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ON THE PUBLIC HEALTH:
BEING THE
INTRODUCTORY ADDRESS

DELIVERED AT THE OPENING OF
THE MEDICAL SESSION
OF THE
QUEEN'S COLLEGE, BIRMINGHAM.

(PUBLISHED AT THE REQUEST OF THE COUNCIL).

BY
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M.DCCC.LV.

OF THE PUBLIC HEALTH

AND

INTRODUCTORY ADDRESS

DELIVERED AT THE ANNUAL MEETING OF THE

ROYAL SANITARY INSTITUTE

THE MEDICAL SESSION

OF THE

ROYAL SANITARY INSTITUTE

THE INSTITUTE

OF THE PUBLIC HEALTH

AND

R. D. CHALZAR, F.R.S.

OF THE

ROYAL SANITARY INSTITUTE

THE INSTITUTE

OF THE PUBLIC HEALTH

AND

IN THE

ROYAL SANITARY INSTITUTE

OF THE

3 Sept 1858

409

To

SAMUEL WILSON WARNEFORD, LL.D.

The Visitor;

THE RIGHT HON. LORD LYTTELTON,

The Principal;

THE REV. AND WORSHIPFUL CHANCELLOR LAW,

The Vice-Principal;

THE COUNCIL,

AND TO THE PROFESSORS,

This Lecture

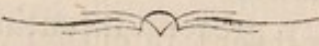
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THE
INTRODUCTORY ADDRESS,

&c. &c.



MY LORD AND GENTLEMEN,

It is with no ordinary feelings of satisfaction that, owing to the invitation of the Council and of the distinguished Professors of this College, I am permitted to take a part in the proceedings of this day.

Amidst the bustle and turmoil of human affairs, there are few occasions which, apart from the supreme concerns of the soul, are calculated to excite such interest as these annual gatherings in our halls of science and learning. There is something specially inspiring in witnessing the assemblage of young men taking the first great step in the actual business of life; full of ardent zeal, and aspiring to those honours which, whilst they serve to stimulate the student in his career, remain the lasting rewards of academic distinction.

But apart from considerations such as these, I cannot, as a native of this our great Midland Capital, remain unmoved on seeing around me in the museums, the libraries, the laboratories of this great Institution, such enduring monuments of the energy, the munificence, and the elevated views of my fellow-townsmen; first among whom within these walls, I am proud to place the school companion and friend of my earlier days. Though our subsequent fortunes have led us apart from the common path which in our boyish age we trod together, I have never ceased to watch the honorable and distinguished career of him, whom I believe it is no misnomer to designate, as the founder of Queen's College, and the Queen's Hospital.*

Called upon to open this new Session, each of which is as it were the birthday of science, I am not unmindful that we are honoured, in addition to the members of our profession, with

* Professor Sands Cox.

the presence of many of the authorities of this city,—of gentlemen who are deeply interested in all that concerns the physical, the moral, and the religious welfare of its industrious inhabitants.

It has been suggested to me that it might not be altogether without advantage, if, on such an occasion, the attention of this distinguished assemblage were directed to a topic which, in a social aspect, may be said to be the absorbing question of the day; and which would appear to be so far suitable to this mixed audience, that it is difficult to say whether it more concerns the medical profession, or the community at large. I allude to the Public Health.

It forms no part of my present intention to enter into details or statistics; still less do I propose to engage in any discussion of what may be the sanitary state, or the sanitary deficiencies of this city. On all these points the authorities will find, in the eminent physicians and surgeons of Birmingham, advisers competent to suggest whatever may be wanting for the improvement of the public health. My object will be rather to lay before you some of the more leading facts connected with the public health; to attempt the removal of error; and to glance at the means by which, it is conceived, the evils under which we labour may be lessened in intensity, even when it may be impracticable fully to eradicate them.

In these eventful times each man, even the most apathetic, is startled into attention by calamities, which, on the sacred authority of Revelation, we cannot but recognise as being the very judgments which the Almighty has poured out on erring, disobedient, and sinful nations—war and pestilence—and, but by the Divine mercy, famine. We are, indeed, taught by all experience that each and every violation of the moral and physical laws of God's creation is visited with its specific punishment, as if to guide mankind by unmistakeable indications in what path they can alone safely tread. Lust, and drunkenness, and excess, each has its own reward; and, if the universal voice of medical science in all ages has any significance, filth and neglect, and apathy, are visited by desolating and ever-recurring epidemics.

It may readily be objected that this is all trite, and quite familiar, yet it has fallen to my lot, as it has happened to every practitioner acquainted with the masses of the people, to see multitudes of the industrial classes, living, and for the most part by no choice of their own, in the daily violation of all that concerns decency and health; crowded together at night; breathing an atmosphere permanently tainted with their own excreta; often compelled even in the richer parts of the Metropolis, to say

nothing of the great manufacturing towns, by the ever increasing difficulty of finding house room, to dwell in dark, damp, underground kitchens and cellars, never intended for human habitation; and owing to the scantiness or entire want of water, entirely deprived as to themselves and their children, of all means for securing that cleansing of the body, without which, health, in the true acceptation of the word, is impossible.

