the one school in which well-devised precautions were taken, a complete immunity has been enjoyed throughout the period of the recent formidable epidemic; but, in the other district schools, the lay inspectors, incapable of comprehending the nature of the emergency, uninspired by knowledge to support, stimulate, and assist the local medical officers, incapable of imparting to the guardians that authoritative information which would have compelled them to remedy the evil, and regardless of the advice of the collateral medical inspector in London, Dr. Bridges, in at least one instance allowed an epidemic to grow up, flourish and persist under their eyes until it attained dimensions so scandalous, that the President of the Board, awakened by the public clamour, felt compelled to call in the advice of a medical man holding no official position, but eminently qualified for the office, who has, by three months' labour, succeeded in redeeming some of the errors of the past.

Let this lesson be taken to heart. It was not a want of natural intelligence; it was not a want of industry; it was not a want of humanity which allowed Mr. Farnall to see the cruelties and the faults of the workhouse infirmary system in London grow up unnoticed under his eyes: it was not any defect in personal qualities which made Mr. Hawley indirectly guilty and responsible for the incidents in the drama unveiled at the inquiry into the Farnham Medical Infirmary: it was want of technical knowledge. With that lesson before their eyes it is strange indeed that the Local Government Board, seeing their inspectors driven from a position in which want of technical information had disgraced them and the government in the eyes of the nation, should now have thrust them into positions in which they bring a want of special information to a task which demands it in a much higher degree. To me it is not surprising that they should only have succeeded in producing a scheme which is chiefly remarkable for its entire absence of coherence, of order, or of possible persistence. It is not possible in my view that medical officers over large districts should carry on their duties satisfactorily—over one thousand square miles of country—without the assistance of local medical officers of health, without the power of reference to a consolidated local authority, and without the intervention of, and the power of appeal to, an intelligent and technically instructed government officer intervening between them, the Local Board, and the Local Government Board.

Seeing the difficulties under which medical officers of health are placed under the present scheme, and seeing the want under which they must labour of reference to a collective medical experience and administrative capacity, it seemed peculiarly desirable that the opportunity which has now occurred should be used of affording those who are this week present in London the means of conferring upon their duties and position. It seemed at the same time most desirable to establish a means of communication between them so as to enable us, acting for the British Medical Association, to gather their views and to act in concert with them in those further measures which it will be our duty to take in connection with any legislative measures which may be introduced in the next session of Parliament.

THE ADULTERATION ACT.—At Westminster, Messrs. Warren Brothers, wholesale and retail grocers, of Stockbridge Terrace, Pimlico, were summoned for selling coffee to which chicory had been added. Dr. Corfield said he found the coffee very much adulterated with chicory—he should say at least 30 per cent. The defence was that chicory rendered the beverage more palatable, and that as coffee in bean cost 1s. 5d. per lb. wholesale, it could not be sold in a pure state without loss. Mr. Dixon, the vestry officer said he had frequently purchased pure coffee at 1s. 4d. per lb. The defendants further contended that the paper in which the coffee was wrapped bore the words, "This is sold as a mixture of chicory and coffee." These words, however, were not visible on the outside of the packet sold to the inspector. Mr. Woolrych fined the defendants £3, including costs. In another case of a similar nature the words, "This is sold as a mixture of chicory and coffee" were inside the paper, and could not be seen. Mr. Woolrych fined the defendant £3, including costs. In another summons the defendant was fined 50s. He maintained that pure coffee could not be sold at 1s. 4d. per pound, and that the master was not responsible for the acts of the shopman. Mr. Woolrych overruled the objection.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF PUBLIC MEDICINE,

*At the Annual Meeting of the British Medical Association,
in London, August, 1873.*

By GEORGE WOODYATT HASTINGS, Esq.,

Barrister-at-Law, Vice-President of the Section.

UNDER any circumstances I should have taken the chair on this occasion with feelings of great diffidence, because I know well that in presiding, as I am about to do, over an assemblage of scientific medical men on one of the subjects relating to their profession, which is at least as scientific as any other, my qualifications must fall very far short of what is required in your President; but I feel that diffidence on this occasion all the more strongly, because I have been called upon at the last moment and quite unexpectedly to myself, to take the place of one who, as I know by personal knowledge, was perhaps more highly qualified than any man in the kingdom, looking to his scientific attainments, looking also to his parliamentary experience, viewing the subject whether legislatively or theoretically, to occupy this position. I deeply lament, as you all do, that Dr. Lyon Playfair is prevented from attending. I lament still more the cause that has led to his absence. I can only ask you, under these unforeseen and unfortunate circumstances, to extend to me a generous consideration while I am engaged in the discharge of my duties in this chair. I can only ask you especially to forgive the necessary shortcomings of an opening address, which I have had no time to commit to writing, and in which I only purpose to make a few extemporaneous observations upon certain points of the great subject committed to our care in this Section, which have commanded my attention during the last few months, and on which I think I shall be able to speak to you, whether they be important or otherwise, with some personal knowledge and experience.

