

**On the effects of recent sanitary legislation on the health of the metropolis
: and on our present urgent sanitary needs / by John Whitmore.**

Contributors

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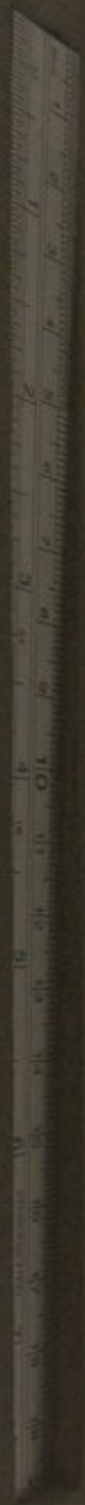
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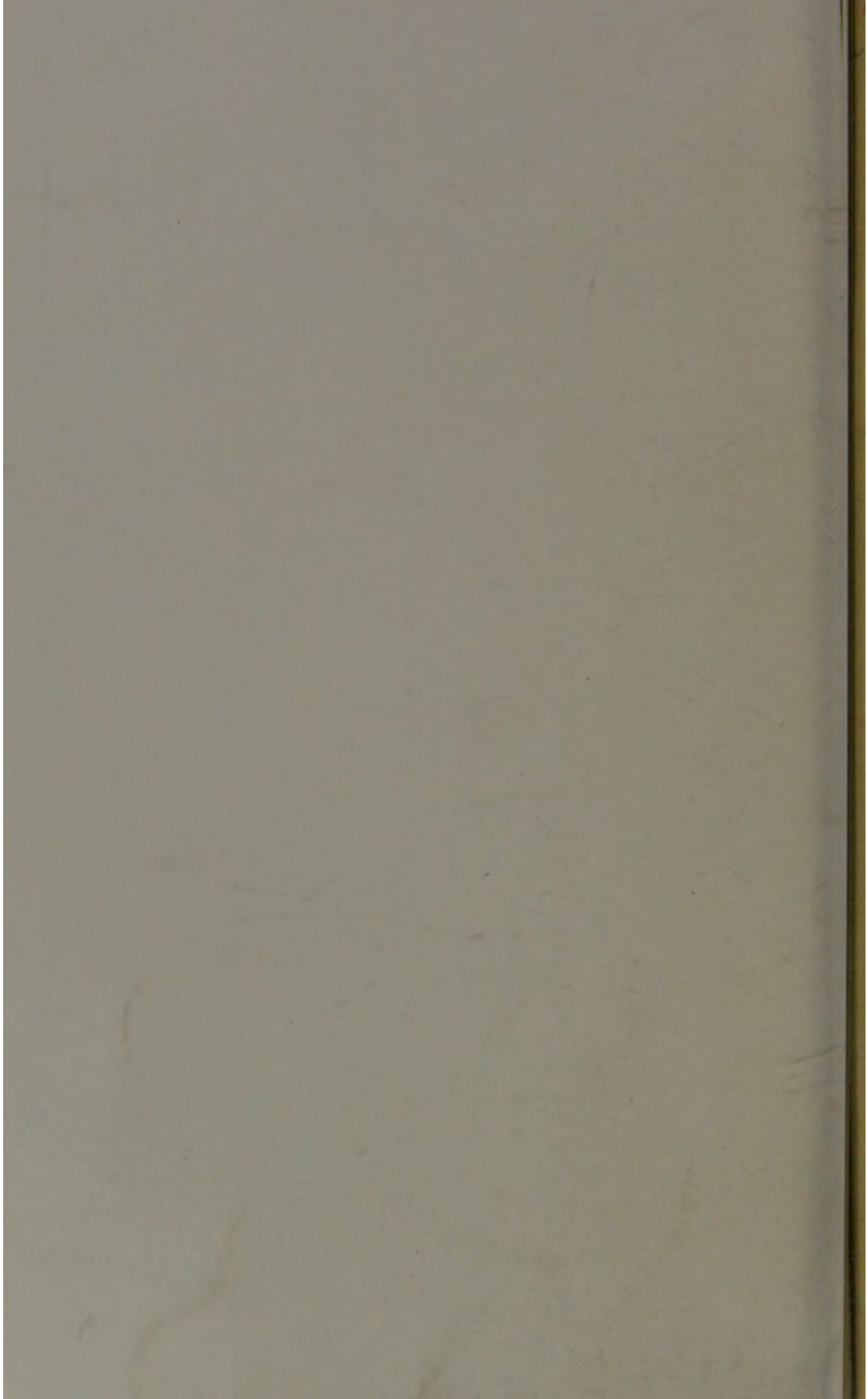
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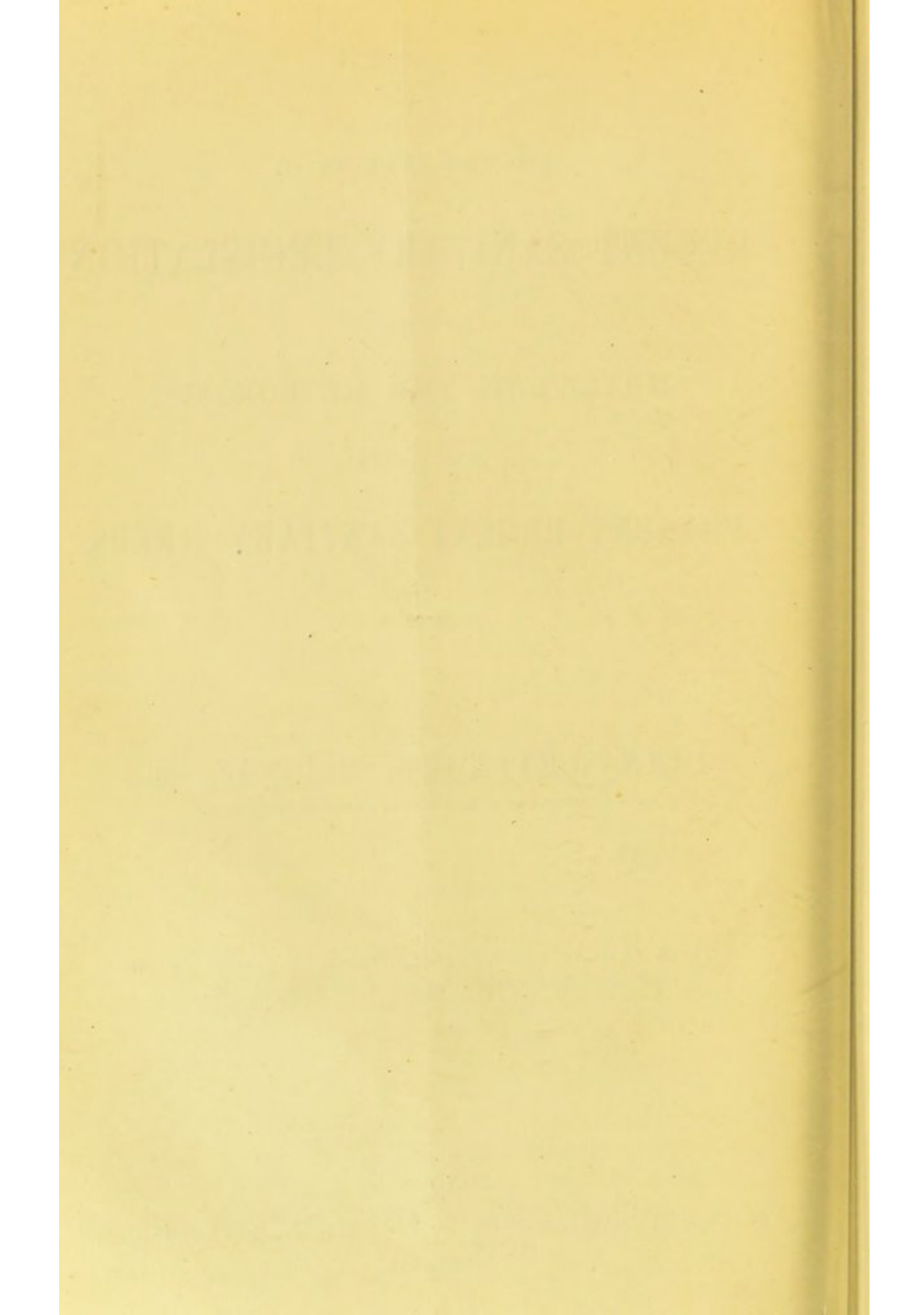
ON THE EFFECTS OF
RECENT SANITARY LEGISLATION
ON THE
HEALTH OF THE METROPOLIS;
AND ON OUR
PRESENT URGENT SANITARY NEEDS.

