" but, one hundred and fifty years after this epoch, when Manchester was yet only one-tenth part of its present size, Dr. Aiken already pointed out that it "vies with or exceeds the metropolis in the closeness with which the poor are crowded in offensive, dark, damp, and incommodious habitations." Manchester was then, doubtless, bad enough, and, as it rapidly increased in size, it did not improve in these respects; still at that time a large proportion of the well-to-do and upper classes lived within its precincts. But, of late years, another change has come over it—a change in the nature of its population. Thirty, or even twenty years ago, there still remained, within the boundaries of the registration district, many of the upper and middle classes of the population. Now this is changed; all who can afford it, including most of the shopkeepers, and even the very doctors themselves, now rush off, as if impelled by some centrifugal force, and leave the town to the workpeople and their families. It is throughout a *cité ouvrière*, without the arrangements needful to make an artisan city healthily habitable. In one district, that of Ancoats, of over 20,000 inhabitants, there are probably not twenty houses in which a single domestic servant is employed. The consequence of this flight of the upper classes is not only that the most unhealthy portion of the inhabitants is left behind, and those least able to guard themselves and their young from the increased weight of the depressing influences of town life, but the wholesome example of healthy social habits is also withdrawn, and the people are left unheeded to their own unwholesome ways. This is one way in which most towns are deteriorating in the character of their populations, but they are also much more densely packed together.

In his supplement, Dr. Farr tells us that "in the last twenty years the towns of England have increased from 580 to 938, and their populations from nine to fourteen millions". In many places also there are twice the number of persons on the same space of ground that there were twenty-five years ago. Now, we know that town life is necessarily more unhealthy than country life, and the difference between them is measured by the fact that the urban rate of mortality is 24 per 1,000, as compared with 19 per 1,000 in rural places; and, if we were to take the above estimate of five millions of additional inhabitants in our towns, we should find that about 25,000 additional deaths every year

have probably been due to the unhealthy influences that bear sway in towns.

And there is yet another way in which a calculation may be made on this point. Dr. Farr has shown that, when similar populations are taken, the mortality regularly increases, in a certain proportion to the density. In the following table may be noted the definite way in which an increase in the mortality takes place as the population gets more and more closely crowded together.

TABLE I.—Proportion between Death-rate and Density of Population.

Mean Annual Death-Ratio.	Density.	Births.	Deaths.	Annual Increase of Population.
	Persons to a Square Mile.			
15	39	35.11	22.00	11.99
15	17	166	30.22	16.75
18	20	186	32.19	19.16
21	23	379	35.78	21.88
24	26	1718	38.75	24.90
27	30	4499	40.16	28.08
32 (Manchester)	12.375	37.33	32.49	3.22
39 (Liverpool)	65.823	37.57	38.62	12.33

Now, instead of comparing different places together in this regard, the density and mortality of the same town, at two different periods, may be made the elements of calculation, and the differences between the actual and the estimated death-rates will both show the usual effects of overcrowding, and will at the same time enable us to judge whether any effect has been produced by sanitary improvements.

My friend Mr. Alfred Neild has kindly made the necessary calculations, from the data supplied by Dr. Farr, for a number of towns in which the density has increased, whilst the mortality has either been stationary or has diminished. The results are given in Table III, in the appendix, and are sufficiently striking. In many towns the actual mortality is less by several deaths in the 1,000 than the calculated mortality, and the total saving of life in the towns named is upwards of 16,000 lives *per annum*.*

2. The second increasing cause of ill-health is *Intemperance*. How shall we estimate the effect of this vice upon the nation? That it has a very potent influence as a source of disease no one can doubt who has noted the physical condition of the poor creatures who turn from the doors of taverns, and who may often be subsequently tracked to the poorhouse or to the hospital. That the consumption of alcoholic drinks has greatly increased is also certain enough, seeing that the expenditure upon them has doubled in the space of thirty years, and that apprehensions for drunkenness have more than trebled in the same period. But there is no absolute measure of the result. There has, no doubt, been of late years a large increase in the mortality from diseases of the heart, liver, and kidneys—organs especially affected by excessive drinking—but we are not able to state numerically the number of victims thus annually carried off. Some approximation to the truth may, however, be made by comparing a temperate population with one in which alcohol is freely used. I am informed by my friend Dr. W. Roberts that, about thirty years ago, in some parts of Wales an experiment of this kind was made on a large scale. At that time a wave of teetotalism swept over the country to such an extent that most of the publichouses were closed, and most of the inhabitants of whole counties abjured the use of alcohol. This was especially true of the county of Anglesey, and the movement had died out to a great extent by the year 1850.

Now, when we compare the mortality in this county, in successive decades, we find that it has steadily increased from 17 per 1,000 (in 1841-50) to 21 per 1,000 (in 1861-70). The density of the population has remained without change. The inhabitants have certainly improved in material comfort in the last twenty years, and no special unhealthiness has prevailed in the island. May we not, then, with some probability, ascribe a large part of the increased mortality to the increase in the use of alcohol? If so, we have a rough measure of the effects of drinking upon the death-rate of the country, and we shall probably not be far wrong in estimating it at 40,000 or 50,000 deaths every year, and the increase at 20,000, to 25,000, or at 2 or 3 per 1,000.

3. *Infant Mortality*.—There remains the third element of increasing mortality, that due to lack of care and improper nutrition of children.

