ADDRESS IN PUBLIC MEDICINE, BY EDWARD SEATON, M.D., F.R.C.P.,

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THE EVOLUTION OF LOCAL SANITARY ADMINISTRATION.

Scope of the Address.—*State of Things before 1872.*—*The Public Health Act.*—*Legislation as to the Construction of New Houses.*—*The Model By-laws of the Local Government Board.*—*Provision for the Enforcement of By-laws.*—*Notification of Infectious Diseases.*—*How Actual Causes of Disease should be Combated.*—*Other Things required besides Notification.*—*The Metropolitan Asylums Board.*—*The Formation of County Councils.*—*County Sanitary Administration.*—*Lines of Future Evolution.*

Scope of the Address.—When the Council of the British Medical Association conveyed to me their wish that I should deliver the address in public medicine, it was, I confess, with somewhat mixed feelings that I received the invitation. While fully sensible of the honour done me by so important a duty being entrusted to my hands by a body which has always taken a leading part in the furtherance of sanitary progress, I was too conscious of my own deficiencies to be able to undertake the task with a light heart. An additional cause of embarrassment was the difficulty of choosing a subject which should be in some degree worthy of such an occasion and of such an audience. I have selected the "Evolution of Local Sanitary Administration" as the theme of my discourse, because the subject, though not perhaps inspiring to an orator, is one with which a considerable and varied official experience has made me tolerably familiar. Furthermore, in respect of one important part of sanitary administration, namely, the management of isolation, epidemic, or, as they are sometimes called, infectious hospitals, I may claim to have taken my share of voluntary work during the past few years in the metropolis. The interest which a subject so closely connected with the health and well-being of the public must necessarily have for all those engaged in active warfare, public or private, against disease will, I hope, dispose you to overlook any shortcomings in my treatment of it.

Sir John Simon, in the very remarkable work entitled *English Sanitary Institutions*, which he gave to the world at Christmas, 1889, has traced, with the brilliancy of literary colouring and the *lucidus ordo* in the marshalling of facts of which he is an acknowledged master, the beginnings of sanitary administration in this country. This will form a lasting record of the way in which our local and central systems of sanitary administration came into existence. Subsequent explorers in the same field will, I venture to predict, find little else to do but to follow in the ineffaceable "footprints in the sands of time" left by Sir John Simon. It is not, I need hardly say, my intention even to attempt in this address to approach the subject from the wide standpoint which our great medical philosopher, the *maestro di color che sanno* in the domain of sanitary science, has taken in his classical work. My aim is a comparatively humble, though not, I trust, an altogether useless one.

Leaving out of consideration the earlier stages of our sanitary development, I propose in the short time at my disposal to touch only on what has taken place during the last two decades under the eyes, as I may say, of the majority of my hearers. Speaking from actual and continuous experience of what has been done since the passing of that most important of all sanitary measures, the Public Health Act of 1872, it may not be unprofitable if I bring before you a few points which seem to me in an especial manner worthy of the consideration of the medical profession in general, and of that larger world outside it which looks to us for guidance.

State of Things before 1872.—Let me first briefly recall the state of things which existed before 1872. Before the passing of the Public Health Act there were very few medical officers

of health outside London. There were, indeed, medical men who nominally occupied that position and performed the duties now recognised as appertaining thereto, but they did so on the understanding that their advice and assistance were to be given only as occasion seemed to call for them. The municipal authorities in those days appear to have thought, like a distinguished general of the present time, that medical advice is an excellent thing "when it is asked for;" they looked upon their officers of health as mere sanitary referees, whose opinion might be taken under certain circumstances as a sacrifice to official propriety without in any way influencing their decision. In the larger towns the greater part of the sanitary administrative work was performed by an official who was generally called the sanitary inspector. From my own experience I can testify that these posts were sometimes held by men of very high intelligence and integrity of character, who performed their difficult duties in a manner worthy of great praise. Owing, however, to their not being possessed of medical and scientific knowledge or professional position they could not be expected to exercise the influence the need of which was beginning to be felt in the counsels of the sanitary authorities. In the smaller towns and in the rural districts, notwithstanding the existence of the Nuisances Removal and other Acts, there was yet but little attempt to carry out their provisions.