BY
JOHN WHITMORE, M.D., &c., &c.,
MEDICAL OFFICER OF HEALTH TO THE PARISH OF MARYLEBONE.

A PAPER READ AT THE FOURTH ANNIVERSARY SESSION OF THE
ST. ANDREWS MEDICAL GRADUATES' ASSOCIATION.

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MDCCCLXXI.



ON THE EFFECTS OF RECENT SANITARY LEGISLATION ON THE HEALTH OF THE METROPOLIS; AND ON OUR PRESENT URGENT SANITARY NEEDS.

BY JOHN WHITMORE, M.D.

THE subject upon which, in compliance with the request of the Council of this Association, I propose to occupy your attention for a few minutes this evening, is one which needs no apology for its introduction, inasmuch as it vitally concerns the health and well-being of the community at large, and for that reason, if for none other, must necessarily be of interest to us, as well as to every member of our profession.

We are beginning somewhat late in the day—too late I fear for us to claim any credit for that prudent forethought which wisely provides for anticipated evils—to comprehend that if we would live long and enjoy life, we must of necessity live under good sanitary conditions; and from the experience of the last fifteen years, during which time “The Metropolis Local Management Act” has been in operation, we may fairly claim to have acquired some amount of knowledge as to what those conditions really are. That our knowledge on this point is still very imperfect, and that we have a great deal to learn, is proved to us by our every day’s experience. We are satisfied beyond all doubt or question that fresh air, good ventilation, efficient drainage, and an abundant supply of pure water, are important auxiliaries to health. But we are not, I fear, equally well assured that the measures proposed, and in many localities adopted, for the suppression of contagious epidemic diseases, are the best that can be devised; and that—when by some brilliant discovery the present highly controversial question as to the mode of existence of contagious matter, and the conditions atmospheric or otherwise necessary for its dissemination, shall have been determined,—they will not be found almost, if not altogether, inoperative.

But the object of this paper is not to speculate upon our present ignorance of the laws which govern life and health, or upon the many diverse and contradictory opinions held upon that subject, but rather to enquire how far the various sanitary enactments now in operation have accomplished the object for which they were made, and what, in the present social and physical condition of the inhabitants of this metropolis, constitute our most important sanitary requirements.

Before proceeding to consider the effects of sanitary legislation upon the public health, it may be desirable briefly to review some two or three of the more important Acts of Parliament that have been passed during the last twenty-five years. With regard to any statutes existing anterior to that time it will not be necessary to notice them, for they were nearly all more or less of local rather than of general application, inasmuch as it was the practice for the inhabitants of populous districts to obtain special provisions for themselves. Hence private or local Acts for the suppression of nuisances in towns were very numerous, and were for the most part adapted to the particular requirements of the place for which they were promoted; but where the local wants were not sufficiently urgent, or where on the other hand local interests were opposed, the attempts to obtain local Acts failed.

It was owing partly to the reports of several Commissions which had been held, in 1838 and subsequent years, to enquire into the nature and existence of nuisances which generated contagion amongst the lower classes, and partly to the general alarm created by the approach of Asiatic cholera, that Parliament in 1845 passed an Act, 9 and 10 Vic., c. 96, "for the removal of certain nuisances, and the prevention of contagious and epidemic diseases." This Act, intended at first to be only temporary in its duration, and to terminate in the autumn of 1847, was not, in consequence of the continued imminence of cholera, allowed to expire, but was renewed in the year 1848, and made perpetual under the name of "The Nuisances Removal and Diseases Prevention Act of 1848," 11 and 12 Vic., c. 123.

An important defect in this Act was, that the part of it which related to the prevention of diseases could only come into operation as the necessity for its summary provisions should from time to time arise.

"The Public Health Act" of the same year, 11 and 12 Vic., c. 63, we may next briefly notice. By this Act the General Board of

Health was established, to which were given certain powers with respect to the construction of sewers, drainage, &c., and the abatement of nuisances of various kinds; as also the management of streets, public pleasure grounds, reception houses for the dead, &c. With regard to this Act it may be stated, that by establishing the General Board of Health it supplied a convenient and responsible power for carrying out in Great Britain those measures of precaution which were rendered necessary by the then impending national calamity. In the year 1849 another Act, the 12 and 13 Vic., c. 111, and known as "*The Nuisances Removal and Diseases Prevention Amendment Act*," was passed, for extending the powers of the Board of Health in relation to the removal of nuisances and the prevention of diseases, and for supplying clauses the absence of which had rendered the former Act defective in its operation. From this period until the year 1855, sundry other Acts were passed, which, being either supplemental to or amendments of existing Acts, it is not necessary to notice.

In the session of 1854 Sir Benjamin Hall, the then President of the Board of Health, introduced into Parliament a Bill which proposed to repeal entirely the former Acts and to create new bodies, to which should be entrusted the enforcing of legal measures for the prevention of nuisances, and which should also carry out the regulations of the Board of Health for the prevention of diseases. At the same time he introduced an extensive Bill to repeal "*The Public Health Act of 1848*." These measures were both referred to a Select Committee, who reported in favour of the Bills as then amended. After much discussion and some additional amendments, they passed both Houses of Parliament, and became ultimately 18 and 19 Vic., c. 116 and c. 121, and known respectively as "*The Diseases Prevention Act*," and "*The Nuisances Removal Act*," of 1855.