Now the science of Public Medicine, which this Section meets to consider, and which is one of the most important which the Association was formed and exists to promote, is, in fact, considered practically, the art of preserving life and of preventing disease. I desire to bring to your notice one or two special cases in which I have myself seen a great success in thus preserving life and preventing disease, and to argue from those special cases, as far as I am able to do, as to what appears to be the best means by which the same advantages can be extended to the whole community.

During last autumn and winter, I was able to pay a visit to the Continent of America; and I need not say that I there met with many valuable experiences in several branches of political and social science, and I became acquainted with a few facts with regard to Public Health, which interested me greatly. I do not wish to flatter our American kinsmen, by telling you that in my belief they are advanced as far in sanitary science as we are in this country. I think it is very much the reverse. I believe that, at the present moment, England is far ahead of the United States in the practical administration of sanitary science; but at the same time, I can bear most cordial witness to the great efforts that are now being made in America to bring up sanitary administration to a higher standard, and to the scientific investigations which are being carried on with respect to sanitary questions, and to the great zeal manifested by those engaged in the cause.

In New York I became acquainted with more than one circumstance which I desire to bring to your notice. There is one which may or may not be intimately connected with the objects of this Section, but it is an institution which I think might be usefully imitated in this metropolis; and, assembled as the Association is in this great city of London, whence intellect and information spread naturally to all quarters of the kingdom, I think it may be well if any suggestions be made which will tend to improve either sanitary or hospital administration. I was very much struck by what is called the ambulance system established in connection with the New York hospitals. I went to what is called the Reception Hospital, near the bank of the river, and there saw the system at work. They keep in that and other hospitals six ambulances, each furnished with a horse, and with all surgical appliances in case of an accident, and in fact, supplied exactly as the ambulance would be if it were about to take the field with an army under

active operations. A telegraph office in the Reception Hospital communicates with the police stations in every ward of the city, and wherever an accident happens, a message is transmitted. While I was in the room, a telegram arrived, and was written out in my presence, stating, that a labourer had fallen from a scaffold and broken his leg. Within three minutes of its arrival, I saw the ambulance start, furnished with all the appliances I have mentioned, in charge of a surgeon, who drove as fast as possible to the scene. Probably within a quarter of an hour after a telegram is received, a qualified surgeon with all the restoratives necessary, is by the side of the man who had sustained an accident. He is placed carefully in the ambulance, in the best possible position with reference to his fractured limb, all necessary restoratives are at once applied, and he is taken to the hospital best fitted to his case, or which is nearest, or, if he wish it, to his own home. I found that, during the then preceding year, 1,401 patients had been succoured by means of the ambulances from the hospitals, of whom 1,066 had been helped in consequence of telegrams received from police stations. I was also told there were upwards of seventy cases, which in the opinion of the surgeons would have been fatal if they had not been speedily succoured, but in which, owing to the help rendered them, the sufferers lived to be removed to the hospital, and afterwards recovered under the care of the hospital surgeon. I venture to suggest, whether in this great city, looking to the resources of our hospitals, it might not be possible to organise such an ambulance system, so as to secure the assistance of a qualified surgeon as promptly as possible to any accident within the bounds of the metropolis.

Another institution I saw in New York was the hospital for infants in Randall's Island, a very remarkable institution. Up to 1868, the numerous children deserted by their mothers in the streets of New York, or otherwise thrown on the charge of the public, were taken to what are called the almshouses, which answer to our workhouses, and were under the charge of pauper nurses. Under that system, nearly all the children died. I cannot give the exact rate of mortality, but it was frightful, and amounted nearly to the extinction of the children thus taken under the care of the State. In 1868, the Commissioners of the city of New York, who have charge of these matters, and to whom I shall have occasion subsequently to allude, established the Infants' Hospital in Randall's Island, with a paid and highly qualified physician, Dr. Dunster, a matron, and a staff of paid nurses. The mortality has since diminished very greatly; but the point to which I wish to draw particular attention is the remarkable difference between the mortality of the foundlings and of the other class, who are called "mothers' infants" because they are taken into the hospital with their mothers.