* It is possible that the figures given in the table may be regarded rather as invalidating Dr. Farr's law than as proof of the effects of sanitary reform; but from the admirable Supplement to the Registrar General's Annual Report, it appears that, in spite of the improvement that has taken place, it is still possible to range all the adverse influences that accompany increased density in one mathematical formula, and that "the mortality of the districts is nearly as the 12th root of their densities."—Supplement, p. clviii.

The enormous difference in the mortality of children in different places (is well shown in this diagram, and) points to the vast amount of preventable mortality among children now going forward. A large part of it may probably be ascribed to the influences that have already been mentioned, but it concerns us to know that it is distinctly increasing of late. Whilst the adult mortality of the country has on the whole lessened by 0.17 per 1,000, the mortality under five years of age has increased 1.5 per 1,000, in the fifteen years ending 1870—in other words, that the already frightful infant mortality has increased by nearly 9,000 deaths every year.

Taking all these points into consideration, we may see plainly that the increased weight of morbid agencies in the last quarter-century can hardly be estimated at less than half a million of lives in a decade. In other words, that unless some mitigating influences had been present, the average death-rate of the country at the present time would have been at least 24 or 25 in the 1,000 instead of 22. I venture to claim a large part, if not the whole, of this saving of life as due to the improved sanitary administration of the country, even though so imperfectly carried out as yet.

But a recognition of this fact by no means blinds us to the many defects in this administration. On the contrary, it forces upon our notice that much better results would probably have been obtained, if the laws relating to the public health had been framed upon the lines so frequently pointed out to the Legislature by this great Association. Unfortunately, the forebodings of your State Medicine Committee with regard to the working of the Sanitary Acts have been shown to be only too well founded. Everywhere complaints are now arising as to the scope given to petty local authorities for jobbery, and for the selfish protection of private interests to the injury of the public health. We constantly hear of the difficulties thrown in the way of health officers by the confusion of the boundaries of districts for various purposes—for poor-law guardianships, for urban and rural local government, for vaccination inspection, and for the registration of births, deaths, and marriages. All these difficulties were foreseen by your committee, and they have greatly hindered the progress of sanitary reform in England. Englishmen are apt to take some pride in their neglect of logic in matters of national government. They have won more than one victory by not knowing when they were beaten, and it is quite true that in the long run, by perseverance and at a prodigious cost, they succeed, notwithstanding their blunders, where other nations would have failed, but assuredly they hardly ever undertook a more hazardous and costly experiment, than that attempted in framing a Public Health Act without help from medical men. We all know now that no counsel was then taken from the most able official adviser to the Local Government Board, whose vast and matured experience on the subject would have been of infinite value, and for the lack of which the greatest confusion has ever since reigned in sanitary administration.

It is, indeed, remarkable at how many points the machinery of preventive medicine in England is left without any firm foundation. Thus, by the Act of 1872, it was made compulsory upon all local authorities to appoint medical officers of health, but nothing was said as to the qualifications of candidates for the office except that they should be "legally qualified medical practitioners". In spite of the testimony of such men as Dr. Parkes, it was assumed that no special training was needed for the office, and as, moreover, nothing was said in the Act as to the salaries of these men, the letter of the law was in many cases kept, and its spirit violated by appointing, at a merely nominal salary, men who were already fully occupied in general practice. We have accordingly witnessed the absurdity of a sanitary organisation resting upon the foundation of medical officials who, except *sud sponte*, have received no special instruction in their duties. To the honour of the profession be it said, that most of the men appointed have diligently studied the subject since their appointment, and would themselves be the first to bear testimony to the absolute need of instruction; but the mundane providence of Parliament cannot take much credit for this. Moreover, after all their study, no opportunity has even yet been afforded of testing the knowledge gained, nor of proving that they are now better equipped for their office. No portal has yet been provided by which general practitioners may authoritatively enter the department of State Medicine to which they aspire, and only one University (that of Cambridge) has in the interim offered an examination in the subject open to all comers. It would almost seem as if it had been the intention of our Governments to degrade the office of State Physician as much as possible. The position of medical men in the army and navy is still not all that could be desired; but it is infinitely better than that of most medical officers of health. The marvel is, that so many able men should have been found to accept the post. They have, as we have seen, no State qualification. Most of them are appointed over small districts at paltry salaries, and for short terms of office; or

if, by the combination of districts, their areas are made larger, and men are tempted to give up private practice in order to accept them, their tenure of the post is most uncertain; and at any time their districts are liable to be lessened and honeycombed, by the action of sundry petty authorities who recede from the appointment often, I fear, from self-interested motives. The position of these men is, in fact, that of a servant with many masters, and if they are too energetic or too free-spoken in their reports, their paymasters may turn them away at the end of their short term of office without any appeal to a higher tribunal. It is notorious, also, that the *personnel* of local boards has not improved of late years.

Again, the object of all sanitary administration is the removal of the preventable causes of death; and for this purpose it is absolutely necessary that correct statistics of the causes of death should be obtained, and that their place and time of origin should be immediately brought under the notice of those who have to try to remedy them. But no provision now exists for doing this. Successive attempts have been made by Dr. Farr, assisted by this Association, to obtain, in the first place, some verification of the cause of death—but hitherto without success—and, accordingly, both for immediate service and for scientific investigation, the magnificent series of figures collected by the Registrar-General are practically almost useless. Vague and unscientific names are given to the causes of death. At one time one title is in fashion for the same disease, at another it is interchanged for another, its place and time of origin are left unrecorded; and it is thus almost impossible from these tables to trace the progress of sanitary work or to discover the influences that bear upon human life. It was well said by Archimedes that if he could get a suitable fulcrum—a "*πῶν στῆῶν*"—for his machinery, he could move the world, but without this a grain of sand is not less immovable.

