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SANITARY ASSURANCE:

A LECTURE

AT THE LONDON INSTITUTION,

BY

PROFESSOR F. DE CHAUMONT, F.R.S.

ALSO, SHORT ADDRESSES BY

JOHN ERIC ERICHSEN, F.R.S., PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS;

SIR JOSEPH FAYRER, K.C.S.I., M.D., F.R.S.; R. BRUDENELL CARTER, F.R.C.S.;

TOGETHER WITH THE

PROSPECTUS OF THE SANITARY ASSURANCE ASSOCIATION.



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SANITARY ASSURANCE.

A Lecture by Professor F. de Chaumont, F.R.S., at the London Institution.

Tuesday, March 15th, 1881.

THE subject I have been invited to bring before you to-night is that of "Sanitary Assurance," involving a consideration of the question—How may health be best preserved? It is obvious that the well-being of a people must depend upon the bodily and mental vigour of the race, upon its power of accomplishing the work demanded from it, and upon its capacity of enjoyment. For, although we lay down theoretically that the end and aim of life is "duty," we should find on examination that practically it is a search after "happiness," and that a capacity of enjoyment is an essential without which the end cannot be reached. It must therefore be our object, as far as possible, to increase and foster that condition of body which tends to the desired end, and that condition we call "health." To the young and the strong, who have never known any other condition, it may seem that too much fuss is made about a matter which they may think is not likely to concern them, but to those who have never known—and still more to those who have lost—that greatest of blessings, it is a question that comes home with the keenest effect. But neither are the young and the robust personally unconcerned in it, nor is it for any one a merely selfish consideration, for there are dire maladies from which the most iron constitutions enjoy no immunity, whilst it is the interest of all that their neighbours should be healthy, both that they may not be centres of disease and also that they may continue to contribute their quota to the productive work of the community. It becomes more and more evident every day how much we must lean upon each other in this world, how much the comforts and amenities of modern civilization depend upon the accurate fitting in and working of the various parts of the body politic, and how more and more impossible it becomes for man to live in any real sense apart from his fellows. To promote, therefore, our health and that of our household is not only a personally prudent act for our own immediate benefit, but also a good that we bestow upon, and a duty that we owe to, the commonwealth to which we belong, and whose well-being we are bound as good citizens to seek.

There is one section of the community, however, who, we might at first think, would not only be injured by any successful endeavours in the direction indicated, but might be inclined to throw obstacles in the way: I mean those engaged in the different branches of the healing art. But, in the first place, it will be many a long day before stricken humanity is able to dispense with their services; and in the second place, I think it may be placed to the honour of the profession to which I belong that its members have ever been foremost to prevent, as well as to treat, disease. Their efforts in both directions have been but partially successful, yet they have in many instances deserved both the measure of success they have attained to and that greater measure which they fondly hoped for. I venture to be thus professionally egotistical, because

I wish to point out how much of what we desire to do in the way of health preservation depends upon the observations and investigations of medicine. The researches which are being constantly carried out in every direction are daily, though slowly it may be, removing difficulties from our path and rendering our road to success in our quest after health more easy, less winding, and more certain. It is by advances like these, parallel with the progress of medicine and the collateral sciences, that it becomes possible to lay down certain principles on so broad a basis as to allow of their being accepted by those who may differ on many points of the question. Thus we are in possession of evidence sufficient to show that certain forms of disease are more apt to arise in certain conditions of existence than in others, that there is (with individual differences) a certain concatenation of circumstances which generally leads to the outbreak of a particular malady or group of maladies. Thus we know that dwelling in marshy districts is usually followed by attacks of ague, or paroxysmal fever of various kinds; that destitution and crowding often give rise to another form of fever, viz., typhus; that want of particular articles of food, notably vegetable acids, will give rise to scurvy; and that exposure to the direct influence of persons affected with certain communicable diseases will light up those diseases in the healthy, as is the case with small-pox, measles, scarlet fever, and the like. We further know that by removing the immediate cause of those diseases they will cease to spread; that if we drain our marshes ague will come to an end; that if sufficient employment can be obtained for our population, so that they may be properly fed and decently housed, typhus will disappear; that if our soldiers and sailors get their rations of fresh vegetables or limejuice, scurvy will no longer be a terror; and that if we prevent contact with communicable diseases they will cease to be potent for evil. In some few instances we can go even further, for by the help of quinine we can brave the marsh-poison if need be, and armed with vaccination we may tend on small-pox stricken friends without material danger. We may reasonably hope, too, that a time may come when our armamentarium of prophylactics shall be still further extended.

But, besides the diseases I have referred to, there are others among those "ills that flesh is heir to," which are perhaps more important when looked at from the point of view which we propose to take. Those are the diseases which arise from causes within our dwellings themselves; and it is a curious, and to some extent a humiliating, fact, that in his struggle for existence man has quite as much to do in combating the foes he has himself created as in fighting those which arise independently of him. What are the most fatal diseases in this kingdom? A glance at the Registrar-General's Report will at once answer the question. There we find that out of 700,000 deaths which occur annually in the United Kingdom, some of the causes are the following:

1. Phthisis (or consumption)	kills about	70,000
2. Diseases of the respiratory organs	"	100,000
3. Diarrhœa	"	33,000
4. Enteric (or typhoid) fever	"	11,000
5. Scarlet fever	"	25,000
6. Diphtheria	"	3,500

or, in round numbers, about one-third of the whole mortality is due to the above diseases. Now all those diseases are liable to be favoured or propagated by neglected house sanitation, and to the list many others might be added more or less dependent upon the same favouring cause. It cannot, of course, be contended that all are due to such a cause entirely, or that we could with the best house sanitation prevent utterly the occurrence of them all; but we

believe from the evidence we have that we could prevent some altogether from arising in consequence of causes within any specified dwelling, if it were put in good sanitary condition, and that we could at least modify and mitigate others to a very material extent. Thus, we believe, that by good sanitation of our dwellings we might entirely prevent enteric (or typhoid) fever, diphtheria, certain kinds of diarrhoea and sore throat, and cholera declaring themselves in consequence of causes within the dwellings themselves. We should also aid in modifying most of the other zymotic diseases, as well as consumption and a good many others, which frequently depend upon causes less under our immediate control.