With these preliminary remarks I proceed to consider in the first place, a subject on which, notwithstanding all that has been written and said, there exist very imperfect conceptions, the extent namely, of those sanitary evils, which unhappily prevail in all populous places, and from which, even many rural districts are in no degree exempt. And here I would notice a widely spread but most fundamental error, respecting the healthiness or unhealthiness of any particular district. Nothing is more common when such a point is to be considered, than for those interested to adduce the old age attained by some individuals, as an indisputable proof of the superior healthiness of the locality; specially I have remarked, that if any peculiarly offensive and stinking occupation is in question—bone-boiling, or gut-spinning, for example, some few old workmen are paraded forth to show how healthy is the trade. Gentlemen, these octogenarians are but the representatives of hundreds or thousands in the grave, cut off in the vigour of manhood, and specially in infancy, victims of those deadly emanations, which a few like the survivors on the field of battle, have been able to escape. Let us well understand, that the true tests of unhealthiness are to be found not in a dozen decrepit men and women, but in such facts as these—the death rate—how many die in a given number in a given time? At what age do they die? And of what disease? But further, if we would know in its full extent, what is the amount of that excessive sickness and death, of which we hear so much, we must well distinguish between that mortality which is inherent in our nature, and that which is the result of incidental agencies, or inevitable and preventible mortality. It would require a searching scrutiny to determine the precise amount of the former; but there are hundreds of localities where the annual mortality does not exceed 13, 14, or 15 per 1000, of the inhabitants; all above this depends on causes not natural, and which it is certain as will presently appear, is susceptible of great reduction if not of eradication.

1.—*Death Rate.* The following are a few illustrative facts, showing the annual amount of deaths in a thousand of the inhabitants:—

England—mean mortality in..... 1851 ... 22.5

Surrey (rural parts) mean mortality in	1851	...	17.0
Wivelsfield, Sussex.....	„	...	15.0
Coquet and South Tyne District	„	...	14.0
London	„	...	24.5
Birmingham (Parish of) in	1849	...	23.2
————— Aston.....	„	...	19.6
————— Edgebaston	„	...	11.8
Birmingham (Parish of) in.....	1850	...	23.5
—————	1851	...	27.1
—————	1852	...	26.9
—————	1853	...	26.7
—————	one year to 1854	...	30.8
Liverpool.....		...	34.0

These instances are marked enough, but if the matter were more deeply sifted, the results would be much more striking. Take for example the place called "The Potteries," in the Parish of Kensington, with a population of 1,263, living, as I know, having had occasion to visit this locality officially, in the midst of stinking piggeries, having no water supply, no means of getting rid of the filth and excrement, and ravaged by every kind of pestilence; the mortality in 1851 was 51. In the Model Lodging Houses, with a population of 1,343, the mortality in the same year was 10, showing an excess against "The Potteries," and that too with a smaller population of 41.* What this sacrifice means on a large scale will appear from the fact, that if the year's mortality of London, which actually was in round numbers 54,000, had been on the scale of "The Potteries," it would have been 94,000: whilst, on that of the Model Lodging Houses, it would have been 31,000.

2.—*Age at Death.* There is no test of preventible sickness and death more certain, or by the general public less understood, than infantile mortality; and for this sufficient reason, that here there are none of those disturbing causes which operate in the case of adults—no unwholesome occupation, no drunkenness, or other vicious and destructive habits. True it is, that in populous districts, these poor infants are often sadly neglected by their mothers, working for instance in factories, whilst their tender offspring are left at home in care of children scarcely older than themselves; or worse still, poisoned by Godfrey's Cordial: but allowing for all this, young children, with their vital processes in excessive activity, the substance of their body rapidly changing, and so specially susceptible of noxious

* See the valuable pamphlet of my distinguished friend, Dr. Southwood Smith, "Results of Sanitary Improvement," p. 10.

agents, constitute one of the surest indications of those deleterious influences which are generated in unhealthy localities, and which it is the province of sanitary reformation to eradicate. A few years ago, more than half the children born in Liverpool were dead in five years; in Birmingham, rather less than half; in the healthy parts of Surrey, one-fifth. Now, let us apply a more searching test: in 1853 there died in London, of children under 10 years of age, 24,661, being at the rate of 46 to 1,000 living; in the Potteries, 42, or at the rate of 109 to 1,000 children; and in the Model Lodging Houses, 5, or 10 to 1,000 living. From what causes these unhappy children perish we shall see presently; but as one indication, I would here call your attention to this remarkable fact, that among the many hundred inhabitants of the Model Lodging Houses, some of which have been open ten years and swarm with children, there has not been a single death from small-pox or scarlet fever, those destructive infantile pestilences; whilst, in a town in Gloucestershire, which some time ago I had occasion to visit, in one court with 22 families, there had been, in two months, 13 cases of small-pox and 3 deaths.

I cannot incidentally allude to this loathsome disease, without tendering to you, my Lord, my thanks for the efforts you have made to relieve the people of this country from the ravages of Small-pox. It has pleased Almighty God, to place in our hands, a perfect or almost perfect protection against this scourge; and yet how many thousands still are allowed to perish in the United Kingdom—victims of neglect, ignorance, and prejudice. In the decennial period 1831-40, Small-pox in Ireland killed 56,000 persons, of whom 79 per cent. or 45,000 were children under the age of five, who, if they had been properly vaccinated, might, so far as that pestilence was concerned, have been in existence.