Take only one more instance of the loose way in which the subject of the public health has been dealt with by the Legislature. It is one of the chief duties of a medical officer of health to take immediate measures for stopping the spread of epidemic disease. Now, an infectious complaint when it originates in a district can only be successfully checked at its outset. If it is to be "stamped out" at all, the first smouldering sparks must be noticed, and precautions taken to prevent them from lighting up a general epidemic. It is strange to remark how completely this obvious truth has been disregarded in framing the various Acts that deal with the subject. In the Public Health Act of 1875, there are abundance of directions as to the building of hospitals, the provision of ambulances and mortuaries, fines for the exposure of infected persons and infected garments, but no provision whatever, except in registered common lodging-houses, for early intelligence being sent to the Health Officer of the first appearance of the disease. The committee of the Sanitary Association of this city was among the first to point out the need for prompt intelligence of the presence of an epidemic, and it has been pressed upon successive Governments, though hitherto without avail, by petitions and memorials and deputations from this British Medical Association, and from the Social Science Congress. It is not surprising, therefore, that on all hands we now hear complaints from medical men of their feebleness in the presence of infectious disease. And what is, perhaps, of still more importance, we find that when the burdensome provisions of the Act are put in force, without producing any real effect upon the disease, people naturally rebel against the law, and sanitary science is discredited.

We see, then, that whilst on the one hand the greater activity in sanitary matters throughout the country has been of immense service, and has saved many thousands of lives, yet there are still many directions in which further improvement is urgently required. We now only just hold our own, and we need all the help we can get to fit us for our warfare against the deadly foes that still hover around us, and pick off many useful lives.

It would perhaps be wise if I were to stop here—if I were to content myself with fault-finding only. It is always easier to criticise than to create; and the difficulties of statesmen have had ample illustration during the past session. Moreover, if it were my object simply to attack other men's schemes, and to leave no opening for a return of fire, it would be better to abstain from setting up any scheme for the improvement of sanitary administration in this country. I may also frankly say that I should not dare, out of my own crude imaginings, to offer any suggestions towards such an object, but the subject has been thoroughly worked out by others. In many of its ramifications, it has been most ably dealt with by men of powerful grasp and wide experience—both in and out of office.

Within the last ten years, much discussion has taken place with regard to the improvement of the sanitary administration of the country. At one time the subject was taken up by the General Medical Council,

and an important memorandum was issued; but for some reason that does not appear, it has not been further dealt with by that body. Our own Association also, conjointly with the Social Science Association, have considered the subject, and the joint committees have issued several reports. From the writings also of such men as Mr. Simon, Drs. Buchanan, Farr, Rumsey, and Stewart, ample stores of material may be drawn, for framing a scheme of what true State Medicine might become in the good time that always lies before us in the future.

Let us, therefore, for a few moments indulge in a dream of what may come to pass in sanitary reform; and since now-a-days events march so rapidly, let us hope that our air-drawn edifice may be crowned sooner than we look for it. Let us at least have the pleasure of thinking that it might come to pass before the termination of our present Queen's beneficent reign. Nearly all the Acts bearing upon the public health have received her fiat, it would then be a fitting thing that our sanitary Atlantis should still have her hand at the helm. Let us suppose, then, that at this somewhat uncertain epoch in our national history, there will be a perfect sanitary organisation, with a head as well as a body and limbs, and not the low type of molluscous organisation that exists at the present time. For this end there should be a Minister of Public Health, chosen not from political reasons alone, but, like the Viceroy of India, because he is well acquainted with the details of his duty, a man able to rule—and ready to answer for his actions to Parliament. He would preside over the department of Public Health, including medicine and medical police, and he should have the aid of a staff of assistants specially skilled in the several departments of the subject—hygiene, vital statistics, pathology, toxicology, sanitary engineering, and sanitary physics. There would also be a College of State and Legal Medicine, with all necessary appliances, such as laboratories for original research, a technical museum, and a library. In the laboratories investigations might be carried on upon the many problems that continually arise in these subjects—inquiries as to the origin and nature of diseases, the effects of different kinds of food, the best means of disposing of refuse material, the treatment of sewage, disinfection, ventilation, heating, various toxicological inquiries, and other matters that are still under debate. In this way the costly experiments now made in sanitation would be avoided, and conclusions reached that would be at the command of local boards of health. A Veterinary Department should also be founded wherein could be studied the diseases of animals and their relations to human ailments. In the Statistical Department many kinds of vital statistics besides those now collected might be received, such as periodical observations on the growth of children, and on the stature and physical development of the various classes of the population engaged in different occupations. Weekly returns of disease, especially of all cases of infectious disease, would necessarily be collected in each district, and telegraphic information of the presence of an epidemic would be at once reported through the local medical officer as soon as the diagnosis of a case was made out. As immediate use of this information would already have been made on the spot, the best opportunity would thus be afforded of stamping out the disease and preventing its spread. Through this College every candidate for public medical office must pass. It is impossible for men who have merely passed through the ordinary medical curriculum to deal satisfactorily with many of the questions that arise in the course of their public health work. Special instructions must, therefore, be given as to the distribution of disease, medical topography and meteorology, on the effects of trades, overcrowding, etc., as well as in the general subjects included under the head of public hygiene and in the laws relating to public health. The distinctions between urban and rural sanitary districts would then have been removed, and the areas for local sanitary self-government would be, as much as possible, based upon the registration districts and subdistricts of the country. All the statistical and administrative areas would be continuous, and their authorities consolidated, so that the data obtained from the former could be at once made available in the latter. The districts should be large enough to secure an efficient and well-paid, yet comparatively economical, organisation of permanent officials who could be removed only for misconduct, with power of appeal to the central office. There might be also in each county, or suitable division of a county, "representative authorities of a high order for the execution of joint works, and to aid and, in case of default, to exercise control over district sanitary authorities." (Memorial of the Joint Committee on State Medicine, 1877.) And yet the relations of the local authorities to the Government need not be by any means onerous nor tainted by the vice of over-centralisation. Compulsory regulations should certainly be made as to the provision of good water, the removal of nuisances, efficient drainage and sewage arrangements; but the mode in which these several departments of work are to be carried out might be left entirely within the control of local au-