The rate of mortality among the foundlings taken in without mothers was, in 1868, 76.77 per cent., in 1869 it was 70.32 per cent., and in 1870 it was 58.99 per cent.; whereas the mortality of children suckled by their mothers in the ordinary and natural way was, in 1868, 20.57 per cent., in 1869 20.44 per cent., and in 1870 15.06 per cent. I asked Dr. Dunster, whose great kindness and courtesy to me I desire publicly to acknowledge, and I only wish I could do so to him personally here, what, in his opinion, was the reason of the vast difference between the two rates of mortality. He told me that unquestionably the difference was owing to the fact that, in one case, the children had the natural nourishment which every child ought to have from its mother, while the other class, however carefully treated, were brought up upon artificial food. He told me also that the diminution between 1868 and 1870 in the mortality of the foundlings was owing to the means he has taken for supplying every child, as far as possible, with its natural food. He showed me a number of women who had come into the hospital with one child each of their own; and the bargain he makes with them is that, if they are taken into the hospital and well provided for, each of them shall take one of the foundling children to suckle. With good food, ample nourishment, and care of their health, they are perfectly competent to do so; and the foundling, thus adopted by a mother, lives and thrives, when the foundling not so circumstanced frequently dies.

The general conclusion we must draw from that special fact, as it seems to me, is that the first thing we have to look to with respect to infant life in our community is, that children and parents are so circumstanced that it is, at any rate, probable the former will receive a proper and sufficient quantity of the natural nourishment from their mothers. In connection with this subject, I desire to say a few words on a Bill which was before the House of Commons during the past session, and which has provoked much discussion, relating to the employment of women in factories. It has been fiercely contested, and, owing to the opposition thrown in its way, it was finally withdrawn. The argument, so far as I am able to follow it, taken by the opponents of the Bill is mainly this; that, however justifiable it may be to interfere with the hours of labour of children, who have not, perhaps, arrived at

the period of life when they can judge for themselves, it is contrary to the principles of political economy and to the liberty of the subject to interfere with the labour of adult women; that every woman, whether married or not, when arrived at a certain period of life, ought to be allowed to work as hard and as long as she chooses, without legislative interference. It seems to me that the facts to which I have been drawing your attention tell very forcibly on such a question as this. I do not admit the laws of political economy to be precisely and exactly such as they are occasionally expounded, even by their most eminent professors. Political economy, I may venture to say, is a science to which I have myself devoted some time and attention; and those who have ever done me the honour of listening to any addresses I have given on the subject know that I am certainly not one of those inclined to be heretical on the matter, or to depart from the economical views which, I believe, embody the great laws regulating the social happiness of mankind. The mistake, however, sometimes made on economical questions is, that those who deal with them do not look over a sufficiently wide area of facts, and therefore draw conclusions which are too narrow. They reason from insufficient premises, and consequently arrive at incorrect conclusions.

That, as it seems to me, is precisely what is done in relation to this Factory Bill and similar questions. It is a perfectly sound and healthy doctrine of political economy, that each individual of adult age and of ordinary reason is the best judge of his or her own interest, and, if no other interests than those of the individuals be involved, it is only right to leave them to go wrong if they choose, and to go right if they can be persuaded to do so; but, when the interests of the individuals involve other interests than their own, the question is totally different. The ancient maxim of jurisprudence, that you have a right to use your own possessions, but must not use them to your neighbours' prejudice, comes in here and modifies the more narrow views of the political economist.

The first material object of a community must be to preserve the health, and, consequently, the vigour, and efficiency, of its population; and as we all know that sickly children cannot, as a rule, grow up into healthy adults, it follows that one of the first objects of every community must be to take care of helpless children who cannot defend themselves, who cannot speak for themselves, and who cannot look after their own interests. They should have their interests attended to by the community, and if it be true that a child is not likely to be healthy and vigorous, and, perhaps, that the chances against its life, as I think I have shown, are very great if it lacks the mother's milk which nature intended for its food, it follows that any system of employment of married women, operating at any rate upon a wide scale, which either compels or induces them to neglect the care of their children, to stay away from their babies for many hours, to leave them to the care of nurses, whether competent or incompetent, careful or careless, a system which deprives children, consequently, of their natural food, must be a policy which will ultimately sap the strength of the population of the country. I, therefore, say that upon this question of factory labour the economy of the whole nation overrides, according to the strictest doctrine of the science, the economy of the individual, and that it is not our policy to allow large classes of married women so to employ themselves in continuous work, as to injure the constitution and endanger the lives of those to whom they have given birth. The argument which is drawn from men to married women upon this point, though I admit it to be in some respects sound, is largely fallacious, and for this reason, that their destiny in life is dissimilar. Man, as far as any rate as the great bulk of mankind are concerned, is eminently a working animal, one intended to earn wages to maintain himself and those dependent upon him; whereas a married woman is eminently, essentially, and primarily a child-bearing animal, and it is upon that point of view that public policy must look upon her and insist that that view should occupy the foremost place in any legislation affecting her destinies. I do not admit, therefore, that any legislative interference is unjustifiable respecting the hours of factory labour as far as married women are concerned, so as to bring them within those hours which, on the average, and taking the bulk of women employed in those factories, shall not be prejudicial either to their own health, or prejudicial to the health and constitutions of their helpless children.