The Public Health Act.—By the Public Health Act of 1872, a new order of things was created, and in particular the sphere of medical and scientific influence in local sanitary administration was very largely extended. One most important and far-reaching effect of that Act was the policy adopted in consequence of it by the corporations or town councils of certain large towns, notably in the North and in the Midlands. The municipal authorities appointed medical officers of health of a type altogether different from the sanitary referees to whom allusion has already been made. Instead of professional Balaams called in to bless or curse as the corporation might require, or at best to deliver themselves, like a Greek chorus, of edifying sentiments to which no one gave heed unless it suited him to do so, the medical officers of health of the new creation were intended to be skilled advisers with whom authorities should take counsel *circa ardua regni*, and by whose opinion on matters within their province they should be guided in taking action. The medical officer of health was to be at his post constantly on the look out for ways in which the public interest, present and future, might be served in his own sphere. He was to be ever on the watch, *ne quid detrimenti respublica capiat*, and his chief function was to be the exercise of a continuous pressure in all the important branches of municipal work relating to the health of the community. The influence thus obtained by men of medical and scientific education in the shaping of the policy of local authorities, and the recognition of this kind of professional advice as an essential factor in sanitary administration, have been of incalculable advantage to the public health, and it is not too much to say that by the Act of 1872 a peaceful revolution was accomplished which has done more for the greatest happiness and welfare of the greatest number in this country than all the political subversions recorded in our annals. The policy of giving so important a part in sanitary administration to scientific experts was the object of much criticism at the time. It was argued even in those days, as it is sometimes argued now, that it is unnecessary to engage the whole services or whole time of a medical officer of health, the subjects with regard to which the special knowledge possessed by such an official is required being so few. To the question of "whole service," I may refer incidentally later on.

What I am chiefly concerned with here is to point out that in my opinion the essentially good thing in these early appointments to which I have referred was that they secured for the public authorities which made them the continuous influence of specially educated medical men, an independent power of themselves, in the organisation and direction of local sanitary administration. Without that influence, which was something entirely different from the intermittent, and one might almost say casual, advice, which was all that so-called medical officers of health could render before, the vast progress that has been made in the sanitary condition of this country could never have been.

achieved. Let anyone examine the reports that have been published annually and on special occasions since 1872 by the authorities of the larger English towns and combined districts, from Newcastle-on-Tyne in the north to Portsmouth in the south, and he will find abundant evidence that it is through the exercise by medical officers of health of the continuous influence to which I have referred, that we are indebted for some of the most important advances in local sanitary administration which have subsequently produced their effect in a much wider sphere. Taking one of these reports as an illustration, the subjects dealt with included the following: The building regulations for new houses; the sanitary improvement of old houses; the arrangements for public water supply both as to quantity and quality; sewerage and drainage; removal of excreta and refuse; the regulation of cowsheds, dairies, and milkshops; the prevention of smoke from factories; effluvia from noxious trades and nuisances from stables, etc.; the provision for public vaccination and re-vaccination; the enforcement of the powers of the Public Health Act relating to infectious diseases; the action taken by the local authority with regard to the prevention of the sale of unwholesome food and the adulteration of food, drugs, etc.; the securing recreation grounds, baths, and washhouses; the regulation of burial grounds and cemeteries; the action of the sanitary authorities with regard to uncertified deaths; and the neglect of infants.

Reports of this kind may not unfairly be said to cover the whole field of practical sanitation, and it needs no argument to show that they must necessarily have a great and legitimate influence in shaping the policy and guiding the action of the sanitary authority which receives them.