How are those diseases propagated in insanitary dwellings? By two main causes; foul air and foul water. The air, which is generally pure when it reaches us, is rendered quickly impure by being loaded with the products of respiration and transpiration from the lungs and skins of the inmates, by foul gases and particles from badly constructed closets, sinks and drains, and by all sorts of suspended matter from accumulations of dirt and general neglect of cleanliness. Water again, supposing it to be pure on delivery, may be fouled by the cistern or pipe being brought into too direct communication with closets, sinks, or drains, or by the receptacles being allowed to become dirty by the access of various impurities arising through neglect. Those causes of disease are distinctly under our own control, and the question now comes to be, How do they arise, and how may they be avoided? They arise in the following ways:—

1. Want of renewal of air in our dwellings. Even in crowded towns the air is almost always purer outside than inside our dwellings. We may have plenty of the purer supply if we will, but instead of accepting it we carefully exclude it. On the other hand we provide little or no means by which the foul exhalations set free in our dwellings may be removed. If we could only reflect upon the fact that we give out by the lungs and skin nearly as much matter as we take in in the form of food, we might perhaps be more alive to the evils which continually surround us. The most moderate estimate gives an average of about twenty ounces of absolutely solid food, water free, taken by each individual in the twenty-four hours; of this only about six ounces are voided in the so-called liquid and solid excreta, whereas the remaining fourteen ounces pass out from the lungs and skin in the form of gaseous products chiefly, but with some highly dangerous suspended matter, to poison the atmosphere. It is this matter which communicates the feeling of closeness we experience in a badly ventilated room, and it is this organic poison which has so marked an effect in assisting the production of pulmonary consumption and other diseases of a scrofulous character. Phthisis, or pulmonary consumption, is not confined to any one climate or country, but it is especially a disease of cold rather than of warm climates. Cold climates are those where the rigour of the seasons renders food less easy to be obtained, and makes crowding together more likely in order to obtain warmth. Just as acute destitution and intense crowding culminate in typhus fever, so do prolonged but less acute destitution, and prolonged but less intense crowding culminate in phthisis, with this important difference, that the duration of the evil is in proportion to the duration of the cause. In the case of typhus we have an acute and fatal malady, which may, however, be quickly stayed and its progress abruptly checked by removal of the immediate causes, by scattering widely the community which is attacked,

by isolating the sick, and by supplying the necessities of life to the remainder. But no persistent taint remains in the sense that the disease is transmitted as an inheritance. In phthisis, however, although similar measures may mitigate the spread of the malady, there is still the terrible inherited tendency which it will take generations to extinguish as it probably took generations to develop.

It is also to be remembered that the constant re-breathing of vitiated air is a cause of deterioration in the power of resistance which the body in health ought to possess, so that causes of disease, which would otherwise pass us by unharmed, find in our persons a favourable soil for propagation. This is not only true of the recognized communicable diseases, but it is also eminently true of all forms of cold, which so generally show themselves as diseases of the respiratory apparatus. In this way a current of cool air, which a healthy man will think nothing of, will light up in another a dangerous bronchitis or a fatal pneumonia.

The remedy for all this is simple enough: provide a means of removing your vitiated air and a means of admitting pure fresh air.

It is, of course, not my object, nor would it be desirable that I should enter at this time into details of practical sanitation. It is sufficient that the grounds should be explained on which our proceedings are to be based.

2. The second main cause of foul air arises from the house atmosphere being rendered impure through admixture with sewer emanations—the imperfect way, in short, in which our removal of excreta, slops, etc., is carried out. It is to this cause that we trace much of the enteric fever, diphtheria, diarrhoea, sore throat, etc., which so sorely vex our homes from time to time. It has sometimes been made a reproach to modern sanitation that the introduction of systems of drainage and water carriage of sewage has been the means of spreading, and even of originating disease which did not before exist. There is no doubt that evils have arisen which might to some extent give colour to the belief, and it is our object to suggest to the public means by which those evils may be averted. It is quite obvious that, whether the air of the sewer be pure or impure, it has no business in our dwellings, and that what we have to do is to keep it out. All excreta, slops, and the like, must be removed without delay, and under existing circumstances the water system of carriage, in some form or other, appears to be the most expeditious and convenient for large communities. But, on the other hand, this does not mean that the process shall be carried out so carelessly or so unscientifically as to favour, or even permit, the delivery into our own or other dwellings of any portion of the effete matter, either in a solid, a liquid, or a gaseous form. Here, too, our indications for health are simple and straightforward. Let us get rid of our refuse matter easily, quickly, and effectually, but let us render it impossible that any portion, or any emanation from it, shall reach our own or any other dwelling.
3. Immediately connected with this is the question of the contamination of our water supply, which may arise from the condition of things above described. Where there is storage in the house the cistern or tank is too frequently in connection directly with the sewer, through the overflow pipe, or through the same supply being used for drinking purposes

and for flushing of closets. All such arrangements are attended with the greatest danger, the more so that disease poison taken in through water reaches the system in a more concentrated and consequently more fatal form than when taken diffused in air. The remedy for this, supposing storage to be unavoidable and a constant supply unobtainable, is to take care that the drinking water cisterns shall supply water for drinking only, and that there shall be no direct communication between it and any drain or sewer, the overflow pipe discharging freely in the open air.

Could those arrangements be effectually carried out in our dwellings there is no doubt that a large diminution would take place in the mortality from many diseases, and there seems even some probability, as I have already said, that certain maladies might disappear altogether. But we must further remember that it is not death alone that we have to dread, terrible as its effects often are upon a household. For every fatal case, we have to bear in mind, argues a considerable number of cases of illness, which, even if recovered from, may leave consequences behind them sufficient to affect the health of a lifetime and to diminish the power of the sufferer for the work he has to do. The duration of illness alone is often a serious break in the life of a professional man, artizan, or labourer, a break which in some cases may mean the difference between comfort and penury, or between a successful career and a struggle for existence. I think I shall be understating the case when I say that each case of death argues about a dozen cases of illness, although the number is somewhat less in the severer diseases, such as enteric fever, which is fatal in one out of six or seven cases, and diphtheria, which kills one out of three. But if we take these two diseases, about the connection of which with bad house sanitation there is least doubt, and estimate the loss arising from them, the amount would surprise many people. In London alone the number of deaths from enteric fever in a year is about 1,000—from diphtheria, about 400: if now we assume that for each fatal case of the former, there are six that recover, and of the latter two that recover, we have nearly 7,000 cases of illness to deal with, each lasting some five or six weeks, and representing some two or three months' incapacity for full work. We have thus something like 40,000 weeks of total loss of productive labour and about as much more of partial loss, equal in the whole to not less than 50,000 to 60,000 weeks of total loss. We have only to multiply this number by the estimated average of earnings to see the serious loss the community must suffer from these causes alone, without reckoning the effects of the sequelae of the diseases or in any way estimating remoter losses or constructive damages which are undoubtedly incurred.

I might extend this part of my lecture by citing instances of disease consequent on neglected sanitation, or of improvements following changes of such conditions, but perhaps I have already dwelt long enough on this subject. I have thought it necessary, however, to bring those points distinctly before you as a preliminary justification of the "Sanitary Assurance Association."

