XIX.

HYGIENE OF THE HABITATIONS OF THE POOR.

By Major Samuel A. Robinson.

Through the invitation of the president of the American Public Health Association, I come to take part in your deliberations, and to present the opinions and views which an experience of six years in connection with the health department of the District of Columbia has enabled me to form on a subject that appeals alike to the philanthropist, the scientist, and the landlord. I shall attempt a practical statement of the errors that have been committed in the construction of the habitations of the poor, errors which, I am satisfied, have bred great distress, disease, and death among this particular class of people; and will also endeavor to point out the improvements necessary to render their homes and places of abode what they ought to be to insure comfort, cleanliness, and health. While most of the ideas I may offer are new to the average householder, since they refer to that part of house-building hidden from view, yet I am quite aware that to many here the story has been told oftentimes before, and by men who are much my superiors in scientific attainments, together with larger experience in this important branch of study. I venture, however, to occupy your attention, hoping to promote such a discussion as will develop and accentuate the knowledge we already have, and encourage an interest not only on the part of those present, but so stimulate the efforts of sanitarians and persons having sanitary authority all over the country that a change and a reform may be brought about in the construction of the tenement-houses, school-houses, and workshops where the poorer classes live and congregate. Laws thus procured by our influence should be made to apply with equal force to the buildings constructed before the enactment of laws regulating the drainage and plumbing in new houses. Where we have not sufficient authority, let us make it so plain by our work and our reports that the proper authorities may acknowledge the necessity for additional legislation, and urge the passage of laws by every municipality in the land, requiring the most stringent regulations governing all classes of work in connection with the habitations of the poor, affording besides to tenants who exercise ordinary care the requisite facilities for keeping their houses in good sanitary condition. The ignorance, want of proper training, and recognition of the rules of sanitation on the part of this class of people, render it of vital importance, not only for their own preservation and health, but for the comfort and health of their more affluent neighbors, that landlords should be compelled to supply them with proper house
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accommodations, and that suitable means should be adopted for their education in sanitation. This latter purpose can only be accomplished through the medium of the most rigid house inspection, and the infliction of penalties for violation of rules of health when their acts or neglects are the means of injury to others than themselves. These are practical questions for our consideration, which must be approached in a practical way, and by minds capable of appreciating the full force and effect of the existing evil system, as well as grappling with the difficulties which attach to it.

The community has obviously the right of self-protection by restrictions upon the construction of the dwellings of its inhabitants, as well as the means of entering them. The rich should be tested at considerable expense, and the poor resist every new or unusual investment which adds to the cost of living. The poor are, in a measure, the wards of the community in which they live, and no unnecessary hardships should be laid on them,—nothing beyond the plain requirements of sanitary laws should be insisted upon,—and, above all, the poor should be spared the burden of experiments. New and untried theories should be tested at the expense of the rich.

If we consider the dwellings of the poor in my own city of Washington, we will find small houses, usually occupied by a single family. Houses of recent construction, though not generally secured from the noxious air rising from the soil, and otherwise cheaply built, are all provided with separate and secure drains of heavy cast-iron, amply ventilated and trapped from the public sewers. Houses in the outskirts of the city, of earlier construction, are generally unprovided with drains, privy boxes being in common use. Where ground is cheap and plenty, as in Washington, this system of separate tenants will fortunately continue the rule, and secure construction becomes very simple. The choice of site, which is the first consideration, should be governed by the presence or absence of dampness; and the municipality should prohibit the erection of houses on a damp foundation until the evil is corrected by efficient sub-surface drains. Where these drains discharge into the sewer, the nicest care should be exercised to prevent the return of sewer air. Such drains should be of agricultural tile, laid with open joints at top, with loose covers to prevent obstruction of the joints, using care to leave no opening through which rats or mice may pass. Water so collected should be discharged into a cemented well of say two gallons capacity, from which a three-quarter inch lead or galvanized pipe, having a metal ball similar to Cudell's trap, may connect with the public sewer. The absence of dampness being secured, the modest structure, generally
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consisting of four rooms, all with ample light, may be erected. The chimneys should be sufficient for the escape of smoke and for the ventilation of the apartments. The entire surface of the ground within the walls of the house should be covered with four inches of Portland cement, to prevent the rising of ground air. Such work is usually very carelessly done, or entirely neglected; yet it is of prime importance.

It is desirable that each house should have a separate connection with the public sewer. This drain should be of four-inch cast-iron pipe well tarred, with a running trap outside of house, and fresh-air inlet for ventilation. The vertical extension should be four-inch cast-iron pipe, or wrought iron, with screwed joints, carried full size above the roof of the house. Where the combined system of public sewers exists, the rain-fall and house sewage are discharged into this drain.