Legislation as to the Construction of New Houses.—The most important result of the continuous influence of medical advice on those responsible for local sanitary administration is seen in the enactments relating to the construction of new dwelling houses, which have been passed since the Public Health Act of 1872 became law. Before that time the central and inhabited poorer quarters in most of the great towns of England were mere "rookeries," the denizens of which lived under conditions of overcrowding and insanitary environment which nowadays are only to be seen in the more squalid parts of London and some of the seaport towns. To take as an example a town of which, from long official connection, I have special knowledge, the older part of Nottingham was twenty years ago one of the most densely populated in England. The authorities had done their best to cope with the evil, and so far back as in 1845 an Enclosure Act had been passed by which the legal restrictions which formerly prevented the green fields and pastures surrounding the town from being encroached upon for building purposes, were removed. Impressed with the necessity of preventing overcrowding on space, they unfortunately, like most early reformers, went too far in the opposite direction, and imposed conditions as regards the number of rooms and the amount of curtilage to each house which went a long way to defeat the purpose they had in view. The new houses were used to accommodate two families instead of one, or people went to live in the suburbs, where the jerry builder had things all his own way, and where, consequently, the houses soon became, in point of sanitary condition, about on a par with those of the old town. What that was I myself had to describe in forcible terms in a report "On the Sanitary Condition of the Borough of Nottingham," which I presented to the Health Committee in 1873. The houses were built very close together on a comparatively small area, large numbers of them being "back to back;" many of them were situate in narrow yards or closely confined courts and alleys, and a large proportion of them were very dirty and dilapidated; they were, moreover, rendered specially unhealthy by the old midden system, which prevailed in its worst form. During the following ten years the condition of things rapidly and materially improved. The structural defects which made houses in the crowded parts specially unhealthy were entirely altered, and some of the worst areas of crowded dwellings were dealt with in a comprehensive way; but the most important improvements were in the direction of the homes of the future. In 1874 the Nottingham Improvement Act was obtained, whereby the details of construction and sanitary arrangements of new buildings were strictly regulated, and in 1878 a further Act

was obtained by which it was provided that every owner of a new building should be liable to heavy penalties if he allowed it to be inhabited without first having had it inspected and certified as free from sanitary defect by the building surveyor, who was in daily communication with the health officer. During the five or six years following 1874 what was practically a new town came to be built, capable of housing a population at least equal to the whole of Nottingham before the Enclosure Act, and, speaking from my own experience as medical officer of health during the period referred to, I can say that all reasonable sanitary requirements, in the case of the new buildings, were, on the whole, met in a satisfactory manner.

Between 1873 and 1878 local Acts of Parliament were obtained by the authorities of several other important towns, which defined the conditions under which new buildings could be erected; these conditions related to the sites to be used for building purposes, the width of streets, the provision of light and air about houses, the prevention of dampness, arrangements for efficient drainage, and the ventilation of drains. It cannot be denied that London is far behind many less important centres of population in these respects; to take only one example, the overcrowding of narrow spaces with the huge so-called "model blocks" which have sprung up like architectural weeds, if I may use the expression, in various parts of the metropolis during the past fifteen years, would certainly not have been allowed in many provincial towns where ground is equally valuable.

The Model By-laws of the Local Government Board.—The beneficial results of these local Acts can scarcely be exaggerated, seeing that they not only improved the healthiness of the towns to which they particularly related, but they influenced public opinion elsewhere, and finally led to the promulgation of the complete "Model By-laws of the Local Government Board," which are now in process of being generally adopted throughout the country. It may be useful here to enumerate these model by-laws, which have a wide scope, and the adoption and enforcement of which is so immensely important. The series may be summarised as follows:—1. By-laws for scavenging, removal of house refuse, keeping of animals, and the prevention of nuisances generally. 2. By-laws for promoting the cleanliness and ventilation and for the general well ordering of common lodging houses. 3. By-laws relating to new streets and buildings: (a) with respect to the width, level, and construction of new streets; (b) with respect to the structure of walls, foundations, roofs, and chimneys of new buildings, for securing stability and the prevention of fires, and for purposes of health; (c) with respect to the sufficiency of space about buildings to secure a free circulation of air, and with respect to the ventilation of buildings; (d) with respect to the drainage of buildings, and to the closing of buildings or parts of buildings unfit for human habitation, and the prohibition of their use for such habitation; (e) as to the giving of notices; as to the deposit of plans and sections by persons intending to lay out streets or to construct buildings; as to inspection by the sanitary authority; and as to the power of such authority to remove, alter, or pull down any work begun or done in contravention of such by-laws. 4. By-laws relating to the licensing, registering, and inspection of slaughterhouses, for the purposes of cleanliness, etc.