The laws of health have been long investigated, more or less imperfectly, and no doubt many mistakes have been made, but still some progress has been accomplished. In every advance, however, there must be difficulty; and our main difficulty has always been to educate the community up to the desired level. The required level is not a very high one, but still a necessary one, viz., the capacity of perceiving that they are really in danger from certain causes, which *may* be dealt with satisfactorily. We must admit that the fault is not all on the side of the public, and that there are embarrassing differences of

opinion even among doctors ! But still there is a pretty general agreement as to those main principles of sanitation with which our association proposes to deal. We all agree that "matter in the wrong place" must be got rid of completely and effectually, and therefore here there is likely to be a degree of harmony which is sometimes looked for in vain under other conditions. If, then, we can succeed in persuading the public of the real and pressing dangers to which they are exposed, we shall accomplish a great deal in the direction of successful sanitation, both among individual groups of the community and among the nation at large.

They will refuse any longer to be at the mercy of builders and plumbers they will insist upon knowing where the drains go to, and whether their basement is or is not being turned into a cess-pit, to the dire calamity of themselves and their neighbours. Up to the present time, however, the efforts which have been made to awaken them to this sense of danger have only been partially successful. This we need not be surprised at, when we reflect that regular instruction in hygiene is not made compulsory even for the medical profession, except for the military and naval services of the crown; and that the post of medical officer of health is constantly being filled up without any guarantee being obtained, or even asked for, that the nominee has paid any attention whatsoever to the requirements of the office he is about to fill; very praiseworthy efforts have been made, it is true, in various directions, by means of public lectures and demonstrations by various societies and institutions; and in certain training colleges and schools some knowledge of the laws of health has been made a regular part of the curriculum and the passing of an examination a necessity for the obtaining of a certificate of competency.

All those are important and valuable steps in advance, but it has been rightly thought that a still more practical turn might be given to the movement, for even where consent is obtained to a thing in principle, it is often long before a practical application is thought of. People do not like trouble, and each one is apt to think that although those ideas are all very well in their way, they are, after all, very likely more or less doctors' "fads," and at all events not likely to concern him individually. Another obstacle, and it is always a very serious one, has been the question of expense. So long as the amount of work was small and its practice more or less of a desultory character, it was plain that neither physicians, architects, nor engineers could be expected to give the necessary attention and time without the householder being called upon for considerable outlay; whilst on the other hand the casual nature of the work was hardly likely to repay professional men for devoting themselves to a line which promised so scanty a remuneration. Then, as regards new buildings, the public have been and are pretty much at the mercy of speculative builders, and they must consequently, even when they know of the dangers threatening them, either take what they can get or else put things in order at their own expense. It was at last thought that to this question might be applied the principle of co-operation, which has proved so successful in other ways; that if an association could be founded whereby people might be correctly informed as to the sanitary condition of their dwellings, and the necessary steps to be taken, and this at such fees as might be within the reach of all, and at the same time in the aggregate sufficient to command competent advice, there might be some hope of carrying matters to a successful issue. The idea first took a practical shape in Edinburgh, Manchester and Salford, Wolverhampton, and some other provincial towns. This being the case it would never have done for the Metropolis to lag long behind in the race, and accordingly last year an organization was started, consisting chiefly of medical men and

architects, to form an association for the purpose of promoting house sanitation, and on the 1st of November, 1880, at a meeting held at the Langham Hotel, the association was formally constituted under the title of the "Sanitary Assurance Association." Among those who took part in the meeting, and those who then expressed their approval of the objects in view were—Sir Joseph Fayrer (the chairman), Dr. Andrew Clark, Mr. Arthur Cates, F.R.I.B.A., Dr. W. S. Playfair; the President of the Royal Society; Dr. Lauder Brunton, F.R.S.; Mr. George Aitchison, F.R.I.B.A.; Dr. David Ferrier, F.R.S.; Mr. Edwin Chadwick, C.B.; Professor Corfield, Professor Hayter Lewis, Dr. G. V. Poore, Professor Tyndall, and Mr. Mark H. Judge.

The memorandum and articles of association were approved of by the Board of Trade, and the society incorporated on February 12th, 1881. The objects contemplated are set forth in paragraph three of the memorandum as follows:

- A. The practical application of sanitary science generally, and especially the encouragement and development of proper systems of house-drainage, water-supply, and ventilation.
- B. The examination, inspection of and reporting on houses and buildings, or plans of houses and buildings, either erected, in course of erection, or to be erected, as regards their sanitary arrangements; the supervision by the officers of the Association of any work done, or to be done, by or on behalf of the members of or subscribers to the Association in connection with the sanitary condition of such houses or buildings; and the granting of certificates relative thereto.
- C. The publishing of reports on matters connected with the progress of sanitary science in the United Kingdom and abroad, and the distribution at the end of each year of any surplus funds, or part of any surplus funds, to such institutions as are devoted to the advancement of sanitary science.
- D. The doing of all such other lawful things as are incidental or conducive to the attainment of the above objects.

These embrace all the most important points with reference to house sanitation, and to those points the work will be at present confined, leaving it, however, open to the Association to extend the scope of its inspection as experience may further suggest. It is felt in the meantime that if those main points, viz., house-drainage, water-supply, and ventilation, be securely looked after, so great an advance will be made that further extension of the same principle will be easy. The list of officials includes an honorary council, on which appear a number of names of the highest eminence in all branches of public and professional employment, an executive council, a chief sanitary officer, and a surveyor. The executive council consists of the following gentlemen:—Sir Joseph Fayrer, K.C.S.I., M.D., F.R.S.; George Aitchison, F.R.I.B.A.; W. H. Corfield, M.A., M.D., Professor of Hygiene and Public Health, University College; F. de Chaumont, M.D., F.R.S., Professor of Hygiene, Army Medical School; Mark H. Judge, Curator of the Parkes Museum of Hygiene; T. Hayter Lewis, F.S.A., Professor of Architecture, University College; Henry Rutherford, Barrister-at-Law; T. Roger Smith, F.R.I.B.A.

The articles of association provide that at least one half of the executive council shall be architects and medical men. Under this council and by their direction the work of inspection and report will be carried on by the chief sanitary officer, Professor Corfield, and the surveyor, Mr. Mark H. Judge. These