With regard to the former, *i.e.* "*The Diseases Prevention Act*," an opportunity for testing its efficacy was afforded by the last visitation of cholera, and although it was on that occasion supplemented by many important orders of the Privy Council to meet emergencies for which it did not provide, it cannot be said to have achieved any great success. The epidemic marched on its devastating course in certain localities very much as it had done on previous visitations, and as in all human probability it will continue to do until the light of scientific research shall have dispelled the obscurity which not only surrounds this, but other like periodic scourges.

Under the provisions of the second, or "*The Nuisances Removal*

Act," the sanitary work of this metropolis has for the last fifteen years been mainly carried out. Many of its clauses when practically applied were found to be defective, and these have been amended by subsequent Acts, to one of which I shall presently allude. But with regard to this Act it is only just to say that it has been so far successful in its operation, that many previously existing nuisances have been summarily dealt with and permanently removed; and although the results upon the public health have not been so marked or apparent as might reasonably have been expected, it may fairly be attributed to the counteracting effects of other great evils which grow with the growth of population, and for which the legislature has not yet provided a remedy.

One other Act only which, before quitting this part of my subject, it may be well to notice, is "The Sanitary Act of 1866," 29 and 30 Vic., c. 90. This Act amends in several important particulars the Act of 1855, and contains clauses which confer upon vestries and local boards the power of dealing with evils of great magnitude, which were before unassailable. By the 35th section of this Act, local authorities on application to one of Her Majesty's principal Secretaries of State, may be empowered to carry out regulations for the following purposes:—

(1) For fixing the number of persons who may occupy a house or part of a house let out in lodgings.

(2) For the registration of such houses.

(3) For inspecting them and keeping them in a proper and cleanly condition.

(4) For enforcing proper privy accommodation, ventilation, &c., &c.

(5) For cleansing and limewashing such premises at stated periods.

This section is obviously one of great value, since it is calculated to provide much increased comfort (if it provides nothing else) for the poorer classes. But alas! like some other sections contained in this Act, and which singularly enough happen to constitute the most important of them all, it "keeps the word of promise to our ear and breaks it to our hope." It is not, as it should be, compulsory, but permissive; local authorities may adopt it or not, as they think proper. Need I say that with a body of gentlemen the majority of whom are impressed with the fixed idea that the very perfection of local management consists in keeping down the rates, such a clause is not likely to find favour? It will therefore occa-

sion no surprise when I say, that up to the present time not more than two or three of the metropolitan parishes have adopted it.

With this cursory review of past sanitary legislation, we may now proceed to consider what have been its results, so far as it concerns the health of the population. I might go further, and add, so far as it concerns also the social comforts and material prosperity of the working classes; but to consider this latter subject—interesting and important as it undoubtedly is—would be to open up a wide field of enquiry which time will not permit me to enter upon.

The sources from which we are accustomed to obtain information as to the effects of sanitary improvements upon the public health, are the annual reports of the Registrar-General. From these we get important statistics as regards the death rate, the rate of mortality at different ages, and the number of deaths in each of the different diseases which make up the aggregate mortality. These statistics are to a certain extent valuable, but they will not supply all the information that is required to enable us to arrive at an opinion that is entirely satisfactory. We want for the purpose a sickness rate, or in other words we need that which we have long contended for, and which we shall ultimately obtain, viz., a Registration of Disease. I have long been of opinion that to estimate the healthiness of a place or district merely by its death rate is fallacious; for it may and indeed often does happen that sickness will prevail to a very large extent, unattended by even an average mortality; whilst on the other hand, sickness may be limited as to the number of persons attacked, and yet the prevailing malady unusually and excessively fatal. This we not unfrequently see in the ordinary miasmatic diseases of children, which at one time will be of the mildest, and at another of the severest kind.