Provision for the Enforcement of By-laws.—But it is not enough to have model by-laws; regulations which on paper breathe the very spirit of administrative wisdom are useless if not strictly enforced. A most important step, therefore, was taken by some of what I may call the "pioneer" corporations, when in addition to obtaining building Acts and framing by-laws they made really adequate provision for giving due effect to them. This they did by not only appointing a special building surveyor, but by further making the officer of health responsible with that official for the manner in which those most important duties were discharged. Having regard to the paramount importance of securing that the sanitary arrangements of all new buildings shall be as perfect as possible, the provision that had just been indicated was indeed a necessary complement of the by-laws. Here I should like to dwell for a moment on a point to the importance of which the public mind is, even in these days of a new sanitary dispensation, perhaps hardly sufficiently alive. From what has been said, it will be obvious that in respect of the efficient carrying out of these by-laws

and similar administrative functions, the medical officer of health is the very keystone of the administrative arch. Indeed, no phase of sanitary administration illustrates with greater force the necessity of an exceptional combination of qualities for the thoroughly efficient discharge of such duties as those which should of right belong to the office. To the medical officer of health the public has especially to look for protection from ignorant obstructiveness on the one hand, and from unscrupulous greed on the other. An ideal officer for such an important post would necessarily be a man of exceptional qualities, for he must have a wide and accurate knowledge of medical and sanitary science, and be possessed of sufficient strength, guided, or "informed," as the scholastics say, by tact, to withstand the hostility, secret or declared, of some of those in authority, and the subtler influences of social environment. But in order that the medical officer of health may discharge his arduous duties with the fullest possible advantage to the public, the office which he holds should in itself confer dignity commensurate with the heavy responsibilities which it puts upon him. With a competent and independent medical officer, such as I have sketched in my ideal, in a position giving his voice the authority which should belong to it in local administrative councils, there would be far greater security than there is at present that no selfish indifference to the common weal, no neglect of obvious precautions for the safety of the community, no tampering with the public health would be allowed to go unexposed or unresisted, however wealthy or influential the offenders might be.

Notification of Infectious Diseases.—The supporters of the principle of local self-government point with natural pride and satisfaction to the fact that it is through the operation of this principle that some of the more important parts of recent sanitary legislation have been brought about. No better illustration of the effect on the whole nation of the efforts of those authorities who, of their own accord, undertake the immensely difficult task of experimental legislation, can be given than the local legislation of 1872-82. I need only instance the Act requiring the notification of infectious diseases—a measure which was first introduced by the Town Council of Bolton, in Lancashire, in 1877, and which by the Imperial Act of 1889 was applied to London, and has since become very generally adopted throughout the whole country. That Act has, as you all know, given rise to a good deal of controversy into which it would be inappropriate to enter here; I mention it only as a striking example of the far-reaching effect which the tentative legislation of a local authority may have outside its own limits, and of the important influence which the advice of medical experts has had in the development of sanitary administration.

How Actual Causes of Disease should be Combated.—I may also point to notification as illustrating the great advantage of directing sanitary administrative action to the suppression or neutralisation of the actual, as well as the potential, causes of disease. The public have not yet learnt the lesson—which is a pregnant truth, though it sounds like a truism—that different diseases require to be controlled by different methods. They are still under the dominion of what Carlyle would have called a "formula"—which was most useful in its day, though hardly adequate to our present needs—that the cause of all disease is dirt, and that sanitary salvation is, therefore, only to be found in well-flushed drains. The danger of this simple creed is that when the faith which has been pinned too absolutely on cleanliness as a universal safeguard is shaken by the discovery that there are diseases which the most ingeniously devised system of drainage is powerless to prevent, sanitary science as a whole may be unjustly discredited, and runs the risk of being treated as the savage treats the fetish which has failed to produced the desired effect. The chief value of the notification of infectious diseases is, in my opinion, that it enables sanitary authorities, basing their action on medical and scientific knowledge, to wage war directly against the actual causes of the mischief that are in operation in any given case (such as a water supply, a milk supply, a school, etc.) instead of wasting their energies in twirling the sanitary mop among potential causes. It should be clearly understood that notification in itself is only a means to an end, and that it can be useful only when the immediate causes of the diseases notified are accurately known, and amenable to control. But within its legitimate