The number of fixtures, such as sinks, water-closets, and bath-tubs, are regulated by the ability of the occupants of the house. It is chiefly the water-closets with which we have to do, though the waste connections of every fixture are subject to municipal regulations, and guarded with equal care. Each water-closet must have a flushing tank, with ample arrangements for efficient flushing of the traps. Every fixture having connection with the drains should be exposed for inspection, where practicable. Water-closets, sinks, basins, etc., should not be boxed about. Water-closets should be entirely of delf-ware, with ample flushing rim and trap of same ware. Cast-iron or other metal traps should be prohibited. Valve closets of every description, from the old pan closet, with its receiver loaded with excremental filth, to the newest patent side outlet, ball-valve sanitary closet with germicide attachment, should be abated or prohibited. The simplest are the best. The class of closets known as wash-out closets are numerous and reliable. The syphon closets and short-hoppers, with delf-ware traps above the floor, give sufficient variety for selection, and all others should be avoided.

An important question connected with the healthfulness of dwellings is the mode of carrying off human excreta, garbage, and ashes. I think a contract made with one party for the removal of all this refuse is the safest, he to utilize it as he deems best, but to be subject to the most stringent rules of the health department as to the manner in which his work is done. Earthen-ware receptacles, glazed on the inside, somewhat smaller than the wooden box commonly used, should be adopted, and so located in an outhouse as not to be exposed to the rain or weather, and the tenant required every day to sprinkle a small quantity of ashes over the contents; and this box should be cleaned at least every two weeks by the contractor. The system of requiring tenants to pay for removals is a bad one, as it entails an expense that many of the poorer classes cannot afford, and tempts them to resort to all kinds of tricks to escape. Sometimes the ordure is buried in the ash pile, and often in the sewer traps of the nearest alley. It can be removed in an odorless way by means of pump, hose, and air-tight barrels, having an opening in the head of barrel the size of an ordinary hose coupling.
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Ashes should be taken away by the contractor as often as it is necessary to remove the garbage. It is not safe to allow the garbage to remain longer than two days at a time on any premises, although it is a common practice to regulate these removals by the size of the dwelling. The poorer classes invariably make a nuisance of this refuse, either by holding it for a country cousin who owns hogs, or, when it accumulates beyond the capacity of the small receptacle they may have for it, by dumping it in the alley or on the nearest vacant lot, creating a nuisance injurious to the health of the entire neighborhood. For these and other reasons, the removals should be frequent and prompt, and the contractor should be held strictly to a faithful performance of his duty or forfeit his contract.

Garbage should be removed in iron-bound barrels having close-fitting covers. All excreta and garbage should be quickly carried out of the city to some remote locality in the country, where it should be placed in a pit mixed with earth, and returned to the soil for fertilizing purposes. Various analyses show it to be six times more valuable than the excreta of the horse, and eight times that of the cow. All that we need is a safe way for its collection and disposal, and a more scientific method for preventing its deterioration. Liebig, in his work on chemistry in its application to agriculture and physiology, says,—"The Chinese are the most admirable gardeners and trainers of plants, for each of which they understand how to prepare and apply the best adapted manure. Very little value is attached to the excrements of animals. Indeed, so much value is attached to the influence of human excrements by these people [the Chinese] that laws of the state forbid that any of it should be thrown away, and reservoirs are placed in every house in which it is collected with the greatest care, and the vessels are removed daily as carefully as our farmers remove the honey from the hives."

The construction of the mammoth tenements for the poor in our principal cities is a more complicated matter. To secure light and ventilation for each apartment; to have all rooms containing plumbing fixtures with direct openings to outside air and light; to preserve privacy in the use of such fixtures; to allow ample hall-ways for the decent isolation of the families; to give sufficient stairways, independent of the elevators, for escape in case of panic from any cause; to obtain open grounds for healthful exercise; to guard against the loss of life by fire; to furnish storage and facilities for handling fuel, as well as laundry and drying space; to avoid the use of deleterious wall-papers; to protect each tenant from pollution of the atmosphere of another apartment by communication through the hall; to supply all safe and proper appliances for heating rooms; to provide convenient means for the removal of garbage and ashes,—are all of prime hygienic importance.

There should be no scrimping of the public money whenever there is a demand for it by a competent board of health, but the most liberal appropriations should always be made for this, the most useful branch of the public service. The sanitary laws should be rigidly enforced, and there
should be no waiting for an epidemic to awaken us to a sense of our duty, and then cause us to expend large sums of money in cleaning foul places which should always have been kept clean.

Prof. W. H. Brewer, in his paper to the common council of New Haven, expresses himself most forcibly upon the subject. He says,—

Cases might be cited where a pestilence has proved a blessing in the end by scaring people into the means for promoting the public health, and thus greatly lessening sickness, lowering the death-rate, and educating the people into living more cleanly lives. Suppose that a tenement-house in this city were on fire, its inmates in danger, and the physical means of saving their lives were simple and at hand, but the firemen had neither the legal right nor the legal power to use them: if but a single life were lost, laws would soon be made to suit similar emergencies in the future. Or suppose the firemen were legally prevented from using such methods as they knew had been effective elsewhere, and the victims left helplessly to perish: how long would it be before the cruel laws would be repealed? Yet every year we see many lives lost, not only in tenement-houses, but also in the houses of well-to-do citizens, from diseases induced or aggravated by bad plumbing, faulty drainage, or other preventable causes, whose lives might have been saved were the people as wise and alert in sanitary matters as in that of fire, and public opinion as earnest in maintaining organized protection against the one class of dangers as the other.