I am now desirous of calling your attention to another matter, from which also I think I shall be able to deduce some conclusions which may possibly interest you—a matter which has come under my own observation, and I may say supervision, during the last few months. In the city of Worcester, at the close of last year, there broke out an epidemic of small-pox. In its extent and nature it was so alarming, that not only did the tradesmen of the city find that their usual customers from the county deserted them and went to Cheltenham and other towns where they thought they could do their shopping with safety, but it was

gravely considered whether the Winter Assize should not be postponed, on account of the danger which, it was believed, would attend the assemblage of prosecutors and witnesses and other persons in attendance on the court. The epidemic continued almost unchecked for some time; but at length, owing to the active exertions of the municipal authorities and medical profession in the city, and by using a detached house on the outskirts as a small-pox hospital, it was got under, though not till many lives had been lost, till a great deal of suffering had been sustained, and till the city—as I pointed out at a public meeting with regard to sanitary matters—had suffered in actual pecuniary damage far more than would have sufficed to maintain a highly paid medical officer of health for several years.

It happened that, while the epidemic was thus raging, two cases of small-pox were accidentally introduced into our county prison. Two prisoners came in who had unquestionably taken small-pox before they were committed. It broke out upon them while they were in their cells. Now, the population of the prison was upwards of two hundred, and it was a population so circumstanced, as it seems to me, that it was in many respects very likely the epidemic would spread—that is, it was a population of persons living under rather depressing circumstances with respect to their health, many on very reduced diet, and, therefore, we may presume with their vital energy at a lower point than the average. There was also a large number of warders, turnkeys, and others who necessarily had to go about the prison, and would have been subject to the contagion. What happened? Owing to the exertions of the surgeon of the prison, Mr. Hyde, to the stringent orders that were issued by the visiting justices, to the precautions that were taken, by isolation, by vaccination, by disinfectants, in fact, to every prompt step that could be taken to meet the emergency, not one prisoner in addition to the two who came in at separate times with the disease upon them, or in a state of incubation, took the disorder; so that, while the city was ravaged by an epidemic which for a time it seemed impossible to check, there was a population living on its borders, subject apparently to precisely the same influence, among whom the epidemic did not spread, though there were two cases of small-pox among them.

Now it seems to me that this is a tolerably convincing proof that it is possible to arrest the spread of contagious and infectious disease if prompt and proper steps be taken. There was, about a year ago, in the same prison, a still more remarkable fact. We had, by accident, a case of relapsing fever introduced into the prison; that did not spread. Owing to the precautions taken, the one patient was cured without a single other prisoner taking the disorder. While I give every due merit to the intelligence and zeal of our surgeon, I think something is also due to those who administered the prison, and who were ready, under the emergency to do all they were told was necessary for the preservation of the health of those who had been committed to their care.

Now it seems to me the logic of these facts applies to the whole community. If you can do this for a small community like a prison, you can, with adequate means, do it for a large community, and ultimately for the whole nation. It is merely a question of organisation, of wise expenditure, of energy and of science. I have seen it done to a considerable extent for a population who were not living under the same urgent restrictions as those which, of course, beset prisoner in gaol. I happen to be chairman, like Sir Charles Hastings before me, of the Model Dwellings Association of Worcester. When epidemics—scarlet fever and others—were raging in the city, we have escaped without a single case, and why? Because we exercise a kind of benevolent despotism over the inhabitants of those dwellings. We will not allow them to be filthy or to have nuisances on the premises, or flagrantly to neglect their health. We enforce cleanliness and decency, and take care that the buildings are adequately drained, supplied with good water, and kept in a sanitary condition. By these simple means we are able to boast to our shareholders, year after year, that not a death has taken place among the population of our model dwellings from anything like an epidemic disorder.

Now, when you have such facts, we are entitled to argue that if you can only extend—I do not say that at this moment you can—the same prevision and care to a large population as you have already done to a small community, you will be able to produce precisely the same order. But in order to do so, the first question to consider is the administrative body to whom you will entrust the work. You may have as many medical officers of health as you can appoint; but, valuable as they are, they will be powerless unless they have those beside them who will carry out their advice. You may enact what sanitary Acts you choose, and yet you will never be able to preserve the health of the population as long as you have administrative bodies either so ignorant, or careless, or incompetent, or interested, that they will not take proper action. I have been more and more struck, year after year, as I have

had to consider these questions—whether administratively as a magistrate of my own county, or whether in connection with this Association or the Social Science Association—with the fallacy that attaches to the mere abstract idea of what is called the elective principle upon these matters. I entirely believe in representative government, as I presume you all do, and we are proud that England has given what is perhaps the greatest among many examples of the blessings of free institutions; but it is a fallacy to suppose that you can drive the principle to an extreme, and that you can obtain good government merely because you have an elective governing body. What is necessary beyond that, is that the men so elected are competent and capable and upright. Unless you secure that, this representative government of which we boast only lands us in more serious evils than any despotism, however rude, could do.