But to pass on: of those who escape the desolating pestilence of childhood, how many perish in the prime of life, from other preventible diseases; and especially from fever, the great pauperizer as it has been truly denominated. The loss thus inflicted on the community, is little guessed by those who are so heavily taxed in the shape of poor rates. A short time ago, I inspected the books of a fever hospital, in a large manufacturing locality; and I found that in one week, no fewer than 17 cases of fever had been brought from two crowded lodging-houses, at a cost to the parish of £50. On the same day, I visited a poor mechanic, in the receipt of 17s. a week when at work; he had been on his back for several weeks from typhus; and I found that before he would be able to resume his employment, he would have lost £10 4s. This man lived in a row of houses built back

to back, and the surgeon was satisfied, that the foul atmosphere generated from the impossibility of obtaining ventilation, was the essential cause of the attack.

3.—*What diseases kill?*—In this rapid sketch, I can scarcely pause to consider what diseases are developed by sanitary neglect: they might be put in the aggregate as those of the epidemic or zymotic class, now so familiar as not even requiring to be named, but of which fever in its multitudinous forms, gastric disturbance, diarrhœa, and cholera are the most potent. There is great reason to infer, acquired from an experience almost unbounded, that these pestilential diseases, as a class, form no necessary part of man's existence, whatever may be the seeming evidence to the contrary: this we certainly know, that without an exception as sanitary ameliorations are effected, not only one, but what is infinitely more significant, the whole class diminishes in intensity, or even and that too in extended instances, for a time is extirpated. I have known repeated instances where in country villages, owing to the unwearied sanitary efforts of medical men, typhus fever has thus been rooted out. I need hardly tell you that another most destructive fever—ague, has been eradicated by drainage, &c. in many districts where formerly it was rife. Even in the case of the eruptive fevers, where many would suppose nothing could be done in these so-called natural diseases of children, similar results have been obtained: they are developed and intensified in unhealthy conditions; and all but driven out by thorough and comprehensive ameliorations. Thus scarlet fever, one of the most malignant of the class, is frightfully developed in such places as the cellar dwellings of Marylebone; where, as I have ascertained by personal investigation, the treatment of any serious disease is almost hopeless; whilst in the Model Dwellings, as I have mentioned, not one death from this disease has yet taken place.

It is not intended by these remarks to confine the evils springing from filth and neglect to epidemic disease; a multitude of other maladies are thus induced. Take, for example, consumption; nothing is better established than the fact, that of all the predisposing causes of phthisis, the respiration of a polluted atmosphere is the most pernicious. Again, the destructive convulsions of infants, so prevalent in foul localities, are, among other causes, induced by poisonous effluvia.

But I must now briefly call your attention to what is the great consideration—the causes namely of preventible sickness and mortality. Rightly to appreciate these, a deep insight into the laws of life is essential; these laws it will be your object to

investigate. But for the general public, it is most desirable they should know something of the nature and operation of the various agents by which they are surrounded, and to which they are subject at each moment of existence. Specially should they have a clear and abiding perception of such principles as these :—

1.—That the human body is subjected to forces as inflexible and constant as those of gravitation or of chemical action.

2.—That the living machine is incessantly in mutation, the matter of which it is formed being at each moment renewed, that which has for a time formed the body being cast out and new substances—solid, liquid, and gaseous, being introduced from without.

3.—That the activity of this change is something enormous ; in proof of which it may suffice to state that in 24 hours no less a quantity of blood than 24 hogsheads circulates through the lungs in every human being, there to be acted on by 36 hogsheads of atmospheric air.

4.—That great as are the powers of the animal economy, when deleterious matters have once found their way into the interior of the body, there is nothing to prevent them being absorbed into and poisoning the blood ; there is no choice, no selection, Nature having provided a sufficient safeguard, in the instinct of animals, and the intelligence, when properly exercised, of man : bad food or even poison dissolved in the stomach ultimately reaches the circulating vital fluid ; bad water (polluted as so often happens by the soakage of cesspools and illconstructed drains) when drank is at once taken up into the blood ; whilst every kind of impurity in the atmosphere enters the same liquid by the way of respiration.

Thus surrounded by ever-acting forces, and exchanging matter every instant with the external world, how essential is it to a being thus circumstanced, to scrutinise the laws and conditions under which alone he can exist. There is indeed one class of the community, the object of whose life is to discover, to investigate, and, so far as it is given to man, to control these very agents. This being so, is it not a strange phenomenon, that in a subject thus specially pertaining to the medical profession ; in a question of which medical men alone can be the true exponents ; and in which, if such sordid motives could operate, it is their interest to cloak the truth ; in a matter like this, as, if by common consent, the members of our profession are scarcely listened to when they proclaim the laws of sanitary science, nay, are often visited with worldly censure when they advocate the claims of the poor to sanitary amelioration. And yet, it touches the deepest

interests of human society that medical science should be heard in this matter; inasmuch as there is no department of our profession in which there is so universal an agreement as in this, both as to the causes and the remedies of that excessive mortality now prevalent in all populous localities. We hear a great deal about opposing opinions on contagion, quarantine, and so forth; but the community should know that, on the great principles of the public health, all medical men are agreed: the sanitary sceptic is not to be found in our ranks. Surely this ought to be encouraging, and something more; such an universal concurrence of opinion, should lead to more efficient and enlightened legislation; and especially now, when the reiterated but neglected warnings given by our profession, have received, in two devastating epidemics, such fearful confirmation.