With regard to the death rate, we find from the Registrar-General's returns, that the annual rates of mortality in London, extending over a period of thirty years, from 1840 to 1869 inclusive, show a mean of 24·35 per 1,000 of the population; for the ten years 1840-49 the mean was 25·16; from 1850-59 it was 23·63; and from 1860-69 it amounted to 24·25. From these figures we derive the not very encouraging fact that for the last ten years, during which sanitary reforms have been actively carried out in all parts of London, there was but a trifling reduction in the death rate as compared with the whole period of thirty years, and an actual increase as compared with the ten years 1850-59, an increase which may be estimated at about 1,500 deaths yearly. If we now ex-

amine the death rates of the five groups of districts of the metropolis, which are the North, South, East, West, and Central, we shall find results more in accordance with what might be expected as consequent upon the relative sanitary state of each; but in neither of them, except in the Southern group, was there any decreased death rate during the last decennial period. In the Northern, which is the highest of all, the best drained, and having for the most part an excellent water supply, the annual mortality is lowest, the mean for the last thirty years being only 22·87 per 1,000; whilst in the Eastern group, which lies very low, where the water supply is not always satisfactory, where the poor and destitute population is excessive, and where nuisances beyond the control of the sanitary authorities abound, the mean for the same period is 26·09 per 1,000. As I have before stated, the mean mortality in all except the Southern group was greater during the last decennial period than in the one preceding it, but in the Southern group the reduction was gradual and satisfactory; here the death rates for the three decennial periods were respectively 26·25, 24·36, and 23·23 per 1,000; and if we take the quinquennial periods, the results will be equally satisfactory.

Let us now enquire into the rates of mortality at different ages, and if we can here show that they have sensibly decreased during the last fifteen years amongst young children, it will to some extent modify the otherwise unfavourable results as shown in the total death rates at all ages; for we know that with infants and children below the age of five years, a very large proportion of the deaths is caused by diseases belonging to the zymotic class, many of which, if not produced, are no doubt greatly aggravated, by defective sanitary conditions.

I would here take the opportunity of saying that I do not altogether concur in the views entertained by many of my professional brethren, as to the important part which nuisances injurious to health generally play in the extension and aggravation of some of our most fatal epidemics. As an illustration of this, I may refer to the epidemic of scarlet fever, which now and for the last sixteen months has been prevalent throughout England and Wales. All my experience of this disease, and I may claim to say that it is not inconsiderable, convinces me that it is but little influenced by defective sanitary conditions. In the mansions of the rich as in the miserable dwellings of the poor, in localities remarkable for their healthiness and salubrity as in the most crowded courts and

alleys reeking with filth and abominations, the disease has been alike virulent and fatal. Indeed, speaking from my own personal knowledge of its progress in St. Marylebone, I should say that the poorest and most destitute, those who live in filth and misery, and under the worst possible sanitary conditions, have suffered the least from it.

To return to the mortality at different ages of life, it will be sufficient for my purpose to show the mortality amongst children in London under one year, and under five years. This I have obtained for the last nineteen years, from 1851 to 1869 inclusive. Amongst children under one year, the mean death rate to population for the whole period was 5·39 per 1,000; in the first quinquennial period 1851-55, it was 5·25; in the second, 1856-60, it was 5·18; in the third, 1861-65, it was 5·30; and in the remaining four years, 1866-69, it was 5·99. Amongst all children under the age of five years, the mean death rate for the nineteen years was 10·27 per 1,000 of the whole population; in the first quinquennial period it was 10·10; in the second, 9·87; in the third, 10·58; and in the last four years, 10·72. Another and perhaps more reliable mode by which the death rates of children may be determined, is not by taking the whole living population as the basis of calculation, but merely the population comprised within the ages at which the deaths occur; thus we find that of the whole population in London under the age of five years, in the year 1851, 7·4 per cent. died; in the year 1861, 8·0 per cent. died; and in 1869, 8·6 per cent. died.

It is to be regretted that for the want of a proper registration of diseases the sickness rates of the metropolis in different years cannot be ascertained. A partial registration, however, has been kept up in St. Marylebone during the last twelve years, to which in the absence of other statistics on the subject I may refer. It comprises weekly returns of all new cases of disease coming under treatment in eleven charitable institutions in the parish, amongst which are included returns from the Middlesex Hospital, from the principal local dispensaries, and from all the parochial surgeons. From these, which return a yearly average of about 70,000 new cases of disease, we find that in the four years, 1859-62, the annual sickness rate was 38·5 per cent. of the living population of the parish; in the four years 1863-66, it was 42·3 per cent.; and in the four years 1867-70 it was 44·2 per cent. Let us now take the sickness rates of eight of the principal zymotic diseases, viz., small pox, chicken pox, measles, scarlet fever, diphtheria, whooping cough, diarrhoea,

and fever. In the first four years the annual sickness rate from these diseases was 4·7 per cent., in the second it was 6·9 per cent., and in the third 6·9 per cent.