thorities. The central office would freely offer the assistance of its well-trained inspectors, and encourage all persons, both in public and private, to take advantage of its stores of special knowledge and experience; but it would leave all communities at liberty to select those methods and those appliances that might seem best suited to the locality, with whose wants they might be presumed to be most thoroughly acquainted. In this way a true education of the country in sanitary matters would be promoted, and many of the evils of a bureaucratic form of government would be avoided.

It is possible, too, that by this time local sanitary administration would be assisted, as Dr. Buchanan so much desires, by the formation, in every locality, of voluntary sanitary associations similar to the one that has now existed in this city for more than a quarter of a century, and which is still doing good work.

I have purposely said nothing as to the vexed question of the proper relations between the Poor-law medical service and the department of Public Health. This is far too wide a subject to take up now; but I may perhaps express a hope that in our still unseen universe the whole system of medical relief to the poor will have been remodelled. The mode in which it is now carried on is at once inefficient and costly, penurious and extravagant—and unjust both to the poor man and to his medical attendant. It leads to delay and carelessness in the treatment of disease; it deprives the sick person of any right of choice in the matter of medical attendance; and it imposes unwilling, and therefore unsatisfactory and captious, patients upon the medical man. A much more efficient, equitable, and really more economical plan, would be the Irish dispensary system, with certain modifications, which I need not now enlarge upon.

In any case, let us hope that the people will gradually be taught to see the vast importance of the subject, and that thus an enormous amount of suffering, premature decay, and death, may be averted from the nation.

APPENDIX.

TABLE II.—Results of Drainage and Improved Water-Supply.

Population in 1861.	Towns.	Periods.		Death-rate per 10,000		Typhoid.		Diar-rhea.		Cholera.			Phthisis.		Infant mortality.
		B.	A.	B.	A.	B.	A.	B.	A.	1849	1854	1866	B.	A.	
68,056	Leicester ..	'45-'51	'62-'64	264	252	14	7	16	19	1	10	—	43	29	84
52,778	Merthyr ..	'45-'55	'62-'65	332	262	21	8	11	6	267	84	20	39	34	80
39,693	Cheltenham ..	'45-'57	'60-'65	194	185	8	4	7	—	—	—	—	28	21	40
30,999	Croydon ..	'45-'50	'57-'64	237	190	15	5	10	7	27	21	2	—	—	37
27,475	Macclesfield ..	'45-'52	'57-'64	208	237	14	8	11	11	9	1	—	51	35	77
24,756	Newport ..	'45-'52	'60-'65	318	216	16	10	11	6	112	2	12	37	25	67
23,108	Dover ..	'45-'53	'57-'65	225	209	14	9	9	7	40	10	4	26	21	48
10,570	Warwick ..	'45-'55	'59-'64	227	210	19	9	6	8	10	—	—	40	32	51
9,230	Salisbury ..	'44-'52	'57-'64	275	219	9	2	6	2	180	14	—	44	22	43
5,805	Worthing ..	'43-'52	'57-'65	155	153	7	9	4	5	—	—	—	30	19	24

TABLE III.—Districts of England and Wales, showing some Improvement in the Annual Rate of Mortality in the Three Decades, 1841-50, 51-60, 61-70.

No. of District.	Name of District, etc.	Registration County.	Enumerated Population.		Average Annual Mortality.		
			1861.	1871.	Deaths to 1,000 living.		
					1841-50.	1851-60.	1861-70.
182	North Witchford ..	Cambridge	14,791	15,585	27	21	20
183	Whittlesey	Cambridge	6,966	7,002	25	23	21
184	Wisbech	Cambridge	33,309	34,209	25	22	20
189	Orsett	Essex	11,595	13,172	24	21	18
254	Salisbury	Wilts	9,439	9,212	28	24	20
279	Stoke Damerel ..	Devon	50,440	49,449	26	23	21
372	Wolverhampton ..	Stafford	126,902	136,053	27	28	24
393	Coventry	Warwick	41,047	40,113	27	25	21
446	Macclesfield	Chester	61,543	59,339	26	23	20
520	Hull	York	56,888	68,316	31	25	23
582	Newport	Monmouth	51,412	61,252	24	22	21
585	Merthyr Tydfil ..	Glamorgan	93,008	104,239	28	29	25
605	Crickhowell	Brecknock	22,457	20,147	27	25	23

MARYLEBONE.—Dr. Whitmore states that the annual death-rate for the quarter ending June 30th was 21.77 per 1,000, being 1.33 below that of the winter quarter. He refers to the water-supply, which was good; and warns householders to pay proper attention to their cisterns, and not to place them in such a position as to allow the water to become fouled by gases from dustbins or drains. Measles and whooping-cough were the most fatal zymotic diseases.