To what, then, does medical science point as the source of these destructive diseases? In one word, to uncleanness: to unclean houses, streets, and alleys; to unclean dwellings; to unclean water; to unclean atmosphere. And here, who can avoid reflecting on the plain declarations in relation to this matter, of the all-wise and all-merciful Creator, to be found equally in the book of Nature as of Revelation. Can no lesson be gathered from the scrupulous cleanliness, both as to their bodies and their domiciles, impressed on all the free denizens of nature? How carefully does every animal avoid the pollution of its excrement; and how sedulously does it cleanse its body, whether covered with feathers, hair, or even shell, as we may learn, even from so humble a creature as the prawn, in an aquarium. But, ascending to the more clear and unmistakable light of Revelation, in the Mosaic laws there is to be found a sanitary code, as comprehensive as it is exact; no unclean thing was to remain within the dwellings of the chosen people; the refuse of slain animals was to be burnt without the camp, instead as we see it accumulated in slaughter houses or running along the gutters in our towns; the house that was foul was to be thoroughly cleansed, "scraped and plastered," and if this were not sufficient to take away the "fretting leprosy," the priest, for all had the sanction of religion, was "to break down the house." How many hundreds, nay, thousands of deplorable pest-breeding dwellings have I seen, unfitting for human habitations, and yet, without any effort being made to improve them, allowed to be occupied, family after family taking up their abode only to sicken and not unfrequently to die.

Still more remarkable is the ordinance for the removal of human excreta; for there is not only the express injunction, but the most solemn denunciation against its infraction, even the withdrawal of the Divine presence; "for the Lord thy God

walketh in the midst of thy camp;" "therefore shall thy camp be holy, that he see no unclean thing in thee, and turn away from thee."*

Important as are the causes of unhealthiness, I can only touch briefly on a few of the most active. These unquestionably consist of all agencies which contaminate the air we breathe: the emanations from human beings when crowded together; the effluvia from cesspools; the poisonous gases from sewers and drains; all putrid animal and vegetable matter. I have placed overcrowding first, because, so far as I have seen, it is the most intense of all these noxious agents; and that it should be so, will be no mystery to you, Gentlemen, who cultivate physiology. The excretions from the lungs and skin contain the most deadly matter: being carried off for the most part by the breath and perspiration, it is indeed invisible; but being the very debris and waste of the bodily organs, it is more completely dead than even decaying flesh or putrid excrement. To re-introduce into the system—a thing which must happen to those who breathe in overcrowded rooms—a matter thus deadly, and for the elimination of which Nature has made such express provision, must be most pernicious, since this putrescent matter getting into the circulating blood, acts as a ferment and poisons the whole system. I have witnessed the most destructive outbreaks of cholera amongst young persons, shortly before in rude health, well clothed, abundantly fed, merely from being subject to the one evil of overcrowding.

Next to overcrowding, indisputably, is the deadly influence of a cesspool or privy atmosphere; a point the more to be insisted on, since the most profound errors still prevail among the public and even the educated classes in reference to it. I have been repeatedly assured that the air of a privy, so far from being dangerous, was particularly wholesome; some well-to-do people have even remonstrated against the contrary opinion, asserting that they had resided all their lives near to a cesspool, and yet were perfectly well; nay, to such an extent does this ignorance prevail, that at this very day there are parts of England where privy exhalations are held to be curative in certain infantile diseases. On the contrary, it is the universal conviction of all medical practitioners acquainted with populous localities, that until every privy and cesspool in crowded localities is abolished, there can be in such places no real health among the masses of the people. So long ago as 1840, my attention was called to the fact, that in courts and alleys, the families residing in the

* Deuteronomy, c. xxiii. v. 12, *et seq.* This subject is treated of in "A Sermon preached in the Cathedral of Manchester, by the Rev. C. Richardson," with valuable notes by my friend and colleague, Dr. Sutherland.

houses opposite to or on the side of the common privy—all other things being equal—suffered much more severely from every form of zymotic disease than their immediate neighbours. The same thing was strikingly brought before my notice in all parts of the kingdom during the cholera of 1849 and subsequently; so well known is this to the poor, that they often refuse to occupy such houses; and I have in consequence seen them repeatedly untenanted and going to decay. But the mischief is by no means confined to the poor. I have known repeated instances of fever, and especially of the gastric type, among the wealthy classes, who have been subject to this influence. Children and women, being more delicate and more in-doors, are more liable to these attacks, which in their slighter forms are often mistaken for bilious affections. In some large towns it is common to have huge cesspools, or “dumb-wells,” as they are called, in the cellars, where the accumulation may go on for years, the families suffering from various forms of sickness, known by the medical attendant to be dependent on this deleterious custom. In several instances that have lately come to my knowledge, where under the Public Health Act these deposits have been removed, and cleanly water closets and pipe drains substituted, the improved health of the inmates has been so marked as to attract general attention. You may be sure, Gentlemen, the time is approaching when all these abominations will be swept away; and that even every mechanic’s family will have—as in many improved localities they already possess—a decent water closet in place of a bestial privy.