The first principle to which we have to look in this matter, is that the area over which the elected body is to bear sway shall be of sufficient size to exclude the system of small cliques and of interested classes which always arises in small areas. You are well acquainted with the history and nature of this subject. Do you know, or do you not, small administrative bodies who are elected nominally for the purpose of preserving the health of the people, but really for the purpose of saving the pockets of those who own small, unhealthy, evil tenements within the area in which the election takes place—men who are chosen to show how the thing can not be done—chosen for the purpose, they would say, of keeping down the rates which no doubt is with them a great object, but still more with the object of avoiding alterations in their own property, which they would have to pay for themselves? They desire to remain in as unsanitary a condition as they can, because an unsanitary condition is to their private pockets more economical than due reparation and improvement.

I was much struck by finding in New York that the sanitary administration of the city has been taken away from the hands of the Town Council—taken away, by the people rising up with indignant repudiation of the bad government that was being carried on and of the wrongs done to them by the elected body—and placed in the hands of a body of paid commissioners nominated by the Governor of the State, and incapable of being removed by any popular vote. I found that this change was the commencement of sanitary improvement in New York. If you will read the remarkable health-report of the Commissioners, issued, I think, in 1868, you will find what the condition of the city was in sanitary matters when they were appointed, and you will be able to judge by their subsequent reports, as I could judge from personal observation, what improvement has been effected since. You will find that, from the moment this paid, upright, and disinterested body was appointed, they began to sweep away the nuisances which the elected body had thought it their first duty and interest to maintain. I find that the example is being largely followed in other States; and I believe that within ten years in every important city of the Republic the sanitary administration will be taken out of elective hands, and put into the hands of nominated and paid commissioners.

Now I do not advocate such a step for this country. I do not think we have in England fallen into quite the condition of the municipality of New York, and I hope there is sufficient public spirit, and energy, and intelligence yet left to enable Englishmen to resolve that they will for themselves remove abuses, and, through the action of their own representatives, take care that the health of the public is improved and maintained. In order, however, to do so, it is necessary that the areas of administration should be sufficiently large to enable the ratepayers to elect men who will be above the interests of cliques and classes, and who will duly represent the whole community. We want areas like those which elected the London School Board, which, instead of sending, as under other circumstances might have happened, a number of small vestrymen to carry out the educational wants of the metropolis, elected a body of men to whom the community can look up, and in whose hands they feel sure the Act will be efficiently, uprightly, and wisely worked. If, in the country at large, you will only insist that Parliament and the Local Government Board shall take care that the areas are so large as to exclude the petty interests which prevail in smaller districts, you will have governing bodies elected in sanitary matters composed of men incapable of corruption, above all personal and party interests, bent only on availing themselves of the scientific knowledge at their disposal, and of improving to the utmost the sanitary condition of the people.

There was a remarkable contradiction between the enactments embodied in the Public Health Act, as carried through Parliament by Mr. Stansfeld, and the administrative steps that were taken by the Department of which he is the head, a few weeks or months after the Act was passed. I had the honour of being spokesman of a deputation to Mr. Stansfeld, sent by this Association and the Social Science Associa-

tion conjointly, before the Public Health Bill was introduced into the House of Commons. It was then, we may presume, in such a state of fluidity that it might have been moulded into any form its author chose. Our task was to express the opinion of the two great bodies whom we represented, and which had again and again, in committees and at public meetings, exhaustively discussed the whole question. We showed Mr. Stansfeld, very much as I have endeavoured to show you, that, if the Bill were only a measure for consolidating, to some extent, existing enactments, and if it left the administration of sanitary matters in the hands of a number of petty and conflicting authorities, all such legislation would be futile. We endeavoured to establish, and, although I may have no right to say so, we tolerably demonstrated that any measure which, in accordance with the mistaken recommendation of the Royal Sanitary Commission, made boards of guardians the sanitary authority in rural districts would assuredly come to nought. Mr. Stansfeld, as he had a perfect right to do, totally disregarded our representations. He thought, I suppose, that we were not men who understood the subject, and that our voice did not carry sufficient weight with the Local Government Board or the Legislature. A measure was passed which confided to boards of guardians the sanitary administration of rural districts.