I am aware that these returns, derived as they are from a limited source, are not to be accepted as a correct indication of what may have been the sickness rate of London during the same periods; but inasmuch as they have been obtained from a parish where, to the credit of the authorities, it may be said that sanitary improvements have been carried out with a degree of liberality and energy unsurpassed by any other parish in the metropolis, the fair inference is that they are rather below than above the estimate.

Amongst the annual death rates of London for the last thirty years, there are some that are unusually high; these are caused either by the fluctuations of seasons, or by the zymotic activity of diseases, or by both; but inasmuch as an increased mortality in one year is generally succeeded by a reduced mortality in the next, the decennial averages are not much affected by these causes.

Looking, now, back to the facts revealed to us by the general death rates, the death rates of young children, and the sickness rates, we might under a momentary feeling of disappointment jump to the conclusion that sanitary legislation has been a dead letter, and that it has done nothing towards the saving of human life or the alleviation of human suffering. Such an opinion, however, would be very erroneous and opposed to facts, which a little consideration will enable us to realize. In the last twenty years the population of London has increased from 2,373,000 to 3,170,000, but there has been no corresponding increase in the superficial area over which that increase has been distributed. The result therefore is that many localities, especially those inhabited by the poorer classes, have year by year become more densely populated, and the reasonable inference would be that in such localities the death rate would become augmented. Such, however, is not the fact, and it may, I think, be attributed to sanitary improvements. From this, then, we may fairly assume that without the sanitary work of the last fifteen years the death rate of London would have been infinitely higher than it now is; but we may also assume that, had that work been more complete, had sanitary enactments been more comprehensive and more compulsory, the death rate would have been, spite of all opposing influences, much lower.

That the death rate of the metropolis has not declined in the ratio of the improvement in its sanitary condition is, I think, mainly

attributable to this one fact, that the means of providing proper house accommodation for the artizan and labouring classes has in no degree kept pace with the growth of population. Of what avails it that nuisances from drains and closets are removed, when every room in the house is crowded, when eight or ten persons occupy an apartment which only affords fair breathing space for half the number, and when these evils, alike destructive to health and morals, are greatly aggravated by the dirty habits of the people themselves. The construction of railways through many of the most densely populated districts of London has no doubt facilitated public traffic and convenience, but it has also entailed upon the poor a great amount of hardship. Viewed in the light of its sanitary advantages, one cannot look upon the demolition of wretched houses in these poor districts without feelings of something like satisfaction, since it lays open to the purifying influences of light and air extended areas of space, which for many years had been hotbeds of disease, and where thousands of human beings, daily poisoned by noxious exhalations, had dragged out a brief and sickly existence. But this feeling is alloyed by the sad reflection that, although the poor are routed out from such pestilential spots, they are driven to seek shelter in others equally and even more pestilential; for with them the choice is one of two evils, either the open streets, or some miserable room in a house already overcrowded, where the poisonous gases exhaled from the lungs of many human beings huddled together through long winter nights, slowly perhaps, but surely, undermine the health, stunt the growth of the children, and deprive them in adult age of that bodily strength and vigour which constitute the richest inheritance of the labouring man.

These reflections lead me to a consideration of the last subject to which I shall call your attention—"What are our present sanitary requirements?" Of these there are many, which, did time permit, it might be profitable to discuss. I shall therefore merely notice some, and conclude with a few remarks upon two of them, which are of surpassing importance and magnitude.

In the first place, various amendments are needed in our present sanitary enactments to facilitate the prompt and efficient working of them, and many clauses which at present are merely permissive should be made compulsory. We want open spaces in London for the healthful recreation of young children. We require public dining rooms for the labouring classes, where they can obtain wholesome and nutritious dinners at no greater cost than that which they pay

for the ill-dressed indigestible food upon which they now exist. Increased space and improved ventilation in workshops is also greatly needed. But the most urgent, by far, of our sanitary requirements, are improved house accommodation for our artizan and labouring classes, and more stringent laws for preventing the spread of infectious and contagious diseases.

For improving the dwellings of the poor various plans have been suggested, one of which has to some extent been adopted. I allude to the erection of model lodging-houses. These buildings have much to recommend them; the rooms are lofty and well-ventilated; the arrangements for domestic purposes, such as cooking, washing, &c., are good, whilst the drainage and water supply are all that can be desired. In most of them the terms of occupancy are necessarily somewhat stringent, and to a large class whose habits of life are opposed to all rules of order or decency they are no doubt objectionable. In the parish of Marylebone there are four of these buildings, which are always fully tenanted, and from my own knowledge I can state that their occupants are generally very healthy. Further I may observe, and this is by no means unimportant, they pay to the shareholders a fair interest for their investments.