As the public health suffers to a serious extent from another class of excreta, and as here again popular faith is at fault, it may be as well to point out that the effluvia from stables and cow-stalls are most deleterious; and this must be maintained, though the atmosphere of the latter has long been held to be most beneficial to consumptive patients. I had occasion expressly to enquire into this matter; and have found that persons habitually breathing an air thus impregnated—the fixed inhabitants of mews for example, who live over stables—suffer most seriously, and especially the children, from all forms of gastric disturbance, frequently complicated with fever. A curious illustration of this occurred lately in a West-End London hospital, where so many cases of fever were brought from the neighbouring mews, that at length the students wanted no other indication for their diagnosis in the case of such a patient, than the stable smell proceeding from the body.

Time forbids me to touch on many causes affecting the public health—such as drainage, noxious trades, and so forth—but I would submit a passing remark on two points of primary

importance: the construction of houses, and the supply of water. As to the former point, I would here merely call attention to the great injury inflicted on the labouring classes by the system, so common in all large and growing towns, and which I learn is practised in Birmingham, of building houses back to back. I never conversed with a medical man who did not condemn this practice as preventing all effectual ventilation. I have known repeated instances where lingering fevers and severe cholera have been directly traced to this evil mode of construction. Where economy of space must be practised, it would be infinitely preferable if large and lofty blocks of houses were substituted, as has been done in the Metropolitan Model Lodging Houses. Of course, in such dwellings, all the proper appliances must be combined: a water supply at high pressure, a water closet for each set of rooms, and a dust shaft. No serious inconvenience is then experienced; and owing to the airiness and superior healthiness of the highest rooms, these, in the instance just adduced, have been sought after by mechanics in preference to those below.

As to the question of a proper supply of water, it is only now becoming generally understood. In towns nothing is more common than to find the well water polluted by foul soakage from the vicinity of cesspools, drains, and crowded churchyards. Repeated instances of attacks of cholera originating in the use of impure water have come before my notice. In the country, the poor are often compelled to drink ditch water, than which nothing is more likely to disturb the bowels, especially in an epidemic period.

But independently of what is wanted for potable and culinary purposes, no house, even the humblest, ought to be considered as properly provided unless there are ample means of ablution for every inmate: these exist in the model buildings, and the high health of their inhabitants is partly attributable to that circumstance. All medical men are agreed on this point: how much is health invigorated and disease controlled by daily cold ablution and thorough friction to excite a powerful re-action in the circulation of the surface.* The knowledge now possessed of the structure of the skin, as revealed by the microscope, has given us a clearer conception as to how a neglect of personal cleanliness injures the general health. My non-professional auditors may form some conception of the matter, when they are told that in a square inch of the outer surface between two and three thousand glands exist for carrying off the perspiration;

* It is hardly necessary to say, by way of caution, that some delicate and exhausted constitutions cannot bear cold ablution; but these are quite the exceptions.

that the little excretory passages of these glands, ending at what are called the pores of the skin, are built up of microscopic particles (the epithelial cells), liable, if not removed, to fall into and block up the canal; and that this active and incessant secretion contains effete matter, which will act as a poison if retained in the system.

It need hardly be remarked that, unless the water supply is ample, the sewers will become seats of the most offensive deposits, a thing which is almost universal in our towns. What is wanted, is a continual run of pure water in every sewer. In the new city of Hamburgh, a river has been, in part, diverted to flow through the drains; and I found the bricks, on inspection, as clean as when first laid down some years before. This and other ameliorations have had so marked an influence in improving the public health, in this part of Hamburgh, as to have been publicly noticed.

I cannot conclude this Address, without touching upon a few of the results that have been obtained from such imperfect and most restricted sanitary improvements, as have hitherto been put into operation. And I cannot better do this than by asserting, that after having been actively engaged for some years in inquiries of this kind, I have never known a single instance of any one really efficient sanitary amelioration having been adopted, without a corresponding benefit in regard to health. For example, large and well ventilated wards have been substituted in hospitals, for low and confined ones: the special tests of unhealthiness—erysipelas and hospital gangrene disappear. Ships are built with lofty decks and are thoroughly ventilated; sickness and fever are unknown amongst the crew, or even among emigrants or convicts, if these happen to be on board. Among the collier ships of the Thames, in which sailors are crowded into the unventilated fore-castle, low fever is so common as to have attracted public attention; whereas, I was informed by a surgeon, who had been for ten years on board fine Indiamen, that he had never had a case of typhus. In various instances, by merely flagging dirty unpaved courts, the per centage of sickness and death has been distinctly decreased.