What, then, was my astonishment when, having made up my mind, as an *ex officio* guardian, to do what I could to make the sanitary administration of our Board tolerably successful, I received a notice from Mr. Longe, Inspector of the Local Government Board for a wide district, that he had asked the Lord-Lieutenant of Worcestershire to convene a meeting of delegates of the different sanitary authorities throughout the county, to submit a plan by which they should unite in the appointment of a medical officer of health in common. This was the very thing we had asked Mr. Stansfeld to do. We had told him it was the initial step in making sanitary administration in the provinces a success, and he had declined to agree with us. The very thing which might easily have been effected by six lines in the Act of Parliament, was now to be attempted by bringing together, in a heterogeneous meeting of delegates, all the different sanitary authorities of the county, and asking them to do voluntarily what the Act had told them, in plain language, they were not to do!

Well, we held this meeting, and I am bound to say I never heard a more clear and convincing statement than that made by Mr. Longe. He demonstrated, as I thought, to every one present, though it turned out I was mistaken, that whether on the ground of economy, efficiency, or public safety it was desirable that, instead of appointing, at very small salaries, a number of petty officers in the different sanitary districts of the county, we should all unite to appoint at a high salary, such as would compensate for private practice, some medical practitioner highly versed in sanitary matters. There was a motion made in favour of appointing the Poor-law medical officers as the officers of health. An amendment was moved, and seconded by myself, in favour of appointing a medical officer of health for the whole county, paying him liberally, excluding him from private practice, and requiring him to give his whole time to his duties. The amendment was carried by 27 to 5, and I congratulated Mr. Longe on the success of his undertaking. It was a lamentable example of the fallacy of human expectations. No sooner had the delegates who had been convinced by Mr. Longe, and perhaps in some degree also by others, that the plan they had adopted was the right one, returned to their respective bodies, than with a single exception every one of those bodies repudiated their act, and resolved to appoint the union medical officers. At this time, there is not within the county of Worcester, although it is more than a year since the Act received the royal assent, a single medical officer of health. I leave you, then, to judge, as far at least as some districts are concerned, of the utter failure of the Public Health Act. If the advice of our deputation had been followed, and if the sanitary administration had in the provinces been made a matter of county government, so far from a twelvemonth having elapsed without anything being done, not a single quarter of a year, I venture to say, would have passed before our Quarter Sessions, finding themselves invested with the requisite authority, would have proceeded to carry out their public duty by appointing a highly paid medical officer of health for the county, taking care that he devoted his whole time to the work, and taking care, if necessary, that he did his duty. And although it may be very true that we county magistrates do our work gratuitously, which seems to be the reason for regarding us as inefficient, I think that we should have been at least as upright and prompt as the number of small sanitary authorities throughout the kingdom, who have discovered that their duty, perhaps their interest, is to do nothing to carry out the law.

I propose to refer to another matter bearing on the control which we can exercise over special diseases. My wish has been to keep to my own experience, which has no doubt a narrow range, that I

might know I am entirely accurate. I am desirous of saying a few words as to my experience as a Royal Commissioner on the subject of the Contagious Diseases Acts. I am not going into all the controverted questions that affect the subject; but I wish to tell you in a very few sentences what I saw as to the results of the Acts. I may say that I went upon the Commission, as I told Mr. Bruce when he asked me to join it, in a purely judicial spirit—in the spirit of simply hearing the evidence, investigating the facts closely, and coming to an impartial conclusion upon them. In order to enable me the better to do so, I determined to pay a visit to one of the towns placed under the operation of the Acts. I went, therefore, to Plymouth and Devonport, to ascertain how the measures were working, without giving notice to any person concerned in their administration. I slept at the Royal Hotel. I took the pains to walk in the streets the evening that I arrived, and was very much struck by the extraordinary degree of quiet and order manifested in a seaport town by that class who in this metropolis and most other towns in the country are apt to be very demonstrative. On the following morning, I went to the examining room; and, having rung the bell and given my name, was at once admitted. I went first of all into the waiting room, where women have to wait their turn to go to the surgeon; and was anxious to ascertain the actual state of the room, because one of the complaints before the Commissioners was, that it was so crammed, and the language so indecent, and the scenes so disreputable, that it was a shame that any young girl should be obliged to wait her turn there. I found the street outside quite empty, and in the examining room saw twelve women waiting. It was a moderate-sized room; and they were sitting on benches, not at all crowded. They were perfectly mute. One of the girls began to giggle; whereupon she was immediately reproved by several others, who said, "You must not do that; you must be quiet before the gentleman." This was said without any person being there to preserve order. I told them I was neither a police officer nor a magistrate of the locality, but simply wished for information; and I asked them whether they were harshly or unfairly treated. One of the women smiled, and said: "Oh no. We know these things are said, but they are all untrue; and we are quite aware of the benefit we derive from the treatment." I went to the surgeon's room, and asked him to show me his book for the past week. I had previously ascertained the number of men in garrison at the time; and, including Marines, there were upwards of seven thousand. I found from the surgeon's book that during the week there was one case of primary syphilis reported to him. That simple fact speaks for itself as to whether the Acts are beneficial or not in a physical point of view. So far as that part of the question is concerned, the evidence is absolutely irrefragable. I am well aware that some to this day maintain the contrary, but I will only venture to say this:—I have been all my life, or at least a quarter of a century, engaged in occupations enabling me to judge closely of evidence, whether as a counsel at the bar, or as a magistrate sitting judicially with or without a jury—and I have to sit in both capacities—I have been obliged to acquire the habit of judging accurately of the veracity, trustworthiness, and information of witnesses before me. I can only say I was never more convinced in my life than that the witnesses who came before us in favour of the Acts, were witnesses of truth as well as witnesses of competence, owing to their full knowledge and experience of the matter. No doubt there were many witnesses on the other side, but who were they? Mere theorists or mere fanatics, who did not pretend to know anything of the subject, but only told us what in their opinion must be the evil results of the Acts. Against this I put the good results which do actually follow, whether they ought to follow or not.