two officers will take a personally active part in the work to be carried out, which it is intended shall be practical and thorough, and not in any sense merely perfunctory. Houses, both actually in existence and those in construction, will be carefully inspected as regards their drainage, their water-supply, and their arrangements for ventilation, the defects pointed out and the alterations required for remedy being carefully recorded in the report furnished. The association, not being formed to enter into any building transactions, will not itself carry out the necessary works, so that subscribers are at liberty to employ whom they please; but the officers of the association will carefully revise any work and grant certificates of efficiency where it is possible to do so. Another important feature is the furnishing of block plans of houses, showing the drainage and connections, when such are asked for. The desirability of this is undoubted and its necessity most urgent. It is really surprising how seldom, even in the case of public buildings, there is any record whatsoever of the course and direction of the drains. This is within my own experience, and the question has been brought forward again and again, and the necessity of registration insisted upon, but as yet little has been done. By our proposed arrangements, however, much may be accomplished in this way, for it is intended, among other things, to keep an assurance register, to which reference can be made. The advantage of this to the occupier or the intending purchaser of property is very obvious, and it may often save much trouble, expense, and danger. Again and again does it occur that when something has evidently gone wrong about the drains there is blank ignorance of their whereabouts, and floors have to be taken up and prospecting diggings made all about to find them. Often, also, it happens that drains are disused, new ones laid, and the existence of the old forgotten, until the fact of their being favourite runs for rats, or the advent through them of indescribable smells, awakens the unfortunate occupier to a sense of the hidden danger he is exposed to. Registration of drain plans would also render it impossible, for very shame, that such pranks should be played, as occasionally is the case, in the laying of drains, such as carrying them under floors of dwellings, in direct opposition to contracts and stipulations, and even sometimes leading them across wells and through drinking-water tanks! But if such works were thoroughly inspected such enormities would come to light, and lead both to the obviating of the danger and the detection and exposure of the reckless and ignorant perpetrator of such outrages against sanitary laws. When people reflect upon the deadly nature of the disease poison which is communicated through sewage, a small portion of which is sufficient to carry disease and death through a whole community, it seems a most reasonable form of expenditure to lay out a moderate sum in knowing the condition of one's house and surroundings, and ascertaining in time what steps are necessary to put them in order. When this is not done it not seldom happens that the lesson has to be learned in the bitter school of experience, and when the grave has closed over the form of some loved one, what sacrifice would the disconsolate survivor not wish he had made, could he have only been wise in time!

It may be well here to refer to the fees that are to be charged and to the terms of subscription. And first, two points should be mentioned, namely, that the Association is not formed for purposes of profit; that no dividend or bonus is to be divisible among its members, and that any surplus funds remaining after paying the expenses incurred will be devoted to some purpose connected with the improvement of sanitation. This, however, does not mean that the Association shall not pay its executive officers and those whom it employs to carry out its objects. Their time and skilled knowledge must be adequately remunerated; but such remuneration as they may get must be

looked upon in the light of a return for work actually done, in fact, payment for value received, and not in the light of a profit or bonus. By making this strict limitation of the appropriation of its funds, the Association has the advantage of being allowed by law to register, without attaching the word "Limited" to its title, although the liability of its individual members is still "limited" in the legal sense. At the same time it enjoys all the privileges and advantages of a corporate body, without requiring to declare itself a trading company.

The second point for notice is the fact that the scale of subscriptions and fees has been framed with great care and after mature consideration, and the council believe that they are put as low as is consistent with securing efficient work. I am told, however, that some objections have been made on the ground that they are too high, but I can also say that, from the remarks made to me by some professional men of experience, they are inclined to think them too low. Under those circumstances, I think the council may feel satisfied that they have hit upon the golden mean in the matter, and that the charges are neither such as ought to press unduly upon the householder nor such as will prove insufficient to secure thorough and efficient work by skilled and competent hands. If we consider for a little the actual amounts themselves and the advantages that are offered for them, I think the public may feel well satisfied if they can purchase immunity from many dangerous diseases at so moderate an outlay. The following is the scale of fees:—

1. An entrance fee of 10s. 6d. for all joining the Association.
2. An annual subscription of 10s. 6d., or a life composition of five guineas.

This entitles the subscriber to place upon the assurance register one house in London *rated* under £20.

For houses of higher value the following scale has been adopted:—

House rated at (in London).			First Year, for Inspection, Re- port, Super- vision of Work, and Certificate.	Second and suc- ceeding Years, for Inspection (Report if necessary), and Endorsement of Certificate.	When ordered by Subscribers, Block Plan showing Sewers & connections.
£		£	£ s. d.	£ s. d.	£ s. d.
20	and under	20	*	*	10 6
Above 20	and not exceeding	40	10 6	*	1 1 0
"	"	60	1 1 0	10 6	1 1 0
"	"	80	2 2 0	10 6	1 11 6
"	"	100	3 3 0	1 1 0	2 2 0
"	"	150	5 5 0	1 11 6	2 12 6
"	"	200	7 7 0	2 2 0	3 3 0

Houses rated above £200, by arrangement. A number of houses at reduced fees.

* No fee in these cases.

All houses placed on the assurance register to be thoroughly inspected by the officers of the association, who will supply members and subscribers with written reports thereon, specifying what work is required to put the houses in proper sanitary condition. After houses have been reported upon and the members or subscribers have had the work done under the supervision of the officers of the association, and to their satisfaction, certificates will be granted, and thenceforth members' houses will be inspected yearly upon the terms of the above scale.

It will surely be admitted that, if an owner or occupier can obtain competent advice on the sanitary state of his house on the above terms, the arrangement is for him an advantageous one. Although the operations of the Association will be mainly directed towards work in the metropolis, yet arrangements will be made to inspect and report upon houses outside the metropolitan district, at a reasonable rate graduated according to distance. The value of the certificates granted by the above plan must be at once obvious to all, seeing that a time will assuredly come when intending tenants or purchasers will insist upon the production of such documents before committing themselves to the tenancy or purchase of property. To some members of the community it may be a question absolutely of life or death, seeing that there is no doubt that some are much more susceptible to the influence of sewer poison than others, and that in some families enteric fever or diphtheria seems to find naturally a congenial soil. In the case of hotels and lodging houses, the possession of a certificate will be very important, both to the proprietors and to the visitors, especially when the latter are invalids, or perhaps women taking up their residence for the purpose of being confined. This last condition is a very serious one, if the patient be exposed to sewer air, nothing being more likely to produce complications of various kinds, from merely protracted convalescence to fatal puerperal disease. Again all surgical operations are greatly affected by sewer air, to which few surgeons would be willing to expose their patients, even with all the resources of aseptic dressing, great as has been the boon to humanity which the enlightened treatment introduced by Professor Lister has conferred. In many other diseases too, the convalescence is prolonged or altogether prevented, and where the case must inevitably prove fatal sooner or later, the end is often unduly hastened by exposure to sewer air. But perhaps the best gauges of the purity of air are our little children, for none show sooner the effects of its foulness, whether it be due to ordinary want of ventilation or the direct introduction of sewer-poison. The elasticity of youth disappears, the roses fade, comparatively trifling infantile disorders become aggravated into grave maladies, whilst the really serious diseases, such as scarlet fever and the like, become triumphantly fatal. There is, in particular, one fatal malady, still often recorded as "infantile remittent fever," which has undoubtedly its origin in sewer-poison, being in most cases neither more nor less than enteric or typhoid fever inaccurately diagnosed. This is a frequent cause of death among the young, and it is entirely preventable. Surely to obviate such dire results the price to be paid for knowledge of the defects of our house sanitation is by no means a large one. It is a trite saying that it is better to wear out shoes than sheets, and surely it is better to expend a moderate sum in obtaining trustworthy and accurate information, and remedying sanitary defects, than ultimately to pay a heavy doctor's bill, with a damaged constitution to boot. For the accuracy and trustworthiness of the certificates issued, the chief sanitary officer and the surveyor will be personally responsible, and the names of those gentlemen will be a sufficient guarantee that they are not likely to issue any thing that will not itself bear the closest enquiry, or that will in any way compromise either their