Suburban villages for the working classes have also been proposed, and strongly advocated. The name is attractive, and suggestive no doubt, to the poor man, of pure air, green fields, neat garden plots, and a host of other little comforts denied to him in his dismal London home; but the class of dwellings which could be let at so low a rent as to be within the means of a working man must necessarily be small and cheaply constructed. To these I see many objections, both sanitary and social; the rooms would be small, low roofed, and insufficiently ventilated; in wet weather the damp would probably penetrate through badly cemented walls, or rise from the surrounding earth and produce colds, rheumatism, and other like diseases; the house drains would get out of order; the buildings themselves would continually need repair, and after a few years fall into decay.

A third scheme proposed is the removal of cow and slaughter-houses from the metropolis, and the erection of dwellings for the poor on their sites. One very great merit of this scheme is, that it gets rid of an existing abomination.

It is, I think, much to be desired that the attention of Parliament should be given to this important subject. The wretched dens in

which the poor of London are compelled to live, or rather slowly to die, are a disgrace to our civilization; for whilst our increasing wealth and intelligence are manifest in many ways amongst the upper and middle classes, they have effected little or nothing towards the amelioration of the social condition of the poor, who in all that relates to home comforts and the wants of domestic life, are but little better provided for than if they had lived fifty years ago.

For the last subject of this paper a minute or two will suffice. In order properly to comprehend the difficulty of making laws that shall prevent the spread of epidemic, contagious, and infectious diseases, it is only necessary to consider the many and various modes by which infection is disseminated; and the more we reflect upon this, the more convinced we shall become that nothing short of complete isolation of the infected person, from the period of his first attack until every particle of the poison of the disease shall have been eliminated from his system, will suffice to arrest even in a limited degree the progress of these fatal maladies; and here we may pause to ask—How in the crowded dwellings of the poor is this to be done?

Thousands upon thousands of poor families in this metropolis can only afford to rent one or at most two rooms, and how is it possible for them to adopt any such precaution as this? The answer will be that patients so circumstanced must be removed to a hospital, and in that I fully concur, believing it to be the only solution of the difficulty.

A further obstacle will be found in the habitual disregard of the laws which exist already. Amongst the poor, of whose habits and modes of life I have of late years had some experience, there is very great indifference in most things that concern the safety and welfare of their offspring. It is a thing of daily occurrence to see little children living in a house let out in lodgings to several families, running in and out of a room in which other children are lying suffering from an attack of measles or scarlet fever, and any expostulation with the mother for permitting it is met with some frivolous excuse. But even amongst the middle and higher classes there are many who are open to censure in this matter. With them it is no indifference or want of care for their own families, but a selfish disregard of the safety of others. How frequently it happens that children of these classes are removed from London to watering-places, at the very time when their bodies are throwing

off the largest quantities of the poison of the disease from which they have been suffering; and who can estimate the amount of mischief which results? The railway compartments in which they travel become centres of contagion, and the watering-places they visit owe to them very often the first introduction of a disease which in a short time expands into a serious and fatal epidemic. The least that can be said of the persons through whose neglect all this evil arises is, that they wilfully break the laws and ignore altogether those paramount duties of citizenship which are implied in the excellent axiom, "*Salus populi suprema lex.*"

In order to give practical effect to the opinion before expressed, that complete isolation of a person suffering from a contagious or infectious disease is necessary, I would supplement the laws already in force by some others of a more stringent kind.

It should be provided—That a person attacked with either small pox, scarlet fever, measles, or fever, should be at once removed to a separate apartment. That it should be compulsory on the medical attendant immediately after his first visit to give written information of the case to the local authority, by whom a competent inspector should at once be sent to inspect the premises and give orders for the immediate abatement or removal of any existing nuisances. That such inspector should at the same time leave with the parents or friends of the patient, a printed notice, setting forth the rules to be observed for preventing the spread of the infection, the nature of the disinfectants to be used, and the methods of using them; these rules to be drawn up by the College of Physicians, or some other competent body. That the patient during his illness should not be visited, except for some urgent purpose, by any other persons than the medical attendant and the nurse. That he should not be permitted to leave the apartment or mix with other persons until the medical attendant had certified in writing to the local authority that his recovery was complete, and that he was no longer capable of communicating the disease. That on the receipt of this certificate the inspector should again visit the house for the purpose of seeing that the sick chamber and its entire contents had been properly disinfected, and that, if done to his satisfaction, he should give a certificate to that effect to the parents or friends of the patient. That in cases where no separate apartment could be appropriated to the use of the patient, he should at once be sent to the hospital. That any infringement of these rules and regulations should subject the offender to fine or imprisonment, at the discretion of the

magistrate hearing the case, and that the local authority should be the prosecutor.