If I believed, after going into the whole subject, that notwithstanding the physical benefits, moral evil accrued from the Acts, I would not advocate their maintenance. I would not put physical good against moral wrong; but I am perfectly convinced, from facts which have come to my knowledge, that great as the physical benefits are, the moral benefits are greater still. I should therefore deeply lament if any misplaced popular emotion, and any weak yielding to popular clamour, led our legislature to take a retrograde step—to do what a former Parliament were asked to do in regard to vaccination, when a set of ignorant misled people cried out against it. I trust our Parliament will be as firm and patriotic as that of a former time, and will refuse to repeal legislation which physically and morally is demonstrably of the highest benefit to the populations among whom it is applied.

To conclude, I feel deeply that the future of sanitary science—that is, the future health of the community amongst whom we live—depends in a large degree on the zeal and exertions of the medical profession, and therefore it is that I rejoice that this Association—in which perhaps

more than any man living I have a right to take a warm interest, and to which I shall owe till the day of my death a profound loyalty—has made the subject of Public Medicine prominent as one of its Sections. I trust that, great and glorious as the efforts of the profession have been in all ages for the alleviation of suffering and cure of disease, its future glory will be still greater in the prevention of disease, in elevating the standard of health, and thereby the happiness and prosperity of all among whom they live. I trust that future history will have to record that it was owing in no small degree to the efforts of the British Medical Association that this English nation became at last, what it is not now, but what it can be if it so will, a thoroughly healthy people, a people endowed with unalloyed vigour, both of body and mind, who will have ceased to lament an amount of preventable suffering and mortality, disgraceful to the civilisation which permits them to exist among us.

AN ADDRESS

PREPARED FOR THE OPENING OF

THE SECTION OF OBSTETRIC MEDICINE.

*At the Annual Meeting of the British Medical Association,
in London, August 6th, 1873.*

By J. BRAXTON HICKS, M.D., F.R.S.,*
Obstetric Physician to Guy's Hospital; President of the Section.

GENTLEMEN,—When the honour of the presidency of this Section was offered me, I felt, as I have no doubt my predecessors had done, a difficulty in selecting a subject with which to introduce, as is expected of the President, the business of the meetings.

Taking into account what had already been given, and thinking that the papers to be read would have mainly a practical tendency, it occurred to me that a few remarks on the more recent advances, both in the anatomy and the physiology of the parts connected with our department, would not be out of place at this time.

I am quite aware that with the majority, especially of those actively engaged in practice and the stern necessities it demands, there is a yearning after that which appears more immediately practical; yet who can say what the bearing upon practice of the revelation of any new facts shall have? Who can define at once their relations to the practical wants of mankind?

Gentlemen, whatever advantages there may be in the divisions of our profession into Sections, it will be a great disadvantage if each branch fail to employ fully the opportunities such a subdivision of labour gives to it, and a still greater disadvantage if it fail to make use of the information which the workers in the other departments have by their strenuous assiduity gained. By this very subdivision knowledge rapidly advances, the discovery of a new principle changes the whole of practice, and unless constant intercommunication is made, a Section in a year or two may be left far behind. But I am sure you fully appreciate all this, and will agree with me that unless we are at every step of practice guided by scientific accurate investigations, we can never be sure that we are in the right path, nor feel confident we may not have to retrace our steps.

The short time allotted to me does not permit me to do more than allude to a few points, and I must ask your indulgence on this account, though were it longer I might have to crave it for the opposite reason.