own positions and reputations or those of the Association in whose name they will carry out their work. The value of such a plan of inspection and report has been already fully recognized in several places, particularly in our favourite watering-places, the resorts both of invalids and pleasure-seekers. There the local authority insists in more than one place on every house being inspected and approved by the medical officer of health before it is permitted to be occupied. Certain rules are laid down, with reference especially to drainage arrangements, which must be complied with. These rules are not very severe, still they are valuable, and as time goes on they may be extended when the public become convinced of their value and necessity. I have had personally an opportunity of ascertaining those points at Torquay, which is under the charge of my friend, Mr. P. Q. Karkeek, and at Southport, in Lancashire, under my friend Dr. H. Vernon; and I believe the same or similar regulations are in force at other places of known resort. I may further say that the growing assent to the principles adopted by this Association is shown, not only by the already assured success of the movement in Edinburgh and other towns, but by the fact that in London itself another society has lately started, which proposes for itself much the same objects as our Association does. So far from looking upon this in the nature of rivalry, we hail it as a hopeful sign that the want is emphatically making itself felt, and that the spread of knowledge and the appreciation of the necessities of the case will be all the more rapid. There is ample room for the operations of both Associations in the immense field which lies open and almost uncultivated before them.

There remain two points on which I think I ought to say a few words before concluding. One is, that some are inclined to think that the way in which hygienic measures are being pushed in the present day may possibly be detrimental. The second is the question, Ought we to carry out the proposed measures as a private arrangement, or ought we not rather to leave them to the State, which should place responsibility upon the shoulders of official agents, working, say, under the Local Government Board or some such constituted authority? With regard to the first point—the possible injury that improved hygienic measures may entail—the contention is, that we on the one hand preserve feeble lives which would otherwise have ceased, but which now by our unwise interference we preserve alive to be the parents of a ricketty and consumptive offspring; and that, on the other hand, by preventing people taking diseases when they are young we expose them to still greater danger in later years, when their lives are all the more valuable. Thus, by our preventive measures we hinder infants from getting infantile remittent—which is really enteric—fever, and when they grow up they take enteric fever and die, leaving families unprovided for, and so on. By isolating patients with scarlet fever we prevent others from profiting by a mild epidemic and leave them open to perishing when exposed to a malignant one. It is also argued that by trying to extirpate a disease from our own community we prepare the way for untold disasters should the malady ever be introduced again from without, for it would then find an almost virgin soil, and would rage as measles do among the Fiji islanders. You formerly (it is said) encouraged inoculation, and now you encourage vaccination as means of modifying small-pox. Why not do the same with other diseases? Those arguments are specious and plausible, but if carefully examined will be found to lose much of their force. If disease struck down merely the weakly we might partly agree to the proposition, or if we could always ensure the occurrence of a mild prophylactic attack. But we know that disease often strikes at what we look upon as the most valuable lives, and we can never be sure what turn any particular attack may take. Inoculation

appeared at first to be a benefit, and it certainly was to those whom it did not kill, but it did evil by multiplying the foci of disease, and it is more than likely that its introduction was in the main an evil rather than a good. But could we find for our other zymotic diseases such a safeguard as vaccination we could have no hesitation in accepting it. In the meantime we shall be acting most intelligently by preventing disease as much as possible, and if we do so by improving the hygienic condition in which we ourselves live we shall be, I think, doing our best, not only to exterminate existing disease, but to render it impossible for disease in the future to get a foothold among us. Comparatively slight as our progress has yet been, we may now look upon the possible invasion even of cholera with but little apprehension, whilst the plague, if it did reach our shores, would, I am confident, find that his game was up—*que le jeu ne valait pas la chandelle!* As to the idea of our assisting to propagate an enfeebled race, it is to be hoped that in course of time they would cease to be feeble, that hygiene would not stand still, but would find in the future means for remedying, if need were, the errors of the past.

The second point is the question of leaving sanitary measures to be dealt with by the State rather than by private enterprise. Here, I think, we have to consider how far it is advisable for the State to interfere with the subject, and whether a combination of functions may not be the best for all parties. We have in this country a considerable jealousy of State interference, and to a large extent this feeling is a satisfactory one and encourages a spirit of independence. It may, however, be doubted whether it is not sometimes carried too far, so as to impede progress in certain directions, and whether, without desiring to introduce "grandmotherly legislation," it might not be well to give wider scope to the action of the State in these matters. Certain of the larger hygienic questions are undoubtedly the province of the State, and have to some extent been provided for by existing Acts; but when we come to the question of direct compulsory inspection of every dwelling-house by an appointed official, it is felt that there would be a good deal of opposition to this, and that at least at present there would be some difficulty in getting the principle generally recognized. It may ultimately come to that, but legislation to be really successful must never go far beyond the wishes or the comprehension of the people, and it is therefore likely that the carrying out of any such measure would hardly be sanctioned by Parliament or by public opinion at the present time. That being the case it is desirable that the work should be undertaken by private enterprise, so that the good desired may not be unduly delayed, and also with the view of educating the community up to the necessary level of intelligence and appreciation, and so paving the way for more extended measures similar to those which we reasonably hope will now prove a success when undertaken on the voluntary principle. The association will thus have a part in initiating a movement which is likely to be fraught with the greatest possible benefit, not to this country alone, but to mankind at large.





SANITARY ASSURANCE.

SHORT ADDRESSES

By John Eric Erichsen, F.R.S., President of the Royal College of Surgeons; Sir Joseph Fayrer, K.C.S.I., F.R.S.; and R. Brudenell Carter, F.R.C.S.; at the close of Professor de Chaumont's Lecture at the London Institution, March 15th, 1881.



HE Chairman, Mr. ERICHSEN, said: I have been requested to adopt a somewhat unusual course upon the present occasion—to leave the chair and say a few words in support of the admirable and eloquent lecture we have just heard, but in acceding to that request it is not with a feeling that anything I can say can add in the slightest degree to the force of those words to which we have all listened with so much attention. It is impossible to have heard Professor De Chaumont's lecture without feeling that he has most thoroughly laid before this meeting, and, I think, must have convinced all who have listened to him, that the objects of the association which he has advocated are such as are likely to bring the very best, most accurate, and most scientific information with regard to sanitary matters within the easy reach of every member of the community, and so to put everyone in possession, at all events, of that knowledge which would enable him to acquire that greatest of all blessings to himself and to his family—a healthy home.