In conclusion, I may observe that any further improvement in the healthiness of this vast metropolis must, in a great measure, depend upon the energy and earnestness of purpose with which our sanitary laws are administered. If vestries and local boards accept them and the duties they impose with a mental protest against their necessity,—if these gentlemen also fail to discern in the means provided for improving the health of the population that which is apparent to every intelligent observer, viz., a direct tendency to diminish pauperism,—the result will be that another decade will pass away, and our sanitary condition be in no degree benefitted. But from the spirit manifested of late in many metropolitan parishes, I perceive a growing interest in sanitary matters, and a more general recognition of sanitary efforts. To stimulate and direct those efforts, and to devise the means for arresting the progress of our common enemies, infection and disease, are the enviable privileges and duties of our profession, and of this I am sure, that in the faithful discharge of those duties the members of this Association will not fail.

POPULATION OF LONDON in the middle of each year from 1851 to 1869 inclusive, with the TOTAL BIRTHS, and the DEATHS and DEATH RATES of CHILDREN under five years and one year respectively.						
Year.	Population to the middle of each year.	Total Births.	Deaths of Children.		Death Rate per 1,000 of Population.	
			Under five years	Under one year	Under five years.	Under one year.
1851	2,373,081*	78,300	22,761	12,081	9.59	5.09
1852	2,416,631	81,250	22,507	12,272	9.31	5.07
1853	2,460,378	82,254	24,713	12,981	10.04	5.27
1854	2,504,300	84,885	29,501	13,896	11.77	5.54
1855	2,548,382	85,532	25,025	12,959	9.82	5.08
1856	2,592,603	87,430	24,128	13,130	9.30	5.06
1857	2,636,943	89,577	25,512	13,931	9.67	5.28
1858	2,681,384	89,012	28,472	14,280	10.61	5.32
1859	2,725,905	92,909	26,226	13,976	9.62	5.09
1860	2,770,483	93,414	26,939	14,269	9.72	5.15
1861	2,815,101*	97,064	29,090	15,076	10.33	5.35
1862	2,859,734	97,850	28,625	13,999	10.00	4.89
1863	2,904,363	102,119	31,216	15,433	10.74	5.31
1864	2,948,963	102,625	33,247	17,314	11.27	5.86
1865	2,993,513	106,803	31,615	18,284	10.56	5.10
1866	3,037,991	108,665	34,565	18,733	11.37	6.10
1867	3,082,372	112,691	30,341	17,973	9.84	5.83
1868	3,126,635	113,937	32,780	18,891	10.48	6.04
1869	3,170,754	112,232	35,459	19,078	11.18	6.01

Population of London under five years of age in 1861, 362,296 — Death Rate of these Children, 8.0 per cent.

* Census.

NEW CASES OF SICKNESS COMING UNDER TREATMENT IN ST. MARYLEBONE,
(Including New Cases from Eight Zymotic Diseases,)
 RETURNED FROM ELEVEN CHARITABLE INSTITUTIONS IN THE PARISH.

Year.	New Cases of Sickness from all Causes, including Accidents.	New Cases of Sickness from Eight Zymotic Diseases.								Total Sickness from Eight Zymotic Diseases.	Sickness Rate per 1000 of Living Population of the Parish, from Eight Zymotic Diseases.
		Small Pox.	Chicken Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Diarrhoea.	Fever.		
1859	62,290	123	93	520	471	6	429	6,615	292	8,549	52.8
1860	57,465	223	140	663	254	10	453	2,914	282	4,939	30.5
1861	66,431	16	204	444	230	53	761	6,683	387	8,778	54.2
1862	62,854	25	126	688	368	61	550	6,197	542	8,557	52.9
1863	70,556	721	145	642	858	66	565	9,056	454	12,507	77.3
1864	69,296	73	238	594	444	54	844	8,809	809	11,865	73.3
1865	67,109	194	115	622	406	35	680	6,992	756	9,800	60.6
1866	67,168	188	89	545	333	30	673	8,296	482	10,636	65.2
1867	76,815	337	Returned	894	788	35	734	7,711	390	10,889	66.8
1868	70,338	55	Returned	889	588	27	641	9,786	170	12,156	74.5
1869	69,070	49	Returned	487	871	26	1,010	6,172	331	8,946	54.8
	739,392	2,004	1,150	6,998	5,611	403	7,340	79,231	4,895	107,622	

47.6
mean of 4 yrs.

69.1
mean of 4 yrs.

65.3
mean of 3 yrs.



