

The ward-history is as follows.

In Ward No. 1, there were 133 deliveries, and no death from zymotic disease.

In Ward No. 2, there were 134 deliveries, and two deaths from zymotic disease, one in March, and one in April.

In Ward No. 3, there were 142 deliveries, and two deaths from zymotic disease, one in February, and one in March, with three sets of cases between.

In Ward No. 4, there were 141 deliveries, and no death from zymotic disease.

In Ward No. 5, there were 138 deliveries, and no death from zymotic disease.

In Ward No. 6, there were 129 deliveries, and one death from zymotic disease.

In Ward No. 7, there were 147 deliveries, and four deaths from zymotic disease: one in January, two in February (one of them was in the small off-ward, with one batch between the two), and one in March.

In Ward No. 8, there were 139 deliveries, and two deaths from zymotic disease, one in November 1872, and one in October 1873.

In Ward No. 12, there were 88 cases, and four deaths from zymotic disease, three in May, and one in July. At first sight, and I may say for the first time in these five reports, the deaths in Ward 12 seem to afford some ground for the suspicion of "hospitalism"; but further inquiry will, I think, disperse it. One of the patients had been deserted by her husband. Another had been seduced; and, though she was doing well, the reproaches of her mother, who had been admitted to see her, were instantly followed by rigors and pain. Two others were actually ill on admission. I do not think that we can fairly charge the hospital with having caused these deaths.

I must now, gentlemen, leave it to you to decide whether, taking the succession of deaths as to time or according to the wards, you think that they afford evidence of such an amount of malaria as would justify you in regarding the disease as having been originated or propagated by it, or whether you will not rather be impressed by the absence of any evidence of the transmission of zymotic disease, either directly from one patient to another, or indirectly by atmospheric influence. I have not found a single instance where the disease attacked a patient in the next bed to the patient who died.

But, before proceeding to the next step in this inquiry, I think I ought to say one word upon one cause, perhaps of the diseases, certainly of the mortality of these zymotic attacks. I allude to the mental condition of many of those who died. Besides the distress from poverty before entering the hospital, the bad treatment of husbands, desertion of husbands, I find that, of the twelve cases who died in 1869, three had been seduced; six out of the twenty-one cases in 1871; two out of the six deaths in 1872; and five out of the fifteen deaths in 1873.

To return to the next step in our inquiry: Dr. Johnston has constructed several elaborate tables, to show that, so far from the hospital being a focus from which zymotic disease radiates throughout the community, there were more deaths from this cause outside the hospital in the very districts which supply the hospital, and that, during the months when the hospital was quite free, they were sufficiently numerous to prove, first, that they could not be derived from the hospital; and secondly that, if patients from an infected district were sent to hospital, the disease was not conveyed with them, or found no food there.

Dismissing these collateral inquiries, let us inquire into the internal condition of the hospital itself. We have already seen that, although deaths from zymotic disease did occur, there was no epidemic of such during the five years. If a zymotic disease, prevailing and known to prevail, were accidentally introduced into the wards of the hospital, it might spread either by infection or contagion, without proving the existence of malaria or hospitalism, more than the occurrence of successive cases of scarlatina in private houses proves the existence of malaria there.

But suppose that it did not thus spread, suppose that in no instance did a second case occur in the same ward, or in the next, or in any part of the hospital until it was again introduced *ab extra*; surely the conclusion would be irresistible that the atmosphere of such hospital was not in a state to propagate or favour the spread of such diseases, and therefore that a large hospital is not necessarily a hotbed of zymotic disease.

Now, during the last five years, we have had very severe epidemics in Dublin of small-pox, scarlatina, and typhoid fever, and it has repeatedly happened that women in labour have been inadvertently received into hospital labouring under one or other of these diseases.

I find that in 1869 there were so received two cases of typhoid fever; in 1871, a case of typhus fever, a case of typhoid, five cases of scarlatina, and one case of small-pox; in 1872, ten cases of small-pox and three of scarlatina; in 1873, one case of measles.

This, I take it, was a very crucial test of the salubrity, or the contrary, of the hospital. If the hospital were "malarious," if its wards were "fever-nests," one would suspect that the epidemic, once introduced, would inevitably spread through the ward, or wards, and even the entire hospital, with even more facility and virulence than it does in private houses. What, then, was the result of the introduction of these epidemic diseases into the hospital? I will give it to you, in the words of Dr. G. Johnston himself. He says: "And here I may take the opportunity of stating that, notwithstanding the fearful epidemics which prevailed during the past year, and although several patients were admitted from infected houses, and many with the disease absolutely upon them, it never extended beyond the one individual. In a word, the hospital was perfectly free from any contagion."