We all know that the sound mind in the healthy body—the *mens sana in corpore sano*—is the greatest of all blessings; but in order that the mind may be sound the body must be healthy, and for the health of the body it is necessary that the body should in its daily occupations be surrounded by influences that are, at all events, not detrimental to health. These truths are so self-evident at the present day that they scarcely justify repetition, for if there is any one circumstance which appears to me more specially to distinguish modern civilization, it is the attention that is being paid by the educated classes to the laws and to the study of hygiene. There is nothing, I take it, that more distinguishes the civilized man from the savage, or the educated man from the man who is unenlightened, than the scrupulous attention that the civilized and educated man pays to what is, after all, the first law in hygiene—cleanliness in all the actions of his body and all the surroundings of his home. The culture of the civilized man inclines him to it. It becomes almost instinctive. The knowledge acquired by the educated man compels him to it, for if there is one truth that is more determinedly established by modern science than another it is this—that a vast number of these diseases, as Dr. De Chaumont has so eloquently told us to-night, which devastate mankind are *preventible*, and being preventible and *not prevented*, they are self-inflicted. And it is not only, as Dr. De Chaumont has told us, those more fatal diseases the typhus, and the typhoid, and the plague, and the diphtheria, that are so preventible, and that constantly by want of prevention we inflict upon ourselves. There is also

a vast host of the minor diseases that tend to sap greatly the strength and to diminish the happiness of existence, such, as we have been told, are the tendencies to colds, the tendencies to sore throats, lassitude, and low spirits, irritability, and various kinds of indigestion, and of a lower tone of health altogether—these conditions, are tendencies rather than diseases and these tendencies rather than diseases arise equally from the breach of sanitary laws; for just as a breach of the moral law brings prick of conscience and agony of remorse, so the infraction of sanitary law brings in its train unquestionable suffering in some shape or another, and disease. Dr. De Chaumont has in his lecture referred to one point on which I may be supposed to have some knowledge, and that is the influence of these evils arising in dwellings, whether they be large or small, whether for the reception of the sick or the ordinary residences of the inhabitants of great towns—the influence that these bad sanitary arrangements have upon wounds—in other words, surgical operations or surgical injuries. Now, Nature is so beneficent that she has implanted in every human being the power of self-repair, and if a person suffering from a wound were exposed to a perfectly uncontaminated atmosphere upon the top of a Swiss mountain or Highland hill, his wound would heal almost without any effort upon the part of any one. But what happens in large towns like this? Whether in private houses or in hospitals, the wounds become the open portals through which these morbid emanations, these sewer gases, these atmospheres loaded with some putrid organized material, the open portal, by which they pour their deadly poisons into the very recesses of the system, and a vast train of the most fatal diseases are induced, and it is by the introduction of those diseases that people lose their lives after operations and injuries, and those diseases so induced are the direct consequence of exposure of the wounds or the part to the contamination of the atmosphere that surrounds it. The whole science of the surgeon is involved in the attempt to exclude these deleterious influences by elaborate dressings, by chemical processes of all kinds to endeavour either to purify the air, to exclude the air, to filter the air, in some way to disinfect the air, to destroy these fatal germs, and so to render the wound not the immediate and the direct source of their introduction into the system. If we had a healthy atmosphere, if we could by sanitary arrangements somewhat improve the conditions of large towns and the habitations of large towns, a great part of the anxieties, at all events, of the surgeon would be removed, because the patients would recover with little care and little trouble on his part, Nature herself being the best surgeon, the best medicator in those respects.

I have now only to say, ladies and gentlemen, that we must all feel most deeply grateful to Dr. De Chaumont for having brought this very important subject before such an audience as this, and having brought it before us in so admirable, so eloquent, and so exhaustive a manner; and I have been requested to ask that Sir Joseph Fayrer would propose a vote of thanks, in which I am sure we shall all most cordially agree, which perhaps Mr. Brudenell Carter will have the kindness to second.

SIR JOSEPH FAYRER said: Mr. Chairman, I have very much pleasure in responding to the call that you have made upon me. I feel sure that if those who have listened to this very eloquent lecture have appreciated it as much as I have, the vote of thanks you have desired me to ask for will be most cordially given. And I feel also certain that I may include yourself in the same vote, for you have most emphatically added weight to the very valuable information that Dr. de Chaumont has given us. I have listened to the lecture with peculiar pleasure. It was devoid of all technicalities. It was plain, straightforward, simple. It was intelligible to everybody, and I am glad to think that it will

be published. We should be very grateful to Dr. De Chaumont, who in our own country is perhaps the greatest living authority for laying down simple rules that should guide us in the arrangement for the due sanitation of our houses. I have not been in this country very long, but long enough to become aware of what a great and crying want this sanitation of dwellings has become. I know, and see constantly, how people suffer from the want of it, and it has been always a marvel to me in the present state of culture, intelligence, and education how people can have remained so blind as they do remain to the evils that surround them. My firm belief is that it is from want of appreciation of the nature of the causes that produce these evils, that proper remedies are not applied. Many people, not seeing in their own households what is happening, therefore do not believe it. It is, consequently, necessary that knowledge should be spread abroad. This was one of the reasons why this association was formed, and it was this which induced me to take part in it. I fervently hope it will succeed, and that many other similar associations will spring up; for in this great population of London—4,000,000—larger than that of Scotland, what can one association do? We might have a dozen or twenty such to spread the knowledge of how houses may be kept healthy. If people understand that foul emanations come from drains; and that the water we drink, if connected with that with which we flush our sewers, will cause typhoid fever, sore throat, and all the train of diseases which Dr. De Chaumont has so eloquently described, they will the more readily accept the aid of a Sanitary Assurance Association.

MR. BRUDENELL CARTER said: The vote of thanks to Professor De Chaumont, for the interesting paper he has laid before us with such remarkable clearness and felicity, needs no words of mine to make it acceptable to you, but I think it may possibly be of some interest if I venture to trespass upon you for two or three minutes by narrating such illustrations as have come within the scope of my personal experience of the great value that this association may be to actual or intending householders. A good many years ago I was in treaty for a house in Gloucestershire, and I received a visit from a gentleman who was a stranger to me, who said, "The people who formerly lived in that house were friends of mine, and they left it on account of its intolerable smells." The house had been for some time vacant, and there were no smells. I went to the proprietress and said, "I hear this of your house. Will you allow me before I enter into possession to have a thorough investigation made of its condition?" The investigation was made according to my own humble lights. I was told that the smell was chiefly in the drawing-room, a room on the ground floor. I took up the floor, and found that underneath there was an inferior drawing-room, inhabited chiefly by rats, which had been not only their drawing-room, but their refectory and nursery, into which there opened many passages leading by subterranean ways to adjacent stables, farm yards, and other receptacles of more or less odoriferous material. Well, I had all this cleared away. I had the openings made good with concrete and powdered glass, and slates laid down, and, unfortunately, I was therewith content. I took the house. Shortly afterwards the smells returned in their full vigour, and I was reluctantly driven to the conclusion that, after all, the rats could only have been humble assistants in the general work of stench that was going on. I investigated further, and found that the principal soil pipe of the house descended in the back wall, and was embedded in its thickness until it reached just below the ground level; it then made a turn at a right angle to go into a drain or sewer, and where the vertical descending portion of the pipe joined the horizontal portion, the local workman or "shore hand" as he would probably be called, had contented himself with bringing the horizontal and vertical pipes as nearly