sphere it is invaluable. Taking the diseases included in the schedule, a well organised municipal health department might deal with them effectively from the preventive point of view in the following manner: *Small-pox*, by increased activity of primary vaccination as provided for by statute; by isolation of the sick person as far as practicable, and by formation of a cordon of revaccinated persons around. *Typhus*, by hospital isolation and vigorous sanitation in the infected locality. *Scarlet fever* and *diphtheria*, by skilled and systematic inquiries followed, if necessary, by directions respecting milk supplies; by the limitation of school attendance, and by the offer of suitable hospital accommodation. *Enteric fever*, by skilled inquiries respecting the possibilities of contamination of water or milk supplies, by inspection and testing of house drains, by general attention to the sanitary surroundings of the dwellings, etc.

The advantages of notification from the official standpoint may be summed up in general terms as follows: 1. It affords early and complete knowledge of a rising epidemic. 2. It allows of the exercise of the powers of the Public Health Acts, especially with regard to the spread of infection. 3. It enables the officer of the authority to offer hospital isolation, and, in the case of small-pox, revaccination, when and where these are most needed. 4. It leads to inquiry by skilled persons into the drainage of houses and localities. 5. It affords the means of controlling schools, factories, and workshops, by whose agency epidemics may arise. 6. It makes at once apparent the grouping of cases round water supplies, milk supplies and schools, and thus becomes a powerful agency in limiting the spread of disease.

Other Things required besides Notification.—It is not, however, sufficiently understood that the mere notification of infectious diseases cannot produce any very remarkable results in checking their spread, unless it is complemented by the provision of an efficient sanitary staff with an experienced medical officer at its head, and by adequate isolation hospital accommodation together with measures of disinfection. The first of these requirements, namely, the sanitary staff or health department, is a matter of administration in which, generally speaking, it cannot be denied that there is still a great deal to be done in the way of medical improvement. The question, however, of how this needed reform is to be effected is hardly yet ripe for discussion, and I therefore pass on to the second requirement, namely, the provision of isolation hospital accommodation. As an illustration of what the needs of a very large town are in this respect, and of how they have been met, I may take the work of the Metropolitan Asylums Board. As the work of that Board is comparatively little known, a brief sketch of what it has done and is now doing, may not be out of place here.

The Metropolitan Asylums Board.—Twenty-five years ago very few even of the large towns had any means at all of isolating cases of fever in separate buildings. In London there were the Small-pox and Vaccination Hospital at Highgate and the Fever Hospital in the Liverpool Road; neither of these institutions, which still have independent existence however, have ever been in any sense municipal. The former was open to bad cases of small-pox, while the latter received cases of typhus, which was then endemic, and severe cases of enteric fever and scarlet fever. Patients suffering from these diseases were also admitted to the general hospitals. But the great majority of fever cases, especially those of a mild character, which are so important from a public health point of view, were treated at their own homes, where proper isolation was often out of the question. The Metropolitan Asylums Board was constituted by the Metropolitan Poor Act of 1867, the purpose of which was to establish in London "asylums for the sick, insane, and other classes of the poor." The passing of this Act, it should be mentioned, was largely due to the efforts of members of our Association, the late Dr. Anstie and Mr. Ernest Hart being the chief movers. The intention of the Legislature at that time is clearly indicated by the name of the Act and by the use of the term "asylums." It was to relieve the workhouses of the infectious sick and the insane and to provide means of isolation for cases which could not be safely and conveniently received within the workhouse walls. The Board was almost entirely composed of representatives of Poor-law authorities, and though it was destined later on to have important sanitary functions the

sanitary authorities, as such, had no place in it. The vestries, which in other respects were sanitary authorities, have been blamed for not taking independent action in establishing hospitals for the infectious sick, but few who have had practical experience of the difficulties of hospital provision and administration, or who are acquainted with the intricacies of the boundaries of the London parishes, can doubt that this work is far better left in the hands of a board or central authority which can look to the needs of London as a whole.