I have had occasion to explain some of the beneficial consequences that have flowed from the provision of properly constructed dwellings for the industrious classes; but, encouraging as the example of the Model Lodging Houses has been, the results that have followed the application of the Common Lodging Houses Act to the worst classes of dwellings, are even more important, as indicating what can be effected in the most unfavourable circumstances. Wherever the Act has been ap-

plied so as to lessen overcrowding—to secure cleanliness and ventilation—the reduction in the amount of sickness as shown by the police returns of various towns, has been beyond expectation. In the town of Wigan, 30,000 nightly lodgers had been received in 1853, among whom not a single case of fever had occurred. In 1,308 officially registered Lodging Houses in the Metropolis, there had been in the summer quarter of 1853, no case of fever; though previously I had visited one of these houses in which 20 cases of fever had occurred in two or three months. In Wolverhampton, with 200 of these houses, not a single case of fever had taken place up to the date of the Report, since the Act had come into operation.* Similar results have been obtained in the towns where I have myself made inquiries. In one pestilential district in London, with crowded Irish houses, cholera, in 1849, raged fearfully, as many as 15 cases having occurred in one house; in the late epidemic, the houses having been brought into some kind of order, there were scarcely so many attacks in the whole district as in a single house in 1849.

We sometimes hear that systematic sanitary works have failed in saving the inhabitants from the attacks of fever and cholera. In all such alleged instances where inquiries have been instituted, it has turned out that the works had been badly or incompletely executed; or that mistaken measures had been adopted which no medical man, acquainted with the subject, would have sanctioned. It is essential, moreover, to recollect that the main works depend so closely on each other, that to attempt one without the others is worse than useless: to construct sewers, for instance, without an ample water supply and ventilation to free them from poisonous gases, and in this condition to connect the house drains with them, is a dangerous procedure; for it leads to the escape of effluvia into the interior of dwellings. Again, to provide water-closets without there is an abundance of water, is like placing a foul privy among the living rooms. A most marked instance of all this came to my personal knowledge during the last summer. A family took lodgings in a town which was under the Public Health Act, and where in a newly-built house a closet had been erected near the sleeping rooms, there was scarcely any supply of water, and the consequence was a foul stench: cholera was then commencing in England, and many of the inmates were attacked with severe choleraic diarrhoea. They left the house, and in a short time afterwards, when the force of the epidemic was more developed, another family engaged the same lodgings, experienced the same evils, were seized with cholera, and lost four of their number. This identical town was adduced in the

* Results of Sanitary Improvement, by Dr. Southwood Smith, p. 15.

public prints as an instance of failure, in what were affirmed to be sanitary works.

In conclusion, Gentlemen, I would remind you that the subject of the public health, although important to all, is pre-eminently the poor man's question: he has little or no choice of a dwelling; is often at the mercy of unscrupulous landlords; frequently from ignorance adds to the evils by which he is encompassed; and thus in himself, and in his family, pays a fearful penalty for all these violations of the very first conditions of healthy existence. There are additional inducements for sustained efforts on our parts to assist those who have so little power of helping themselves. Long, and often painful, has been the struggle; but at length there is a prospect of the Profession witnessing the general application of those combined works for ameliorating the public health, which have already wherever adopted exerted a marked control over the ravages of every form of epidemic disease.

At the conclusion of the Lecture, it was proposed by the Chair and carried by acclamation, that the warmest thanks of the College be presented to Mr. Grainger for his able and eloquent Address, and that he permit the same to be published. The following Prizes were then presented by the Right Hon. the Principal—Governors' Gold Medals for regularity and good conduct during a period of three years: Porter, Arden.—The Warneford Gold Medals (£20 each): Porter, Heeley; the Essays of Wolston and Lee honourably mentioned.—The Warneford Scholarships (£10 each for two years): First Scholar, Ruffe; Second Scholar, Bright.—The Webster Scholarship (£5, Books), Proficiency in the French Language: J. A. Williams.—The Percy Scholarship (£5, Books), Proficiency in the German Language: Abbey, Lynch, æquales.—Anatomy: Medal, Suckling; Certificate, Jordan.—Surgery: Medal, Fletcher; Second Medal, Harris.—Medicine: Medal, Jordan; Certificate, Heeley.—Midwifery: Medal, Heeley; Certificate, Spode.—Chemistry: Medal, Bond; Certificate, Smith.—Materia Medica: Medal, Neal; Certificate, Hayward.—Botany: Medal, Bright; Certificate, Neal.—Forensic Medicine: Certificate, C. R. Williams.—Anatomical Demonstrations: J. R. Davies.—Classics: Medal, J. A. Williams.—French Language: First Prize (Books), Abbey; Second Prize (Books), G. H. Harris.—Elements of Medical Science: First Prize (Books), Neale; Second Prize (Books), Williams; and J. T. Smith honourably mentioned.—Mechanical Drawing: Watts.

F I N I S.

APPENDIX.

(Extracted from the valuable Tracts published by the Manchester and Salford Sanitary Association.)

Hints to Working Men.

I.—Wherever a working man and his family may live (whether in a neat cottage or a wretched cellar), everything in and about his dwelling should be kept neat and clean.

II.—Nothing in the way of cleansing tends more to keep away fevers, cholera, and infectious disease, than the frequent and proper use of LIME in the *washing* of ceilings, and walls of houses.

Workmen should therefore *lime-wash* in the Spring of every year, and oftener if necessary, all walls not papered or painted, and every ceiling of their dwellings; and every privy or midden outside their dwellings.

Lime-washing may be done by a man or his wife, at a very trifling cost, and the proper way to do it is the following:—

How to Lime-wash Walls, &c.