REPORT OF THE JOINT COMMITTEE ON STATE MEDICINE OF THE BRITISH MEDICAL AND SOCIAL SCIENCE ASSOCIATIONS, 1877.

THE Joint Committee, acting upon the resolutions adopted at the Sanitary Conference held in London on the 11th and 12th of May 1876, have prepared a Memorial carrying out the spirit of those resolutions. This Memorial is as follows.

To the Right Honourable the Earl of Beaconsfield.

The Memorial of the Joint Committee on State Medicine of the British Medical and Social Science Associations

Humbly sheweth,

That your Memorialists in 1868 asked for the appointment of a Royal Commission of inquiry into the operation and administration of the Sanitary Laws, under the conviction that the laws then in force were to a great extent inoperative, owing to opposition or indifference on the part of local authorities, to clashing of jurisdiction within the same areas, to the want of sufficient power in the hands of the central authority to enforce compliance with their enactments, to the difficulty of administering the laws, and to the ambiguous and often contradictory character of the laws themselves.

The Royal Sanitary Commission collected much valuable evidence, and reported that the duties of sanitary authorities were "seldom discharged", and recommended a consolidation of the law relating to public health, and other changes in sanitary administration, several of which have been adopted and made law by the Public Health Act, 1875.

That your Memorialists in May 1876 convened a Sanitary Conference of representatives of local governing bodies, and others interested in public health, under the presidency of Lord Aberdare, to consider how, in any change of the existing system, greater efficiency of action, more complete representation, uniformity of powers of local authorities, simplicity of laws and economy of expenditure could best be obtained. The result of that Conference is the Memorial we have now the honour to present to your Lordship.

Your Memorialists believe in the urgent necessity of some further action on the part of the Legislature in order to protect the public health, and which they are persuaded can be largely advanced by so far re-modelling the laws relating to government as to remove the distinctions which now exist in the powers and obligations vested in urban and rural sanitary authorities. These distinctions create many difficulties and much confusion in local administration, and it is notorious that many portions of rural districts are more strictly urban, both in character and population, than many outlying portions of urban districts, or even the districts themselves.

The law which regulates streets and buildings is now mainly under the control of urban authorities, and any differences in the condition of rural districts in these respects, as contra-distinguished from cities and towns, could easily be met by the passing of by-laws, always capable of being altered and amended to meet the existing conditions of the district.

The breaking down of this distinction between urban and rural sanitary districts would secure simplicity in the law, and attain an object long and earnestly sought for by your Memorialists—uniformity of public health enactments for every part of the kingdom.

Your Memorialists have been very strongly impressed with the need of economy in carrying out sanitary improvements, and generally in the administration of the functions of local government, and they believe that a reconstruction of sanitary agency such as is hereinafter recommended is consistent not only with complete efficiency, but with the accomplishment of a much larger amount of work done at a less cost than at present. This can readily be obtained by constituting, instead of the many local authorities under various names now existing, one elected and representative body, clothed with all executive functions, whether municipal or sanitary, within the area of its jurisdiction. There are, however, duties and obligations which cannot be exercised altogether satisfactorily within a limited area, whether of a borough or a local board district, so as to secure the greatest amount of benefit with the smallest necessary outlay. Many works can only be adequately carried out by the combination of districts, with a money contribution spread over the whole area, to be levied in a ratio proportional to the benefit to be conferred. Lunatic asylums, workhouses, bridges, and the like, come within this category; and there are many difficulties in the present system, with respect to water-supply, drainage, sewerage, and the disposal of sewage, which would be reduced to a minimum were such a combination as is here proposed provided for by

law, and not left, as at present, to the almost impossible agreement of the constituting and contributory authorities. There are other and most important functions, which would be fulfilled by a representative body of a high order, such as the constitution of a Board of Appeal between district and district within the area of its jurisdiction, or between ratepayers, inhabitants, and authorities, to authorise and require to be executed, and, if necessary, to execute works when authorities are in default and their districts suffering from the neglect of the duties and responsibilities with which they are clothed, or where joint works are desired, and specially to control watershed areas, and to regulate such matters as relate, both in finance and use, to a county, rather than to a sanitary district. An almost universal consensus of opinion has been arrived at that the establishment of a County Board for purposes alike and akin to those here indicated is an essential element in any scheme for ensuring local and sanitary progress.

Some inquiry is necessary to re-arrange the boundaries of districts, but your Memorialists believe that existing areas should be as little interfered with as is consistent with the public service; although this re-arrangement becomes of less importance when an authority shall be provided clothed with sufficient powers to regulate or remove anomalies arising from peculiarities in the position or constitution of districts, and to act as an intermediate body between the representatives of district and central government.