together as possible, and then putting a slate on a slope by which material might be conducted from the one pipe to the other. Everything leaked out, and the state of the house was horrible beyond description. That had to be remedied, and a considerable sum it cost. If such an association as this had existed there, the certificate would have been required from the landlady, and would have been a sufficient protection against such evils. You may say this was in a remote part of the country. Granted. I came to London, and took a house in Wimpole Street that had been vacant for twelve months. The landlord of the house had had it painted and generally put into the condition of a whited sepulchre. The drains, I was told, were all right. I had not been in the house long when a squeal from the women servants disturbed my meditations, and on inquiry into the cause I found that a rat had come into the kitchen. My first impression was that this rat had opened up a connection with the main sewer. I sent my family to Brighton. I had workmen in, and had up the basement. I then found that on the Duke of Portland's estate in Wimpole Street, and in a house for which a tolerably large rent was demanded and paid, we were not even connected with the main sewer of the street, and that we were living over a honeycomb of cesspools containing the excreta of countless generations of people who lived there before. I was put to an expense of at least £100 in emptying those cesspools and laying down drains, all of which I should have been saved if such an association as this had been in existence, and the landlord had been compelled, as he could have been, to see that his house was in a sanitary condition before he let it to a tenant.

The vote of thanks was carried with acclamation.

PROFESSOR DE CHAUMONT acknowledged the vote of thanks, and said his main object had been to put before the meeting the objects of the Sanitary Assurance Association.



The Sanitary Assurance Association,

(INSTITUTED 1880; INCORPORATED FEBRUARY 12TH, 1881.)

5, ARGYLL PLACE, REGENT STREET, LONDON, W.

Entrance Fee, Half-a-Guinea.

Annual Subscription, Half-a-Guinea. Life Subscription, Five Guineas.

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LONDON AND SOUTH WESTERN BANK, LIMITED.

Subscriptions to the Association will be received by the Bankers,

At 7, Fenchurch Street, E.C.; 27, Regent Street, S.W.; and at all other Branches of the Bank.

Solicitors.

FRANK RICHARDSON & SADLER, 28, Golden Square, Regent Street, W.

Chief Sanitary Officer.

PROFESSOR W. H. CORFIELD, 10, Bolton Row, Mayfair, W.

Surveyor.

MARK H. JUDGE, Esq., 8, Park Place Villas, W.

Secretary.

JOSEPH HADLEY, Esq., 5, Argyll Place, Regent Street, W.

The Sanitary Assurance Association.

Instituted 1880. Incorporated February 12th, 1881.

PROSPECTUS.

THE Sanitary Assurance Association has been formed to promote the application of sanitary knowledge to dwelling houses, and having now received the support and assistance of persons eminent in science, the Executive Council deem it advisable to explain the special character of the Association, and to point out the manner in which its work will be carried out.

The chief object in view is to apply the combined sanitary knowledge and experience of medical men, architects, and others, by means of specially qualified officers, who shall yearly inspect the houses of members, and report upon their drainage, water-supply, and ventilation, on such terms as may include the dwellings of all classes of the community.

It is true that within certain areas the law requires that some provision for house drainage shall be made; but it is not as yet required, nor is it desirable, that public officers should visit every inhabited house and regulate its internal arrangements. On the other hand, it is by no means satisfactory that any house should be left without examination when it is remembered that from a single dwelling the poison of infection may spread and seriously injure a whole neighbourhood.

This Association will enable every member and subscriber, for a moderate fee, to have the sanitary condition of his house reported on yearly by those specially skilled in sanitary matters, a form of expenditure by which a prudent householder would rather discover the condition of his house than by the disastrous and costly results of an outbreak of serious and perhaps fatal disease.

While architects generally appreciate the importance of attending to the sanitary arrangements of the buildings designed by them, prominent members of the profession recognise the value of the practical knowledge of those specially engaged in such matters, and have given their hearty support to the Association. Members of the medical profession have not only joined the Association, but have assisted the Executive Council by their advice, and in this, as in other instances, have shown a laudable desire to promote the observance of sanitary laws in the homes of the people.

That the objects of the Association may be the better effected, it has been formed of two classes—(1) Members who are responsible to a certain amount for the necessary expenses of the Association and who have a voice in the management of its affairs; (2) Subscribers who incur no liability and who will take no part in the management of the Association.

The Association not being formed for executing works, leaves the members and subscribers to employ any person they may select to carry out the recommendations of its officers.

Members and subscribers alike contribute an entrance fee of half-a-guinea and an annual subscription of half-a-guinea, or a life-subscription of five guineas, and on payment in accordance with the graduated scale they are entitled to have one house in London placed on the Assurance Register. The fees for houses outside the metropolitan district will be increased according to distance.

Every house placed on the Assurance Register will be thoroughly inspected by the officers, who will supply the member or subscriber with a written report thereon, specifying what work is required to put the house into proper condition, so far as drainage, water-supply, and ventilation are concerned. After a house has been reported on, and the member or subscriber has had the work done by his own builder, to the satisfaction of the officers of the Association, certificates will be granted, and thenceforth such house will be inspected yearly upon the terms of the following scale:—

SCALE OF FEES TO MEMBERS AND SUBSCRIBERS FOR HOUSES IN LONDON.												
HOUSES RATED AT				For First Inspection, Report, Super- vision of Work, and Certificate.			Subsequent Annual Inspection (Report, etc., if necessary), and Endorsement of Certificate.			Block Plan showing Sewers, etc., when ordered by Member or Subscriber.		
£		£		£	s.	d.	£	s.	d.	£	s.	d.
	20	and under	20	* ...	...	...	* ...	...	...	0	10	6
Above	20	and not exceeding	40	0	10	6	* ...	...	...	1	1	0
"	40	"	60	1	1	0	0	10	6	1	1	0
"	60	"	80	2	2	0	0	10	6	1	11	6
"	80	"	100	3	3	0	1	1	0	2	2	0
"	100	"	150	5	5	0	1	11	6	2	12	6
"	150	"	200	7	7	0	2	2	0	3	3	0
Houses rated above £200 by arrangement. A number of houses for one Member or Subscriber at reduced fees. Travelling expenses beyond the four mile radius, extra.												
* Members and Subscribers are not charged any Fee in these cases.												

In addition to supervising the sanitary arrangements of houses already built, the association is prepared to examine and report on plans of the drainage, etc., of new houses, and also to furnish plans and specifications for sanitary arrangements in connection with new buildings of every kind.

The management of the Association is vested in the Executive Council, and in order to secure that special knowledge which the nature of the work demands, the Articles of Association require that at least one half of the gentlemen comprising this Council shall be medical men and architects.

A CHIEF SANITARY OFFICER of wide experience in house sanitation, and a SURVEYOR who has given special attention to this subject, have been appointed.