The following is a list of the hospitals which have been established by the Metropolitan Asylums Board:—The Eastern Hospital at Homerton, occupying a site of 9 acres, and affording accommodation for from 400 to 500 persons attacked with fevers. This hospital serves one of the poorest quarters of London, the population of which is estimated at over a million. The South Eastern Hospital in the Old Kent Road, Deptford, occupying a site of 11 acres, and affording accommodation for between 400 and 500 cases of persons attacked with fevers, together with provision for doubtful cases of small-pox "under observation." This hospital serves a population of nearly a million. The South Western Hospital at Stockwell, occupying a site of 8 acres, and affording accommodation for between 300 and 400 persons attacked with fever. This hospital serves a population of about half a million. The Western Hospital at Fulham, occupying a site of 6 acres, and affording accommodation for between 200 and 300 persons attacked with fever. This hospital serves a district of nearly three-quarters of a million, but it is a part of London where the need for hospital isolation is not so frequent as in the east. The North Western at Haverstock Hill, Hampstead, beautifully situated, and occupying a site of 11 acres, affording accommodation for between 400 and 500 persons attacked with fevers, and serving a population of over three-quarters of a million. In connection with three of these hospitals the Eastern, South Eastern, and Western—there are very perfectly appointed ambulance stations, which serve for the whole of London. Then there is the river ambulance for the communication with the small-pox hospital ships lying in the river Thames at Long Reach. There are three ambulance wharves at Wandsworth, Blackwall, and Rotherhithe, and five ambulance steamers admirably adapted for the conveyance of sick persons down the river. The hospital ships are moored in the river Thames at Long Reach. They comprise the *Endymion*, which is used for administrative purposes and the accommodation of the staff, and the *Atlas* and *Castalia*, which are appropriated for the treatment of small-pox patients. The total accommodation for patients is 350—200 being on the *Atlas* and 150 on the *Castalia*. Abreast of the ships is a piece of ground, 8 acres in extent, belonging to the Board, upon which the laundry attached to the ships and other administrative buildings have been erected. A pier has also been constructed, and is used for purposes connected with the ships, and the transfer of patients to and from the Convalescent Hospital at Gore Farm, Darenth, which has accommodation for 600 persons. The *Endymion* is in telephonic communication with the chief offices. There is also the Convalescent Hospital for fever cases at Winchmore Hill, which provides for about 400 cases in the stage of convalescence.

It will be seen, therefore, that the total amount of provision of hospital accommodation is not far short of one bed to every 1,000 of the population, which is the standard requirement for public health purposes. This is, of course, not taking into account the admirable and most useful establishment at the Liverpool Road, Islington, which has 200 beds, or the 100 beds at the Highgate Small-pox Hospital.

The excellent example set by the Metropolitan Asylums Board in providing suitable hospital accommodation for the infectious sick has been followed by several large towns, and before long no town of any importance will be without such means of isolation. The Epidemic Hospital at Bagthorpe, near Nottingham, is one of the latest and most perfect examples of a hospital of this kind.

On the other hand the Asylums Board has not been above taking a lesson from the provincial sanitary authorities in respect of the free admission of all cases of infectious disease, whether the patients might be paupers or not, into rate-supported hospitals. The wisdom of this policy is beyond all question, for to make the order of the relieving officer the necessary passport to the isolation hospital is to render the use

of the accommodation offered by it a badge of social disgrace which the respectable wage-earning classes would do everything in their power to avoid. It need not be pointed out how seriously this would interfere with the immediate isolation of infectious cases, which is the only effectual way of preventing the first sparks of an epidemic from spreading into a destructive conflagration. It is largely due to the influence of Dr. Brewer, Sir Edmund Currie and Sir Edwin Galsworthy, former and present chairmen, together with that of several other influential members, that the Metropolitan Asylums Board was led to adopt a public-spirited policy which many of their colleagues thought to be outside the proper province, if not also beyond the legal powers, of that body.

The Metropolitan Asylums Board was, as has been said, established for a specific purpose, and it must, I think, be admitted that it has not only discharged the functions originally assigned to it, but has instituted much other work of the highest public utility. Its position, however, has been greatly changed by recent legislation.