Such, gentlemen, are the results which Dr. G. Johnston's reports have enabled me to lay before you. They present three distinct series of facts, directly bearing on the great question before us, and of such a nature, that it is hard to conceive a higher or stronger description of evidence for the solution of our problem. No doubt the *data* might be larger, or the experiment spread over a greater length of time; but still the facts, so far as they go, surely vindicate the hospital from the charge of being the seat of endemic disease, or the source of an epidemic or a congenial atmosphere, where zymotics of any kind will spread and fructify.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF PUBLIC MEDICINE.

*At the Annual Meeting of the British Medical Association,
in Norwich, August 1874.*

By W. H. MICHAEL, Esq.,
Barrister-at-Law; President of the Section.

THE general practice of medicine is only so far public, as it has been recognised by law and partially regulated by enactment. Although the Legislature has not surrounded it by safeguards, like some other professions, yet no one can, unless conforming to certain prescribed standards, use any title importing a qualification to exercise the functions of a member of the medical profession. Yet, in this direction, much remains to be desired and accomplished; and there has been for many years a growing conviction that the best safeguard which could be afforded to the community for a proper exercise of the healing art, would be to substitute for the examinations of the many qualifying bodies now granting licenses, one examination, in which these bodies might all be fairly represented; and that this should be the portal through which every intending practitioner should enter upon the duties and responsibilities of the medical profession. This would in no way detract from, but rather increase, the desire to add to a mere qualifying examination those diplomas or degrees granted by universities or learned bodies, bespeaking special culture and the possession of scientific knowledge as additional guarantees and helps to future successful practice.

Public medicine, which may be taken to include any medical service paid for out of funds raised by taxation or rates, must of necessity have to deal with other phases of medical practice than those within the sphere of the private medical practitioner so-called. As regards the curative branch of the art, it is to be exercised on masses of people more or less closely aggregated together, as in the army and navy medical services; and, whether in these or in civil life, the science of preventing disease and death is an integral, and, in many cases, the most anxious and important part of devolved duty. It is true that it requires no higher art and no different exercise of it to treat diseases, which must in every case be individual, whether they occur in a hospital, in a ship, in the family, or in the camp. But the other function of public medicine—that of prevention—is essentially different; requiring other knowledge, and calling into play other faculties than those employed in the cure of disease. Upon the true and right possession and use of these has often in the past, and must often again in the future, depend a nation's welfare and a nation's weal; for both armies and communities have often to acknowledge that public health is public wealth and public safety. Securities should, therefore, be taken by the State, when medicine is employed for state purposes, that the instrument used is competent; and this must be judged by the competency of the hand using it. A state examination, as the necessary preliminary

to holding any public medical appointment, and a board constituted for the express purpose of, so far as examination by a board can do so, providing for efficiency, should confer a qualification in State Medicine so-called, available for an appointment in the public medical service. To be an efficient officer of health, a Poor-law union surgeon, or a surgeon in either army or navy medical service, requires the same qualifications, and the possession of the same qualities, for the right discharge of much the same series of duties.

There are diversities of taste which would naturally induce choice of one or other of these branches of service in preference to others. To a large extent, success in any would have been equal in others, as indicating the presence of those qualities of observation, self-reliance, and careful reasoning, which make up the sum of competency and capacity. Age will bring with time its lessons of self-experience to aid the knowledge gained from others; but, in such a scheme as is here contemplated, the entry into manhood without any necessary previous following of prescribed curricula, if satisfactory acquaintance with hygiene and allied sciences be evinced upon due examination, should be the sufficient passport for admission into public medical service.

At present, while there is a special examination for the army and navy medical services, there is no test for fitness to fill the post of medical officer of health, rendered obligatory as to appointment on every sanitary authority under the Public Health Act (1872). It is probable that, were any strict test made essential before taking this office at the present time, considerable difficulty would arise; first, because of the comparative novelty of the service; and, secondly, because the pittance in many cases attached to the performance of the duties is so small, as to be likely to deter many candidates from submitting to a severe examination as to fitness for the office.