- 1.—Brush away all the dust, and wash the walls with clean water (*the lime-washing brush may be used for this purpose*).
- 2.—To make the lime-wash, slake the lime in clean water only.
- 3.—Let the lime be as fresh as possible, as it is spoiled by lying very long in the open air.
- 4.—The lime-wash when made should be about the thickness of cream.
- 5.—Lay on the first coat as quickly as you can; because lime-wash does most good when it is hot.
- 6.—Lay on a second coat as soon as the first is so dry that it does not rub away when the brush is used.

One penny-worth of lime ought to be enough for each cottage room, and a brush may be hired at many shops (on leaving a small sum until it is returned) for a penny a day.

How to Choose a House or Lodging.

- 1.—*Not to take house or rooms* on the open bank of a sewer-river, nor near any standing water, or offensive works.

- 2.—*Not to take house or rooms*, without regard to the sufficiency of the size in respect to his family.
- 3.—*Not to take house or rooms* where the landlord will not undertake to keep the drains free from bad smells.
- 4.—*Not to take house or rooms* which are blocked up at the back; and where a thorough draught cannot be made by opening doors and windows *both at the back and front*.
- 5.—*Not to take house or rooms* where any room is over a midden, ash-pit, or privy; or where the privies face the houses.
- 6.—*Not to take house or rooms* in a confined court or entry, and especially where there is in it an open midden or ash-pit, or where the privies are common to a number of houses.
- 7.—Under no circumstances whatever to occupy a cellar; and always to seek for bed-rooms in which there are fire-places, and windows that readily open at both top and bottom.

Hints about Diet, Personal Cleanliness, &c.

Avoid unwholesome air; regard it as a pestilence. Seek, in your leisure hours, some open space where you may breathe the purest air of heaven to give you strength and life. Refuse intoxicating drinks; they are poison to your frame.

Wash well your skin; fail not to use the bath, or otherwise well wash yourself, from head to foot, *once at least* in every week. See your clothes are often changed, and, with your house, are clean. You will find, that if you keep your skin and clothes and house in cleanliness, and use proper exercise, you will increase strength and health and happiness.

The mind sympathises to a great extent with the body. And it is almost impossible for one who is "lost in dirt" to cherish the self-respect which he ought, and rise to a proper feeling of his true position, and be anxious to make the most of what it offers.

If you were to enquire from nurses who belong to families in better circumstances, you would find that the children there, with few exceptions, are carefully washed all over from head to foot at least once a day. This is because their parents know how essential it is to health. And there can be no doubt that the frightful amount of mortality which at present takes place among the little ones, in families where cleanliness is neglected, would to some extent be lessened if the same practice were adopted with them.

Let your food be plain and wholesome, and take your meals with regularity; and let temperance and truth and virtue be your guiding stars of life.

The Queen's College, Birmingham,

(Incorporated by Royal Charter.)

OBJECTS OF THE COLLEGE.

I.—To prepare Students, by a complete course of Professional Education in all the Branches of Medicine and Surgery and the Auxiliary Sciences, with Collegiate discipline, for becoming Candidates, without any residence elsewhere, for the degrees of M.B. and M.D., in the University of London; for appointments in the Army, Navy, and East India Company's Service; for the Diploma of the Royal College of Surgeons; and (with indentures without premium) for the Licence of the Apothecaries.

II.—To prepare Students for the degrees of B.A. and M.A., in the University of London, by the systematic teaching of Classics and Mathematics, and the other required branches of instruction. The course of instruction is also open to gentlemen expecting appointments in the Civil Service of Her Majesty's Government, or in that of the Honourable East India Company.

III.—To provide Collegiate Instruction, with Collegiate Discipline, for Students in Law, Architecture, and Civil Engineering, with a degree of B.E. and M.E., in the latter department, which the College has the power to confer under the Supplemental Charter. These Departments are open to gentlemen expecting appointments in the Civil Service of Her Majesty's Government, or in that of the Honourable the East India Company.

IV.—To provide Preparatory Instruction, with appropriate Collegiate Discipline, for Junior Students, for two years, in a Junior Department.

V.—To combine with the above Studies, (with a view of making Students good Christians, as well as well-informed Members of Society, and able practitioners in Law, Medicine, Architecture, and Civil Engineering,) Lectures on Church History, Christian Ethics, and the Doctrines of the Church of England.

VI.—To prepare Students, under the Sanction of the Bishop of the Diocese, for Holy Orders in a Department of Theology.