The Formation of County Councils.—Mr. Ritchie's Local Government Act led to the formation of county councils. These councils were intended, among other things, to be the chief sanitary authorities of counties, and they will doubtless become so in future. Here we are met by the question of "sanitary units," which will have to be determined before very long; at present, however, it is hardly sufficiently ripe for discussion. Leaving out of view for the present the details of sanitary administration, attention may with advantage be directed to certain points in which the influence of county councils is already to some extent, and ought to be still further, exercised. There is clearly no province of sanitary administration in which that influence can be exerted with more immediate benefit to the community than that connected with the control of epidemic or isolation hospitals. Indeed, the county councils already have the control of the large lunatic asylums; what more natural then than that they should also have relegated to them the other asylums (already in London under a central body), and the special epidemic hospitals in which we, as sanitarians, are interested? This arrangement would, in one most important particular, simplify our present very complicated system of sanitary administration; and in London the County Council seems in some measure to have anticipated this proposal by the appointment of a medical officer, who, in addition to his other eminent qualifications for that important post, has had special experience in the organisation and management of isolation hospitals. The fact that the London County Council already has a responsible medical adviser, while the Metropolitan Asylums Board—a second central body—with its thousands of sick persons passing annually through its hospitals, has to depend, for the indispensable help which such an officer can give, on casual and necessarily irresponsible counsellors, forms a strong argument in favour of transferring to the former body the powers at present possessed by the latter with regard to the provision and regulation of isolation hospital accommodation. It would be easy for me to give abundant illustrations of the great disadvantage to the public of the Metropolitan Asylums Board being cast adrift, as I may say, on the troubled waters of sanitary administration, with no medical pilot to help in guiding their course, but as the subject does not, strictly speaking, come within the scope of this address, I need not enter on it here.

On the whole, it appears to me that the time has now arrived when the Metropolitan Asylums Board might be allowed to fade out of existence, like an organ that has served its purpose and can only be an encumbrance if it survives. The process of evolution would then be complete in London so far as one important part of sanitary administration—namely, the provision of hospital accommodation for infectious diseases—is concerned.

County Sanitary Administration.—Turning next to the question of county sanitary administration, on which I have as yet touched very slightly, I may indicate, as a first step towards its development, that county councils may, with immediate advantage, undertake that part of sanitary administration which is evidently much better in the hands of a central authority. This need involve no interference with local or district authorities as regards sanitary administration, and the precedent of London shows that it would not be regarded

as infringing the sacred principle of local self-government. As things are at present, the arrangements for the isolation of infectious diseases in many parts of the country can only be described as an administrative chaos. Many towns of considerable size are still without proper accommodation of any kind for such cases, while in others such provision as has been made is utterly inadequate. Moreover, owing to the division of authority and the absence of efficient control by local centres, administrative anomalies—in the highest degree absurd, if they were not deplorable—have arisen. This is explained by the fact that the rural sanitary authorities have, in some instances, erected hospitals for their own use, while the towns in the district have not shown the same foresight. Thus we find hospitals situated near to large populations, the most important sections of which are excluded from the use of them. In this way it has happened that a hospital admirably adapted for the reception of infectious cases has stood empty when almost at its doors were patients of the very kind it was designed to accommodate, who, owing to the intricate machinery of local self-government which is a part of our existing constitution, could not be admitted within its walls. I need not dwell on the inconvenience and injury to individuals and the dangers to the community at large that may arise from administrative pedantry of this kind. The transference of the power of regulating the provision of isolation hospital accommodation to the county councils is the only means of remedying the state of things which I have here attempted to describe, and of saving the unnecessary suffering to patients and the expense to ratepayers entailed thereby.