But if, in the future, the duties attached to the office of medical officer of health are to be in every case realities, there must be such guarantees for their discharge as would alone be afforded by an adequate test of competency. To require that every member of the profession, entering it after a certain date, and desiring an office of Public Medicine, should possess a certificate from a State Medicine Examining Board, would inflict no hardship, and would be the first step towards the creation of a skilled staff of medical officers of health to meet the exigencies of efficient health-preservation. It is possible that there may be, among the great mass of the medical profession, a sufficient number of its members who have already devoted such attention to questions of public health as to fit them for the calls made upon their skill by the present *régime*, but it is hardly to be expected, without very considerable preparation, that a profound insight into the most mysterious of Nature's locked-up secrets can have been vouchsafed to every aspirant for employment.

At present, there is no widespread or deep belief in the public mind as to the possibility of any such skilled analysis as shall not only trace disease to its remote causes, but place in the hands of experts the means of warding off its visitations; at least, there is not such a belief as makes ratepayers willing that their representatives should expend money raised from them by taxation upon what are called sanitary improvements, and bitter hostility is constantly expressed and shown to action in this direction. It is about as difficult to make people healthy by Act of Parliament as it is by the same means to hope to secure to them education, religion, or morality. I have reluctantly come to the conclusion that compulsory legislation must not be too hastily or peremptorily forced on an unwilling community. It is only by co-operation of all the members of the State success can be secured; and this must be through gradual and progressive teaching, both by precept and example, spread over the present and the immediate future. It must be shown by unmistakable examples over and over again repeated that drainage of the subsoil of houses materially lessens, if it do not altogether destroy, tubercloid disease, before owners of small property will be compelled by public opinion to replace the sodden floors and foundations of inhabited cottages which now place a premium on the prevalence of this most formidable class of disease. Long extended experience of immunity from many forms of chest-disease, where the air is no longer loaded with the products of combustion, may force even manufacturers no longer to poison the atmosphere; and the claims of humanity may even supersede the necessities of commerce, and allow health-giving streams of pure water to take the place of pollution and poison which now flow down our river-beds. It will take long years of patient insistence to make it universally admitted that the presence of pure air in dwellings is as essential as food and clothing, and that sound health can only be maintained by a copious supply of pure water. The removal of human excreta from man's dwelling-places will over and over again, in the future as in the past, save thousands and tens of thousands of lives, that would have been otherwise self-destroyed; and the diminished death-rates, the prolonged life-space, in districts where sanitary measures

have been efficiently carried out, must preach in small still voice, persistently, and long before the voice is heard and universally acknowledged; but progress is certain, though slow, and must be patiently waited for.

Above all, all those who desire the progress of public medicine as a science must avoid either extenuation of our failures or excess of our commendations. We have much to regret in these matters in the past, and may learn lessons from our mistakes for our future guidance. To insist on the comparison of death-rates alone as testing the health of one district against another, where the circumstances might vastly differ, would be obviously one of the errors to be deprecated; but to show that works of drainage and water-supply have uniformly diminished the death-rate of a given district, thus testing it by itself in its present and its past, is a comparison of a value and moment which cannot be impeached.