<i>Pastoral Theology</i>	Prof. Rev. T. G. Espin, M.A., (Oxon).
<i>Resident Classical Tutor and Chaplain</i> —	Prof. Rev. G. Richards, M.A., (Oxon).
<i>Surgical Anatomy</i>	Prof. W. Sands Cox, F.R.S., F.R.C.S. Senior Surgeon of the Queen's Hospital.
<i>Descriptive Anatomy</i>	Prof. Langston Parker, F.R.C.S., Surgeon of the Queen's Hospital.
<i>Physiology</i>	Prof. Heslop, M.D., Physician of the Queen's Hospital.
<i>Materia Medica</i>	{ Prof. G. Fife, M.D., Physician of the Queen's Hospital. Prof. G. B. Knowles, F.L.S., F.R.C.S.
<i>Chemistry</i>	Prof. G. Shaw, M.C.S.L.
<i>Medicine</i>	Prof. James Johnstone, M.D., (Cant.) Senior Physician of the General Hospital.
<i>Surgery</i>	Prof. Sands Cox, F.R.S., Senior Sur- geon of the Queen's Hospital.
<i>Midwifery</i>	Prof. Samuel Berry, F.R.C.S., Sur- geon to the Magdalen Asylum.
<i>Forensic Medicine</i>	Prof. John Birt Davies, M.D., Senior Physician to the Queen's Hospital.
<i>Botany</i>	Prof. G. B. Knowles, F.L.S., Surgeon to the Queen's Hospital.
<i>Anatomical Demonstration</i> {	Mr. David Bolton, F.R.C.S. Mr. Oliver Pemberton, Surgeon of the General Hospital.
<i>Resident Medical Tutor</i>	Prof. R. C. R. Jordan, M.B.
<i>Clinical Medicine</i>	Professors Davies, Heslop, and Fife.
<i>Clinical Surgery</i>	Professors Sands Cox, G. B. Knowles, and L. Parker.
<i>Mathematics</i>	Prof. the Rev. William Hunt.
<i>Civil Engineering</i>	Prof. W. P. Marshall, Secretary to the Institution of Mechanical En- gineers.
<i>Geodesy and Geometrical Drawing</i> ..	Prof. Rofe.
<i>Chemistry and Geology</i>	Prof. G. Shaw.
<i>Architecture</i>	Vacant.

MASTERS.

<i>French</i>	Mons. T. O'Flanagan.
<i>German</i>	Herr Heinemeier.
<i>Drawing</i>	Mr. C. Docker.
<i>Gymnastics</i>	Mr. Walker.

FELLOWSHIPS, SCHOLARSHIPS, & PRIZES.

FELLOWSHIPS.—Such Members of the College as hold a diploma in medicine or surgery, or who are graduates in medicine, law, or arts, or such Members of the late Birmingham Royal School of Medicine and Surgery as the Council may determine, are under the Royal Charter eligible to be “Fellows.”

PRIVILEGES OF FELLOWS.—The Fellows have power to vote at all Meetings of the Governors, have free admission to the medical and general Library, to the Museums, and to the Lectures; and likewise are privileged to dine in the College Hall, on payment of a specified sum.

THE WARNEFORD SCHOLARSHIPS.—Four Scholarships have been founded by the Rev. Dr. WARNEFORD, of £10 each, to be held for two years; to be conferred upon the Students who have resided in the College at least twelve months, who have been distinguished for their diligence and good conduct, who have been regular in their attendance on divine service, and whose attendance at the theological lectures has been regular.

THE WARNEFORD GOLD MEDALS.—The Interest of £1000 is applied for the institution of two Prizes, either in equal or unequal amounts. The essays written for these Prizes to be of a religious as well as a scientific nature; the subject to be taken out of any branch of Anatomical, Physiological, or Pathological Science, and to be handled in a practical or professional manner, and according to those evidences of facts and phenomena which Anatomy, Physiology, and Pathology, so abundantly supply; but always and especially with a view to exemplify or set forth, by instance and example, the Wisdom, Power, and Goodness of God, as revealed and declared in Holy Writ. Subject, 1854,—“The Anatomy and Physiology of the Organs of Smell.”

TWO GOLD MEDALS are offered by the Governors of the College for regularity of attendance at Lectures and Examina-

tions, and at Chapel, and good conduct during three years, and general proficiency, to be ascertained by examination.

THE RATCLIFF PRIZE.—Books of the value of £10 10s. are offered by Charles Ratcliff, Esq., “For an Essay on the best means of preventing Epidemic, Endemic, and Contagious Diseases amongst the Working Classes.”

THE INGLEBY PRIZE.—Books of the value of Ten Guineas for the best reported Cases in Medicine and Surgery.

THE WEBSTER PRIZE.—Books of the value of Five Guineas are offered to the Student by Joseph Webster, Esq., who may pass the best Examination in three French Works. There must be not less than two competitors.

THE PERCY PRIZE.—Books of the value of Five Guineas are offered by John Percy, M.D., to the Student who may pass the best Examination in three German Works. There must be not less than two competitors.

UNIVERSITY SCHOLARSHIPS.—Students of the Colleges are admitted to Examination for the Scholarships, Exhibitions, Gold Medals, and Books, offered by the Senate of the University of London. Students are also eligible to contend for the Commission in the Army, offered to the senate of the University by the Army Medical Department once in every two years, for one of the most distinguished Bachelors of Medicine.

STUDENTSHIPS, &c., OF THE ROYAL COLLEGE OF SURGEONS.—Students are eligible to offer themselves for the Studentship of the Royal College of Surgeons of England, of the value of £100 per annum for three years, (three of which have been established), for the best proficient in Anatomy. The General commanding the Army in Chief, the Lords Commissioners of the Admiralty, and the Court of Directors of the East India Company, have placed the appointment of an Assistant Surgeon at the disposal of the President and Council of the Royal College of Surgeons once in three years, for such Students as may be considered worthy of these honourable distinctions.