Lines of Future Evolution.—With regard to the future evolution of sanitary administration, there is not much that can be profitably said at the present moment. The important questions now floating in the legislative atmosphere as to the advisability of transferring vaccination powers to the county councils, and as to the formation of sufficiently large areas for administrative purposes, must be left for solution till the opinions of men of light and leading on these subjects have had time to condense into practical conviction, and to infiltrate the minds of sanitary authorities. It may be said in general terms, however, that it is desirable that future evolution should be in the direction of greater simplicity in organisation, and a nearer approach to uniformity in the size of sanitary districts and in the methods of administration than exists at present. Here let me remind you that the question of "whole service" or other restrictions must obviously depend on considerations of administrative areas. The absurdity of considering them apart, as Parliament has done this session, is best illustrated by taking an extreme case, one of the tiniest and most impracticable areas. For example, Ham, near Richmond, in Surrey—the "umbrageous Ham" of the author of the *Seasons*—is a separate sanitary administrative area, with its own sanitary staff. The population is only 1,400, that of a mere hamlet. Now, if there could be found a medical officer willing to sacrifice his "whole time" and actually to reside on the spot, there would still be difficulty as to the emolument. This amounts to £21 per annum! Of course the remedy for this is the creation of workable districts for sanitary purposes within counties, and until that has been done it is premature to adopt the whole-service formula. I would not, however, be understood as advocating a cut and dry system, in which the country should be parcelled out into trim parterres like a magnified Dutch garden, governed by authorities acting with the rigid uniformity of mechanical puppets. There is something very distasteful to the English mind in anything that savours of centralisation or the restraint of administrative individualism by cast-iron rules; but, on the other hand, I think, most thoughtful sanitarians agree in considering that the present freedom of local authorities from all control is sometimes rather apt to degenerate into administrative licence, with serious consequences to those immediately affected thereby, and to the community at large.

In conclusion, while thanking you for your kind attention to these somewhat desultory remarks, I would express a hope that no one will think the subject of this address unimportant, though it is too likely that I may have failed to make it attractive. The details I have touched on are the framework of a vast living structure, all the parts of which should work together for the common good. The perfecting of this struc-

ture, the clothing of the dry bones of sanitary administration with the flesh of scientific knowledge and well-directed practical action, should be the aim of all legislators and authorities, and of all practitioners of curative, not less than of preventive, medicine.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF SURGERY.

At the Annual Meeting of the British Medical Association, held in Bournemouth, July, 1891.

By JOHN WARD COUSINS, M.B.LOND., F.R.C.S.,

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RECENT ADVANCES IN THE TREATMENT OF TUBERCULOUS DISEASES OF THE JOINTS.

Historical Notes.—During the past thirty years very remarkable development has taken place in all departments of our art, and although I think the expansion of our knowledge in connection with diseases of the joints has been less brilliant than in many other directions, still it has not been less radical as regards the system of treatment. Until the time of the late Sir Benjamin Brodie confusion and uncertainty surrounded this class of disorders, but by the labours of this distinguished surgeon many of these diseases were disentangled from each other, and the affections of the articulating apparatus, which had been grouped together under the common designation of "white swelling," were clinically separated. In the fourth edition of his work on *Diseases of the Joints*, published in the year 1836, he graphically described tuberculous disease of the bones as commencing by the deposition of a transparent material in the cancelli, and afterwards undergoing transformation into a yellow cheesy substance. He drew a correct picture of the slow progress of the inflammation, the caries of the bone, the recurrent centres of suppuration, and the final termination either in imperfect ankylosis or complete disorganisation of the joint, associated too often with pulmonary disease or some other visceral affection.

Brodie and Liston investigated the morbid alterations in articular cartilage and synovial membrane. They regarded the cartilages as prone to primary alterations of structure, and they initiated the doctrine that suppuration was a rare result of their primary ulceration, and that it took place only in the advanced stages of the disease, with caries of bone and destructive changes in the synovial membrane. They regarded the presence of capillaries as an essential condition of the inflammatory process, and they laboured to demonstrate the vascularity of cartilage in disease. The pathological doubts and difficulties of these eminent surgeons occupied the attention of many of their followers, and their clinical observations were marked by clearness and accuracy, but their minds were prevented from forming correct interpretations of their facts by their strange prejudices and imperfect views of the healthy and morbid processes.

Some of the problems surrounding this structure were, however, at length solved by the labours of Redfern, Goodsir, and Rainey. These observers clearly demonstrated the changes which took place in cartilage by the perverted activity of disease. They asserted that it remained entirely non-vascular, and that its disorganisation was always accompanied by changes in the size and form of the corpuscles, and the softening and breaking up of the intercellular substance. During the process of repair they discovered that fibrous tissue had formed, and that into this new substance vessels were projected from the vascular system of the bone and synovial membrane, and thus the difficulties concerning the vascularity of inflamed cartilage were cleared away.

The Old Pathology of Tubercle.—The loss of substance in articular cartilage long occupied a prominent place in the