There is, however, a misconception on the part of some of the friends of sanitary effort, tending in a direction more dangerous to progress than absolute opposition. It is asserted as probable that by preventive medicine we may indeed save life, but that we save only the lowest, least valuable, and most imbecile form of it, and that this tends to the degeneration while we add to the number of the population. Nothing could be more fallacious, or, if unanswered, more completely, while insidiously, check and paralyse sanitary action. It is attributed to the late illustrious Professor Liebig that he enunciated the axiom, that "Disease begins when resistance ends": if so, this sentence contains the germ of the error into which writers like Kingsley and Herbert Spencer have fallen when writing on the subject of public health. Disease is of the very essence of vitality, and often the true exponent of the measure of vital resistance; for when resistance ends, it is death, not disease, which supervenes. Kingsley, in *Health and Education* (1874), p. 7, says: "Everything which makes it more easy to live, every sanitary reform, prevention of pestilence, medical discovery, amelioration of climate, drainage of soil, improvement in dwelling-houses, workhouses, gaols; every reformatory school, every hospital, every cure of drunkenness, every influence, in short, which has—so I am told—increased the average length of life in these islands by nearly one-third, since the first establishment of life-insurances, one hundred and fifty years ago; every influence of this kind, I say, saves persons alive who would otherwise have died; and the great majority of these will be, even in surgical and zymotic cases, those of least resisting power, who are thus preserved to produce in time a still less powerful progeny." And at page 8 he says: "But it is palpable that in so doing we must, year by year, preserve a large percentage of weakly persons, who, marrying freely in their own class, must produce weaker children, and they weaker children still." So also the same idea is worked out in Herbert Spencer's *Study of Sociology* (2nd edit., pp. 339-343). From the statements therein contained, the author draws the two following corollaries: first, that from the sanitary measures which he has enunciated, population increases at a greater rate than it would otherwise have done, so subjecting all persons to certain other destroying agencies in more intense forms; secondly, that by intermarriage of the feebler who now survive, with the stronger who would otherwise have alone survived, the *general constitution is brought down* to the level of strength required to meet these more favourable conditions. That is to say, there by and by arises a state of things under which a general decrease in the power of withstanding this mitigated destroying cause, and a general increase in the activity of other destroying causes, consequent on greater numbers, bring mortality and fertility into the same relation as before; there is a somewhat larger number of a somewhat weaker race. And he goes on to say: "It is supposed in the legislature, and by the public at large, that if by measures taken a certain number of deaths by disease have been prevented, so much pure benefit has been secured. But it is not so. In any case there is a set-off from the benefits; and if such measures are greatly multiplied, the deductions may eat up the benefit entirely, and leave an injury in its place." The author sees the difficulty into which the foregoing argument, logically carried out, would lead him, and adds, "Where such measures" (sanitary legislation) "ought to stop, is a question that may be left open." One would have thought that, if the premises of the writer were correct, there was but one corollary to be drawn from them, and that all sanitary legislation and sanitary efforts were pure mistakes. But the error underlying these statements, and similar ones continually spoken and written, arise from the assumption that it is only by diminishing mortality that public preventive medicine shows its influence; whereas, in truth, this is but the smallest part of its action. There are at work from the first moment of birth agencies tending to weaken and eventually to destroy life. These are directed equally against the weak and the strong: the former succumb; the latter survive, but weakened and impoverished. Remove or diminish these pernicious influences, and you not only save life where otherwise

it would have perished, but you strengthen the strong by removing what diminishes their strength. A rough numerical illustration will show that sanitary measures, instead of tending to weaken the race, by saving weaklier scions to propagate their weakness, give to the world a stock of strong men such as it has never before known. Let us take one hundred human beings divided into tens, with vital energy represented by numbers varying in decades; thus 10 at a strength of resistance represented by 100, 10 at 90, and so on to the end of the scale. Let us suppose malarious or moribund influences presented by the number 20; we shall then have the vital power diminished thus:

Total vital energy...	100	90	80	70	60	50	40	30	20	10
Reduced (—20).....	80	70	60	50	40	30	20	10	0	—

Could we by sanitary measures diminish the elements noxious to vitality from 20 to 10, we should have gained 10 lives, and these not the lowest in the scale, but represented by a higher power of life than any before recorded in our table; for our 100 would at first be but diminished by 10, and our record of power of life would be—

Total vital energy...	100	90	80	70	60	50	40	30	20	10
Reduced (—10).....	90	80	70	60	50	40	30	20	10	0

The ten lives gained are those represented by the power 90 of strength; and, according to the reasoning upon which we are commenting, sanitary measures would tend to perpetuate a race endowed with greater power and vitality than that of any preceding age. Besides this, even testing the question of mortality alone, and for the moment overlooking the depreciation in vital energy caused by living in conditions unfavourable to health, it must be borne in mind that it is not the weak, the decrepit, and the infirm, who are always the victims to zymotic or preventable diseases, seeing that there are whole classes of these diseases which specially select for their victims those who are in the prime of life, the strong, the active, and the robust. To save these at least, if the writer's theory were correct, would be worthy of the best efforts of public medicine.