Thus also an opportunity would be furnished for entirely remodeling in the national interest the public health medical service. By establishing a County Board for administration and finance, it would be possible to secure the services of health officers of high scientific attainments and of acknowledged ability, paid adequate salaries for superintending the whole or a division of a county, acting as consultants under the direction of a chief attached to the central authority, affording counsel and assistance to district officers in all cases of doubt or difficulty arising in the discharge of their duties; examining and acting on the weekly returns of disease and deaths furnished by district registrars; and also aiding courts of justice by acting as experts in all cases of criminal jurisprudence requiring medical evidence as to injuries causing or tending to cause death. To these county officers should be added medical officers of a district with assistants, all forming parts of a great department of the State, under the presidency of a minister of health; but all these officers should be under central control, so far as making up one great body of workers for general State Medical purposes. In this, as in all other departments of local action, there should, in the opinion of your Memorialists, be the minimum of interference with local government. All officers of health should be debarred from private medical practice, and be holders of diplomas in State Medicine, their emoluments being secured as in the case of medical officers of the army and navy, but with a portion only of their salaries provided out of moneys voted by Parliament, the rest being paid out of local rates. It is believed that were this system in practice, the cordial co-operation of the medical profession would be secured. Without the aid of the medical attendant in giving, either directly or through the intervention of the householder, timely notice of the occurrence of zymotic disease and early intimation of death in all cases, the adoption of effective measures for preventing the spread of diseases of an infectious character becomes almost impossible. With respect to all officials, security in the tenure of their offices, so long as the duties attached to them are adequately and faithfully performed, would tend, in the opinion of your Memorialists, greatly to the advantage of the public service.

Besides the matters thus generally touched upon, it is believed by those who have given the subject much and careful attention, that, in many cases, the law and the proceeding under it may be much simplified, and the exercise of the powers of local authorities be made more easy and effective.

By far the greatest help to an improved sanitary condition of the people must be expected from the progress of general knowledge and belief in the benefits to be obtained from an ample supply of pure air and pure water, and from a more assured conviction that these essentials to a healthy life may be secured by a moderate expenditure, which in the end will prove remunerative. We believe that much may be done by the educated efforts of the governed on their own behalf, that the action of their representatives should be encouraged, not beset with difficulties, and that local government should be as little interfered with as is consistent with efficient action; but that when, unhappily, from apathy or neglect, the public welfare demands intervention of a controlling power, there should be in the law such provision as would insure the adoption of the best devised means for averting any threatened advent of disease, and for securing the permanent maintenance of the conditions of health.

Your Memorialists, believing that changes in the existing law will

materially aid those charged with this administration, venture most respectfully to suggest:

1. That the present existing distinctions between urban and rural sanitary districts should be removed, and that all sanitary authorities should be clothed with similar powers; and that these powers should be extended in order to enable them to carry out all purposes of local administration within their district.

2. That in each county, or division of a county, a representative authority of a high order should be constituted for the execution of joint works, to aid, and in case of default, to exercise control over district sanitary authorities.

W. H. MICHAEL,
A. P. STEWART, M.D., } *Hon. Secs.*

June 18th, 1877.

This Memorial was, on the 18th of June 1877, presented to Lord Beaconsfield, with a request that his Lordship would consent to receive a deputation to urge the prayer of the Memorial. The Joint Committee much regret that his Lordship's engagements, as pointed out in the following letter, would not allow him to receive such deputation.

"10, Downing Street, Whitehall, June 29th, 1877.

"Gentlemen,—Lord Beaconsfield has had the honour to receive a memorial addressed to him by the Joint Committee on State Medicine of the British Medical and Social Science Associations, together with your letter of the 18th instant, requesting him, on behalf of those Associations, to receive a deputation to discuss various matters connected with the subject of public health and the administration of the sanitary laws. Many points alluded to in the memorial have, from time to time, been brought under the consideration of Her Majesty's Government, and the Prime Minister regrets that, looking to the continued pressure of affairs at the present time, it is not within his power to fix a day on which he could have the honour of receiving the deputation in question.—I have the honour to be, gentlemen, your obedient servant,
ALGERNON TURNER.

"The Joint Secretaries of the Committee on State Medicine, etc."

The Joint Committee, more and more impressed with the necessity of urging forward the reforms set out in the resolutions of last year, and the Memorial based on them, have determined by every means in their power, and especially by the wide distribution of the resolutions and Memorial, to give the greatest possible publicity to the steps they have hitherto taken in the matter; and they are not without hope that the question may be taken up in Parliament by leading politicians, and that the Government, who are already pledged to do something towards the formation of County Boards, may be induced seriously to consider the necessity of a radical change in sanitary administration.

The Joint Committee see with pleasure the introduction of a Public Health Bill for the metropolis, which, however much certain details may require consideration, is most valuable as assimilating the law in the metropolis to that in the provinces, and in consolidating the law doing away with many Statutes which by the Public Health Act of 1875 were left applicable only to the metropolis, while they were entirely repealed as to other parts of the country. This consolidation of the law is one of the points which have been most continuously urged on successive Governments by the Joint Committee, and is the basis of all improvement. The Bill now under consideration proposes to place the metropolis, like the provinces, under the control and direction of the Local Government Board. This greatly strengthens the conviction which is steadily gaining ground, that a change from a mere nominal board to a thoroughly constituted department for the administration of health cannot be long delayed.

W. H. MICHAEL,
A. P. STEWART, M.D., } *Hon. Secs.*

REPORT OF THE PARLIAMENTARY BILLS COMMITTEE.

YOUR Committee beg to report that, during the past year, their attention has been chiefly occupied (1) by considering the proposed alterations in the Factory Legislation of the country, (2) certain changes which have been made by Royal Warrant in the position of Militia Surgeons, and (3) the proposed legislative amendments of the Public Health Bill (Ireland).

I. *Factory Legislation.*—By the announced intentions of Mr. Cross, it became evident early in the year that legislative change was to be expected in the conditions of factory labour and in the precautions hitherto enforced by law to protect very young workers in factories or

workshops from the consequence of being forced into labour before they were physically fit, either by age or constitution, to undergo the deteriorating conditions of factory life. The Factory Acts of the country are, in respect to their influence upon the physical health of an immense mass of population, of great moment to the welfare of the whole nation; and especially is it felt to be important that nothing should be done under the name of amendment of the Factory Acts, which would lessen the present safeguards against the employment of children below the legal age, or incapacitated by constitutional defects from following the onerous occupations of which cognisance is taken by the Factory and Workshops Act.