An Honorary Council, consisting of persons interested in the progress of sanitary science and the improvement of the public health, has been elected for co-operation with the Executive Council as occasion arises; and from time to time the Association will publish reports on matters connected with house sanitation.

The income and property of the Association will be applied solely towards the promotion of its objects, and no portion thereof will be paid by way of dividend or profit to the members or subscribers.

Bearing in mind the deadly nature of sewer air, and how much the public health suffers from the present unhealthy condition of the houses of both rich and poor, particularly in such crowded centres of population as London, the Executive Council feel that such an organisation as the Sanitary Assurance Association is imperatively called for.

The Sanitary Assurance Association.

(Instituted 1880, Incorporated February 12th, 1881.)

Entrance Fee, Half-a-Guinea.

Annual Subscription, Half-a-Guinea.

Life Subscription, Five Guineas.

OBJECTS.

“THE Practical Application of Sanitary Science generally, and especially the encouragement and development of proper systems of house-drainage, water supply, and ventilation.

“The Examination, Inspection of and Reporting on houses and buildings, or plans of houses and buildings, either erected, in course of erection, or to be erected, as regards their Sanitary arrangements; the supervision by the Officers of the Association of any work done, or to be done, by or on behalf of the Members of or Subscribers to the Association in connection with the Sanitary condition of such houses or buildings; and the granting of Certificates relative thereto.

“The Publishing of Reports on matters connected with the progress of Sanitary Science in the United Kingdom and abroad, and the distribution at the end of each year of any surplus funds, or part of any surplus funds, to such Institutions as are devoted to the advancement of Sanitary Science.”

Offices—5, Argyll Place, Regent Street, W.

Hours, 10 till 5; Saturdays, 10 till 2.



The Sanitary Assurance Association.

Reprinted from "Nature" of November 18th, 1880.

IT is admitted on all hands that a vast amount of unnecessary disease, suffering, and death is caused by defective sanitary arrangements, especially as regards drainage. A few years ago, so long as there was no foul smell, and all the pipes were "properly trapped," everybody was satisfied; but properly trapped usually meant improperly ventilated, or not ventilated at all, and we know now that foul gases will pass steadily, continuously, and certainly through water in traps.

Clinical observation having demonstrated the fact that sewer air produced diseases, the prevention of the entering of such foul air into houses became of paramount importance; and the matter being thus brought to so narrow an issue, the application of well-known physical laws was all that was required; it was necessary to study the circumstances under which foul air was produced, to prevent its production as far as possible, and to take such precautions that foul air, even if formed, could not accumulate and could not find its way into houses.

Science has done much, both directly and indirectly, towards the prolongation of life; and certainly not the least important of the results of the application of scientific methods to this end in recent years has been the discovery of the ways in which a house can be made practically sewer-air proof. The laws of health are being studied more and more every day, and will soon be taught as a matter of course in all our schools: they are already recognised as a special subject of study at the Universities. People are beginning to perceive that their health is a matter which is very largely indeed in their own hands, and are beginning to turn this knowledge to account in the matter of house sanitation. At the first meeting of the Sanitary Assurance Association, presided over by Sir Joseph Fayrer, eminent members of the two professions which must always occupy the most responsible position in connection with household sanitary matters, the professions of medicine and architecture, bore ample evidence to this fact, and at the same time to the necessity for some organization by which the benefit of the best advice on such matters may be brought within the reach of the many. At this meeting Mr. Mark H. Judge pointed out that the Association "was the outcome of efforts which had been going on for some months to bring together architects and medical men in connection with the important question of house sanitation," and the names already identified with the Association are a sufficient guarantee that it will be both practical and permanent in its character. Sir Joseph Fayrer rightly stated in his opening address that "there is a terrible absence of all supervision of sanitary arrangements and drainage in many of the houses of the metropolis," and that although the richer classes of the population are able to get that sanitary advice which will enable them to make their houses wholesome, "there

is an enormous population left, as regards which such a thing is hardly possible." Saying that he believed the idea was beginning to grow that "sanitation generally will increase the value of life," he continued, "over and over again it has come to my knowledge, and even occurred under my own observation, that families, children, and servants have suffered by the defects of drainage or sewer-air—that great enemy to public health. I would venture to offer no opinion as to the nature of the diseases that proceed from sewer-air, nor even enter into any discussion on the precise character of the air—the nature of the germs and the character of the poisons that it communicates; but that it does destroy health and induce disease is beyond a doubt. That it is greatly under the control of sanitary law is equally certain, and there are men now who have so studied and comprehended the nature of those laws, that they are able, practically as well as theoretically, to give that assistance and that advice which should render those conditions almost innocuous—in fact it should prevent them altogether."

Dr. Andrew Clark, after stating that he considered the Association "one of the most pressing needs of the present time," added:—"Furthermore I am convinced that if the Association can secure and retain the services of men with the scientific and practical knowledge possessed by Professor Corfield, and will hold itself free from undertaking the execution of the works which it may suggest, superintend, and from time to time certify as sufficient, it will do important service to the public, and confer much and just credit upon all concerned."

Mr. Edwin Chadwick, the veteran sanitarian, said that "he constantly advised people, from his knowledge, 'Do not take that house unless you have it examined first. If the drains are out of order do not take it till they are put right.' That was exactly what this Association had to supply."

We are happy to state that the formation of the Association was decided upon, and the following gentlemen were appointed a committee to organise it:—George Aitcheson, F.R.I.B.A.; Professor W. H. Corfield, M.A., M.D.; Professor F. de Chaumont, M.D., F.R.S.; Mark H. Judge; Professor T. Hayter Lewis, F.S.A.; H. Rutherford, Barrister-at-Law; with Professor Corfield as Chief Sanitary Officer, and Mr. Judge as Surveyor.

It is surely as necessary to be assured against preventible diseases as it is to be assured against fire, and we see from the preliminary prospectus issued that it is intended to give persons who place their houses on the Assurance Register certificates that their houses are in a satisfactory sanitary condition, and to endorse such certificates from time to time; this latter point is of great importance, as it is only by regular inspection at stated intervals that it is possible to ascertain that all continues to work satisfactorily.

A very important feature is also the proposal to examine and report on the plans of new houses, for there is at present absolutely no control exerted over the sanitary arrangements of new houses in the metropolis.

We have given such prominence to this matter because we believe that the Association will supply a widely-felt want, and will do good not only directly but indirectly too; thus, wise builders will take care to have their houses supervised and certified, and will reap their reward in increased facilities for letting; architects will submit their plans for criticism and suggestion; and so the public will in many ways reap a lasting benefit. In this country few new things succeed unless public opinion is ripe for them. We are slow to adopt new ideas; but we have now learnt the importance of preventing disease, we believe that much of our health depends on the perfection of the drainage arrangements of our houses, and we are ready to place them in the hands of an association in which we can have confidence.