It is affirmed that these results can only be obtained by the active co-operation of the whole medical profession. To prevent the spread of disease, requires the earliest intimation of its presence. Quarterly returns of the diseases of a district, even when obtainable, seem but a mockery. For any useful information they can afford, they are much the same as tendering the key of the stable long after the horse has been not only stolen, but slaughtered. There are no available means provided by the legislature by which the newly appointed medical officer of health can know anything of the prevalence of disease in his district in time to investigate its causes and apply appropriate means to check its extension and to mitigate its severity. In default of these, are we at liberty to assume that he may confidently calculate on the help of his medical brethren in private practice? Universal consent has allowed to the medical profession a high place in the annals of philanthropy and benevolence. They may fairly assert that the members of no other profession surpass them in self-denying and laborious efforts. Can it be expected of them that, unpaid, their services unrecognised, and their aims often misrepresented, they will use all their energy and power to prevent the occurrence of those diseases the cure of which now procures for them their means of livelihood? It is a supreme test. But, at any cost, judging the future from the past, in which the medical profession has not been found wanting, the issue is not doubtful, or the answer an uncertain one. Those who are ready at all times to jeopardise their lives for the good of others will be found ready to further sacrifices, if need be, in order that the State shall not suffer, and that humanity may be the gainer.

THE LATE SURGEON-MAJOR WYATT.—The will, dated June 26th, 1873, of John Wyatt, C.B., regimental surgeon-major of the Coldstream Guards, who died on April 2nd last, at Bournemouth, was proved on July 17th, by Sir Henry William Peek, Bart., and John Kendall, the executors, the personal estate being sworn under £10,000. The testator desires to be buried in the full-dress uniform of his regiment, in which he had passed the best part of an eventful life, and that the Bible given to him by his wife may be buried with him; that the horses used at the funeral may not be decorated in any manner; that the hired attendants may not wear any hatbands or scarves; that each person attending his funeral may wear only a black band of medium width—crape for relations, and cloth for friends—round his hat, black gloves, and a white rose or camelia, or other white flower in the buttonhole of his coat, as he wishes the ceremony to be as free as possible from all gloomy associations, and to be considered more as an occasion for rejoicing than mourning, in accordance with Holy Scripture, especially as he desires that no description of widow's cap or any crape on her dresses may be worn by his wife, or any particle of crape on the clothes of any of his relations.

BRITISH MEDICAL ASSOCIATION: SUBSCRIPTIONS FOR 1874.

SUBSCRIPTIONS to the Association for 1874 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches, are requested to forward their remittances to Mr. FRANCIS FOWKE, General Secretary, 37, Great Queen Street, London, W.C.

BRITISH MEDICAL JOURNAL.

SATURDAY, AUGUST 15TH, 1874.

THE ANNUAL MEETING OF 1874.

THE ancient city of Norwich has received back the Association after a long interval of absence, and has proved fully equal to the more onerous task which the ripening course of years has imposed. The small body of little more than a thousand members has developed into a wide-spreading and far-reaching host five times as numerous. The business of the Association requires larger buildings, and more extensive arrangements for transacting it; the visitors are more numerous; the subdivision of Sections and the increase of Committees multiply personal and official necessities. While, therefore, the visits of the Association have become events of greater public interest and professional importance than heretofore, they impose a corresponding increase in the local burden which they involve. The proportions of the meeting of last year in London were so considerable, and the labour imposed was so obviously onerous, that many considerable cities might well have hesitated to proffer an immediately following invitation. The hearty and fraternal bidding to Norwich for this year was, therefore, the more appreciated.

Norwich has most amply fulfilled the pledge which its invitation implied. The ancient and picturesque city of gardens and of churches has opened its antiquities, its churches, its rural and civic attractions, to all comers; and the holiday aspects of the meeting have from the first been most attractive.

The generous welcome accorded by the leading residents, the liberal, intelligent, and cordial activity of the profession, and the courtesy of the Corporation, have supplied all the elements of a graceful and open hospitality; and the co-operation of many scientific notabilities has secured a solid basis of scientific work. The heavens, too, have been propitious; and thus we may venture to say that, if the many hundred medical visitors to Norwich were individually polled, they would unanimously declare the meeting to be one of the most agreeable and fruitful scientific holidays of their lives, and worthy to be registered among the most successful congresses of the British Medical Association.

The Report of the Council presented this year has many gratifying features. The Association still holds the path of progress: its numbers multiply; it spreads annually through wider districts; it tends more and more, in each district, to draw within its circle the resident members, and to perfect its local organisation, so as to be able to elucidate the whole scientific outcome of the professional experience of the district, and to express the whole mind of the locality on professional, social, and ethical subjects. The finances of the Association, under the improved system of management inaugurated by the Committee of Council, and carried out by the Finance Com-