Under these circumstances, your Committee have felt it their duty to join with the Association of Certifying Surgeons in Great Britain in laying before Mr. Cross a statement of the grave dangers likely to arise to the children of the poor from the changes which were now proposed by the Factory Amendment Bill, which the Home Secretary has introduced into Parliament in the present session. One effect of this Bill will be to materially diminish the power which certifying surgeons now have of protecting children from entering factories when they are below age, and from keeping other control over their condition during the first years of their employment, which is really essential to prevent the physical deterioration of factory workers as a class. Unfortunately, their representations have not been considered by Mr. Cross so favourably as might have been expected from the well known interest which the Home Secretary feels in the physical well-being of the operative class. That Bill has, however, now been withdrawn from the House; and your Committee trust that, by continued co-operation with the Association of Certifying Surgeons, they may still be enabled to induce Mr. Cross at least not to lessen the safeguards against physical injury which the Factory Acts now present. For that purpose they hope the friends of the Association will, at the required time, give the whole of their Parliamentary influence to such amendments as your Committee may think it desirable to promote.

II. *Militia Surgeons and the Royal Warrant.*—The operation of a recent Royal Warrant has materially diminished the incomes of a large number of militia surgeons by removing from them an important and remunerative part of their duties, in order to facilitate army reorganisation, but without affording them any sort of compensation, the loss being felt by the whole body of militia surgeons as a great hardship; and, as the Secretary of State for War, while promising to consider any individual cases of hardship, and affording some hope in Parliament that he would consider such representations favourably, had nevertheless refused in several instances the redress sought for by individuals, your Committee, at the instance of the militia surgeons generally, undertook to make such public representations to the Secretary for War as might ensure that adequate attention was given to their claims, and that consideration should be secured for their case at the hands of the public and the House of Commons. With that view an interview was arranged with Mr. Hardy, at which your Committee, supported by upwards of twenty members of Parliament, many of them influential in the organisation of the militia, laid the whole of the facts before the Secretary of State. Subsequently, the Right Honourable Lyon Playfair repeated this statement in the House of Commons. Mr. Hardy, however, has not up to the present time shown the least intention of affording any redress to the militia surgeons who have been thus injured in their prospects; and your Committee cannot but feel that, in this case, great hardship has been imposed upon individuals for a public good without any compensation being made to them: a practice which, they believe, is not in accordance either with public policy or with the usual custom of the Government.

III. *Public Health Bill (Ireland).*—In the case of the Public Health Bill (Ireland), your Committee have had the great satisfaction, in co-operating energetically with the Irish Medical Association, of bringing before the Irish Secretary, Sir Michael Hicks Beach, the necessity of making amendments in the Public Health Bill (Ireland) now before Parliament. Several of these suggestions have, it is understood, been adopted by a Select Committee, of which, however, the report has not yet been presented. Others, to which your Committee attach great importance, have not yet been adopted; and it will be the duty of your Committee to assist in bringing these proposed amendments under the consideration of Parliament when the Bill passes through Committee of the House of Commons.

The Committee desire to call attention to the unsatisfactory state of the law in respect of coroners' inquests, and to express the desire that some amendment may be secured at no distant date. They will be glad to receive suggestions for the purpose from the Branches or from members of the Association.

ERNEST HART, *Chairman.*

REPORT OF THE SCIENTIFIC GRANTS COMMITTEE.

THE Scientific Grants Committee have held three meetings during the past year. In consequence of the sad death of your Chairman, Dr. Sibson, F.R.S., your Committee have appointed Mr. Callender, F.R.S., as Chairman in place of him. The following were the grants recommended to the Committee of Council to be made for the past year:—

Drs. Braidwood and Vacher. For Research on Life-History of Contagium—£25 and £20 for plates	£	s.	d.
	45	0	0
Dr. Crichton Browne. Further Researches on the Actions of Nitrite of Amyl alone, and in combination with other Remedies	7	0	0
Dr. Fothergill. The effect of certain Agents upon the Circulation	20	0	0
Dr. Galabin. Further Research in Investigation of Pulse-Curves	25	0	0
Dr. Rutherford, F.R.S. Further Researches on Biliary Secretion	50	0	0
Dr. Burdon Sanderson, F.R.S. For Prosecution of Inquiries in the Pathology of Epizootic Pneumonia	50	0	0
Mr. William Bruce Clarke. Research on Syncope and Shock	10	0	0
Mr. Pye. For an Investigation of the relation that the Retinal Circulation bears to that of the Brain	10	0	0
Dr. William Stirling. For Research on the Physiological Action of certain substances on the Spinal Cord	15	0	0
Drs. Spencer and Shaw. The Action of Uranium Salts in Diabetes	10	0	0
	242	0	0

Of this sum £142:16:6 has been expended. In consequence of the restrictions placed upon physiological research by the Act of last year, considerable delay has been occasioned in the investigations. Your Committee, however, trusts that henceforth the investigators will be enabled to continue their legitimate studies. The grants now recommended to be made are as follows, and your Committee recommend that a sum not to exceed £300 be granted from the funds of the Association for this purpose:

Mr. Gaskell. In aid of a Research on the Reflex Action of the Vascular System and Muscles and Reflex Vaso-motor Action generally	£	s.	d.
	30	0	0
Mr. Langley. In aid of a Research on the Changes produced in the Salivary Glands by Nerve-Influence	25	0	0
Dr. Rutherford, F.R.S. For a continued Research on the Action of Cholagogues	50	0	0
Drs. Braidwood and Vacher. For engravings for illustrating the third report on the Life-History of Contagium	40	0	0
Mr. Pye. In aid of a continued Research for the Investigation of the relation that the Retinal Circulation bears to that of the Brain	8	15	0
Mr. Bruce Clarke. In aid of a continued Research on Syncope and Shock	10	0	0
	163	15	0

REPORT OF THE COMMITTEE ON HABITUAL DRUNKARDS.