There are many aspects in which we may view the sexual organs of women, each one presenting an appearance more or less distinct from the other. Thus we have the parts concerned in the development and discharge of the ovum; then the organs concerned in impregnation, generally, but not necessarily mixed with sexual desire; and again, there is the wonderful growth of the muscular element, and consequently, the enormous increase of its expulsive force, together with the laws which govern the mechanism of that force, and its effects. The first, namely, the formation of the ovum, is connected with its cell elements; the second involves largely the nervous element, both sympathetic and spinal; the third involves the nervous element acting upon the organic muscular fibres, and developed, the one certainly, both probably, beyond all comparison with any other parts of the body. The effects of the force bear rather upon well known laws of mechanics, for they depend upon power and opposition; and, as a great obstetrician remarked, given the physical condition of the passage and of the foetal head, one could beforehand pronounce the exact motion. It would be flattering ourselves if we asserted that our knowledge is perfect in

either of these directions. In common with our colleagues in other departments, we must confess much uncertainty in our knowledge of the intimate structure of the various elements, of the physiology of many parts, and of the forces developed by the action of the uterus. Still there is no reason to despair of some day possessing a complete knowledge, and very much has been done of late years. I would take this opportunity of pointing out to the more ambitious of my younger colleagues, how excellent an opportunity is afforded them of laying the foundation of a solid reputation.

Having said this much, let us proceed to pass in review the more recent advances of importance.

Within the last few years the opinions as to the development of the ova and Graafian follicles have undergone much change. So long ago as 1859, E. Pflüger published in a paper "*Ueber die Bewegungen der Ovarien*" in Reichart and Du Bois Reymond's *Archiv*, an opinion that the Graafian follicle originated in tubes, and he pointed out therein the analogy to the seminal tubes of the testis, and that these were formed in the stroma, and continued to do so even after the birth of the foetus. In near accordance with this view is Kölliker's; and more recently, Waldeyer in a work, "*Eierstock und Ei*" (1870), and still later, in an article in Stricker's *Histology*, while agreeing as to the tubular origin of the Graafian follicles, has pointed out that these tubes are formed by the inflection of the surface of the ovary by the growth of the stroma around; that the ovary is covered by columnar epithelium, and not by tessellated epithelium, as is the case in serous membranes; and, that this epithelium lines the inflection throughout. He then points out that among the epithelium from very early life (four days in the chick), there are enlarged epithelium cells, and these are drawn into the inflected portion, and ultimately become the ova. He says that the ordinary epithelium cells about these large cells arrange themselves so as to surround them, and form not the Graafian follicle, but the outer membrane of the ovum or zona pellucida. Where there are many of the large cells, the tube separates up into as many ova, and these become so many centres of Graafian follicles. Waldeyer further says, that in all animals the ova seem to be simply more highly developed epithelial cells of the ovary, which have undergone some peculiar modification, so that the follicular epithelium and the egg-cells stand in direct genetic relation to each other. Waldeyer's account is generally well received, though hardly sufficient time has elapsed to give confirmation, or refutation, to his opinion.

One is tempted here to ask whether these cells have any more direct and immediate descent from the protoplasmic matter of the ovum which has only itself just started into life. It is only a few hours since it assumed activity, and at once it multiplies certain cells, which it stores up, and which endure without renovation till required for reproduction. Are these immediate descendants of the mother ovum, or are they like the other cells of the body differentiated off by the general laws which cause this also wonderful phenomenon? One is tempted also to remark upon the force which is evoked by the fusion of the male and female elements. It may ultimately prove to be simply chemical; in any case, it is the highest example of what we may still, for the want of a better name, call vital force. And it has this peculiar property, that the product of the fusion not only holds the force within itself, but upon the tissues on which it rests it acts as a powerful stimulant, and that not tending to its destruction, but enduing it with an increased vitality, whereby each elementary tissue is increased and multiplied.

Simultaneously with investigations on the nerve distribution in other parts of the body, attention has been directed to their arrangement in the uterus and the vagina by various observers. The investigation of the termination of the nerves in the non-striated muscular fibre of the uterus will be acknowledged by all to be a very difficult matter; still, the researches of Frankenhäuser in his work *On the Nerves of the Uterus, and their Mode of Termination in the Smooth Muscular Fibres* (1867), agree very much with the researches of J. Arnold in his article on Organic Muscles in Stricker's *Histology*. They have, at least, traced the ultimate fibre into the interior of the nucleus of the muscle-cell, but they differ as to whether the extremities end by a plexus in the nucleus, or end in its granules. In any case, so close and intimate a relationship exists between nerve and muscle that one can hardly look upon muscle as otherwise than the outward expression or exponent of nerve force. The termination of nerves on the inner surface of the uterus has not yet been satisfactorily traced out. A nerve has been said to pass into each papilla of the cervix; and still further, Lindgren even finds a fine plexus of granular masses, which, breaking up in a brush-like manner, extend to the epithelium; upon this point, however, there is some doubt, though it is much in accord with what has been noticed in other surfaces.

Very recently the termination of the nerves of the vagina has been made the subject of a paper by Chrschtschonovitch before the Imperial

* Owing to the indisposition of Dr. Braxton Hicks, this address was not delivered.