We now want some of the legal safeguards erected against the danger of slow death by preventable disease, which are already provided against sudden death by accident. We have guarded against the lesser causes of preventable death: now let us be equally earnest and enthusiastic in guarding against the greater danger, that from accumulated and accumulating filth. We want a plumbing and house-drainage law, with the means and power for its due administration. We want a law forbidding the building of any privies or cesspools on sewered streets.

Exceptionally strong powers are conferred upon the health authorities in the city of New York, and yet they have been slow to act in regard to the swarms of Italians, Polish Jews, Chinese, and Irish in some of the tenement-houses in that city, notwithstanding the earnest protests of the *Sanitary Engineer*, a journal ever foremost in the cause of sanitary reform, and always abounding in information invaluable to every household. The owners of all buildings of this character should be found, and forced either to tear them down or make them habitable. Experience teaches us, wherever stringent means have been adopted requiring tenants to occupy other quarters and to live more in accordance with the customs of civilized beings, that these houses, when condemned and unoccupied, have soon been levelled to the ground, and new, substantial, and healthful houses for the poor have taken their place. It is the duty of every municipality to act now just as they would be compelled to do if the cholera or yellow fever were raging in their midst, with a death-roll of two thousand a day. Disease that always takes its rise in the habitations of the poor, at this moment hovers over the palace of the pope of Rome. In the cities of Toulon, Naples, and Marseilles the poor revel in filth. Death has held a carnival in the beautiful cities of France, where the wealthy of all nations resort for pleasure and recreation. What city in the country should so shrink from the desolating presence of cholera as St. Louis, the Queen of the West, whose experience has been so direful in the past? Who can forget that
in 1849 whole families of the wealthiest and the best of the land were swept away by this wasting pestilence? Are we in a condition to meet this dreaded visitor next year? Remember, that cities which have adopted and strictly enforced sanitary laws have in a measure escaped disease.

The three great works on which the future of Washington city depends—the improvement of the sewerage system, the increased water-supply, and the filling in of the flats—are being pushed forward as rapidly as the appropriations by congress will admit. As a result of these and other improvements, capitalists will continue to invest in Washington city real estate, beautiful houses will be built, and the taxable property will rapidly increase. As this march of improvement goes on, we must not lose sight of the dark spots upon this bright and beautiful picture, but strive to root out the ragged fringe of dilapidated frame shanties on the outskirts of our city, and encourage capitalists to invest in new and healthful habitations for the poorer classes. We confidently expect congress, at its next session, to give us the power to regulate the sanitary conditions of all houses, old as well as new;—then, and not till then, can Washington be called a perfectly healthy city.

"I once took a distinguished statistician of France," says Dr. Southwood Smith, "to some of the habitations of the poor in London, and showed him the sick with typhus lying in their wretched beds—for the sick with typhus may be seen there every day of every year. After the painful inspection he exclaimed, 'England is indeed adorned with a splendid mantle, but under it are concealed the greatest horrors.' Determined that this eminent person should see both sides of the picture, I next took him to see the model dwellings. What are the model dwellings? Small plots of civilization in the wide waste of barbarism. In what does this civilization consist? In very simple matters. The subsoil drainage of the site of the building; the free admission of light and air to each inhabited room; the abolition of the cesspool, involving complete house drainage; an abundant supply of water, and the immediate removal by it of all refuse which it is capable of holding in suspension; and means for the removal of house refuse not capable of suspension in water. And this is all. And what are the results of these few and simple arrangements? That the mortality among the inhabitants of these dwellings is less than that of London generally, and far less than that of some of the filthy and neglected localities of London; that there has not been a single death from typhus, or any other form of continued disease, among the adults, in any of these buildings since their establishment. Such are the results of the first imperfect attempt at improvement, which, remarkable as they are, are not more striking than the results of neglect. We see the first steps that must be taken to elevate the people,—nay, even to bring them within the pale of civilization already attained. We must improve their sanitary condition. Until this is done, no civilizing influence can touch them. The school-master will labor in vain; the minister of religion will labor in vain;—neither can make any progress in the
fulfilment of their mission in a den of filth. Moral purity is incompati-
ble with bodily impurity; moral degradation is indissolubly united with
physical squalor. The depression and discomfort of the hovel produce
and foster obtuseness of mind, hardness of heart, selfish and sensual in-
dulgence, violence, and crime. It is the home that makes the man; it is
the home that educates the family. It is the distinction and the curse of
barbarism that it is without a home; it is the distinction and the blessing
of civilization that it prepares a home in which Christianity may abide,
and guide, and govern.”