DURING the last year considerable progress has been made in the Habitual Drunkards movement.

An Association entitled "Society for Promoting Legislation for the Control and Cure of Habitual Drunkards", has prepared a Bill which, as revised and adopted by your Committee with scarcely any alterations, has been introduced into the House by Dr. Cameron, Member for Glasgow, who has warmly taken the matter in hand.

Considerable delay arose in preparing the Bill and securing a member to introduce it. This delay prevented the Bill from being read a second time during this busy session. Several Members of Parliament have promised to support the principle of the Bill and its second reading. In its favour, 77 petitions have been presented to the House of Lords, and 95 to the Commons, including petitions from some of the branches of the Association.

To secure a successful reading of the Bill, the Association should endeavour to influence Members of Parliament and other influential persons, and to distribute information on the subject.

The movement being now fairly before the country, by the introduction of a Bill and support of some influential members, it remains for our Association, who originated the movement, to press it on to a successful issue. The Committee ask, therefore, to be reappointed, and suggest that each local branch be represented in the Committee by its secretary, or one or more of its members.

FORTY-FIFTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION.

Held in MANCHESTER, August 7th, 8th, 9th, and 10th, 1877.

SECOND GENERAL MEETING, WEDNESDAY, AUGUST 8TH.

THE second general meeting of members was held at 11.30 A.M. in the chemistry lecture theatre of Owens College: the President, Dr. M. A. EASON WILKINSON, presiding.

Place of Meeting in 1878.—Dr. FALCONER, President of Council, stated that, up to the present time, the Council had received no invitation from the medical men of any town to hold next year's meeting; and, by the power vested in the Council, the subject of considering any invitation which might be offered subsequently, and of appointing a President-elect for the next year, had been delegated to the Committee of Council.

Dr. WADE (Birmingham) moved the following resolution, for the purpose of giving effect to the action of the Council as explained by Dr. Falconer:

"That it be an instruction to the Committee of Council to arrange for the place of meeting in 1878, and also to appoint a President-elect."

Mr. HUSBAND (York) seconded the motion, which was carried.

Committee of Council.—Dr. FALCONER reported that the following gentlemen had been elected members of the Committee of Council for 1877-78. (Those marked * were not in the Committee last year.) T. Clifford Allbutt, M.D., Leeds; J. Wright Baker, Esq., Derby; *L. Borchardt, M.D., Manchester; G. W. Callender, Esq., F.R.S., London; Alfred Carpenter, M.D., Croydon; J. W. Eastwood, M.D., Darlington; Balthazar Foster, M.D., Birmingham; E. Long Fox, M.D., Bristol; C. Holman, M.D., Reigate; *J. R. Humphreys, Esq., Shrewsbury; Arthur Jackson, Esq., Sheffield; *E. Lund, Esq., Manchester; F. E. Manby, Esq., Wolverhampton; *F. Mason, Esq., Bath; Edward Morris, M.D., Spalding; R. H. B. Nicholson, Esq., Hull; E. H. Sieveking, M.D., London; *A. P. Stewart, M.D., London; W. F. Wade, M.B., Birmingham; C. G. Wheelhouse, Esq., Leeds.

Address in Medicine.—The Address in Medicine was delivered by WILLIAM ROBERTS, M.D., F.R.S. It was published at page 168 of last week's JOURNAL. Loud and continued cheers greeted its conclusion.

Sir WILLIAM JENNER, K.C.B., said he was sure that the whole of that vast assemblage desired to thank Dr. Roberts for his most able address, and it was a pleasure to him to move, "That the best thanks of this meeting be given to Dr. William Roberts, F.R.S., for his able and interesting Address in Medicine". Dr. Roberts was eminently deserving of their thanks. [*Cheers.*] If the address had been only a moderately able one, or if it had been merely what was called "an able and interesting address", he was sure they would have thanked Dr. Roberts warmly for having taken the trouble to compose and deliver it. But this was something more than a merely "able address". [*Cheers.*] It was one of the most able and most interesting addresses he himself had ever listened to—[*renewed cheers*—and he did not hesitate to say that, although they or he might not have agreed with every word, they would have agreed with very nearly every word; and, moreover, he believed it would be a new starting point for advances in certain classes of diseases. [*Cheers.*] The meeting would give their heartiest thanks to Dr. Roberts for his most able and interesting address. [*Cheers.*]

Dr. PAGET (Cambridge) said it was a great honour to him to be asked to second the motion proposed by Sir Wm. Jenner, and this task he undertook with the greatest pleasure. Sir William had well expressed what he should himself have tried in vain to bring to their minds as to the value of that address to which they had all listened with so much interest and pleasure. [*Cheers.*] He felt personally towards Dr. Roberts a deep debt of gratitude for the matter of that address, for the lecturer of the day had chosen a most difficult subject—one of the most important, too, considered in whatever light it