



### THE SANITARY NEEDS OF RURAL DISTRICTS.

We believe that trustworthy authorities will uphold us in the statement that where good health prevails in country villages it is more the result of accident than design. A great many towns have been purposely so located as to secure good surface drainage, but beyond this the ordinary founders of villages seem to have no general sanitary idea. The sites of many towns have been determined by the existence of water-power, natural routes of transportation, or mineral deposits. It becomes a matter of grave concern to know how the natural defects and dangers of a town site are to be overcome.

The answer naturally is, Interest the residents themselves in the matter. But we all know what neighborhood chats amount to; the more perfect the agreement on a given subject, the greater likelihood there generally is that the subject will disappear, as being practically settled. But the ways of an irresponsible party of neighbors change greatly when the same men resolve themselves into a society supported by an act of incorporation, looked up to, and expected to do something. By the conditions of their surroundings, by the usual unsatisfactory state of the public health, and by the individual prominence which is conveyed by membership of a public association, each member feels called upon to do something.

What there is for local sanitary associations to do will not long be a matter of question. There are thousands of towns whose soil is literally one great cess-pool, saturated with the impurities and refuse of all who have been its inhabitants. There is not one town in a hundred whose people drink pure water. The garbage and impurities thrown on the ground in many a village full of respectable people would raise a howl of remonstrance if dropped even in our own Five Points. Drainage of waste water into street-gutters, uncovered refuse heaps, stacks of offensive manure whose proprietors seem to think that the human olfactories have no rights which manure owners are bound to respect, wayside pools neighborhoods in which doctors' carriages may always be found, land occasionally subject to overflow, rock-bottomed sinks in which drainage is finally arrested, swamps over which winds frequently pass on their way to the town—all these are within the reach of almost any sanitary association that may be formed. A small *pro rata* assessment will pay for the service of a skilled topographer or drainage engineer who will suggest better and cheaper remedies than any ordinary association will discover for itself. A similar outlay will secure a lecturer, or the printing of a report of a survey which would fully inform the citizens of the actual sanitary condition of their town. Such an association, by virtue of that inter-communication which exists between all public bodies in small towns would exercise a great deal of influence over town committees, supervisors, road boards, etc. In case of laggard action by legal authorities, local sanitary associations might follow the example of the men who cut one of the great irrigating ditches of California; Mr. Nordhoff reports that this ditch was cut in accordance with the following resolutions:

- "First: That we cut the ditch.
- "Second: That every one interested agrees to work upon it until finished.
- "Third: That work be commenced Monday next."

The oft-repeated truism, that the strength of anything is only the strength of its weakest part, peculiarly applies to this matter of health. Individual efforts in the direction of perfect ventilation, good cooking, healthful heat, proper clothing, and personal cleanliness are praiseworthy, but their perfect result cannot be realized while the neighboring air is polluted, the water poisoned, and miasmatic emanations are unchecked. It is only by combined action that such wide-spread influences may be removed or avoided, and the sufferings which reformation may impose upon time and pocket are not so annoying, costly or dangerous as those which result from submission to the existing status.—*Christian Union*.

### SMALL WAISTS AND CONSUMPTION.

J. V. C. SMITH'S "WAYS OF WOMEN."

The desideratum of small waists has been the premature death of thousands of the fairest and most promising young ladies, before they had time to learn the dangers they were inviting by following the example of those who teach by their practice that they prefer conformity to the requirements of a perverted taste to exemption from the penalties of being out of shape, in the sense of those who exercise

no judgment in regard to this important matter. Favored, as many robust women are, with a fine organization in other respects, they can live out a long life in comparative health and comfort; but they are few compared to the vast number who fall short and die before they have attained all they might have had on earth. The first or topmost rib on either side, just under the collar-bone, is short, thin, and sharp on its inner curvature. It has no motion, being a brace between the dorsal column and the breast-bone. It is immovable for the purpose of protecting large arteries and veins belonging to the arms on either side of the neck. In cases where the chest has been manipulated till the lungs cannot expand downwards they are forced up above that rib. Rising and falling above and below that rib level, the lobe chafes and frets against the resisting curvature. It is inflamed at last, and the organ becomes diseased. If that chafing is not relieved, but in each respiration the serous covering of the lung is irritated continually, the inflammation is apt to extend quite into the body of the organ, increased and intensified by exciting emotions, laborious pursuits, or unfavorable exposures. Finally, the mucous lining of the air-cells within the lung sympathizes. No compression of the base of the chests of men being induced by tight dressing, a chafing of the upper surface of the lung rarely occurs with them. Great men, giants in any department of busy life—those who make the world conscious of their influence—those who quicken thought, or revolutionize public sentiment, and leave the impress of their genius in the history of the age in which they flourished, were not the sons of gaunt mothers whose waists resembled the middle of an hour-glass.

### THE ASH LEACH.

From time immemorial the ash leach has been in use in many civilized, that is, soap-making countries. Essentially an ash-leach is a vessel tight enough to hold wood-ashes, but not tight enough to hold water. Being first filled with ashes, water is then poured in gradually, and, after a time, runs out below, highly charged with the soluble salt of the ashes.

But, although this machine has been so long in use, the principle on which it acts does not seem to have been fully understood until quite lately. About the year 1833 Messrs. Boullay, of Paris, applied the same apparatus to the manufacture of pharmaceutical preparations, tinctures, infusions, extracts, &c., and it at once became popular with pharmacologists, under the name of Boullay's Filter, or the Displacement Apparatus. Its mode of operation is simple; the first portion of liquid poured in sinks into the powder that is to be exhausted and saturates itself with the soluble parts of it. The latter additions of liquid, instead of mixing with the first, drive it down before them and take its place, to yield it in turn to the next portions poured in. Thus the first portions of liquid that run from the bottom of the filter will, if it has been properly managed, contain nearly all the soluble matter, and the last will be almost unchanged. For example, if an ounce of powdered ginger be put into a glass tube, as a small lamp chimney, over the lower end of which a piece of cotton-cloth has been tied, and alcohol be slowly poured through it, the first fluid-ounce that comes through will contain about all the strength of the ginger. Looking through the glass we can watch the whole process, see the first alcohol dissolve the resinous matter of the ginger, becoming thick and dark colored in consequence and then falling down before the new colorless alcohol added above.—*From Popular Science Monthly*.

WHAT IS AMBER?—It is a resinous substance, the produce of extinct forests, that now lie buried in the earth or under the sea. Like other vegetable resins, it has been secreted by trees which have long since disappeared from the surface of the earth, but once formed extensive forests on the islands or shores of the vast sea, which at that time covered the plains of Northern Europe as far as the foot of the Auralian chain. The trade in rough amber is almost exclusively in the hands of the Jews, who purchase it from the amber-fishers, or are interested in the diggings which are made on most of the littoral estates. It is found abundantly on the Prussian coast of the Baltic, where it is collected in many ways. After stormy weather it is frequently cast ashore by the surf, or remains floating on the water. The amber-fishers, clothed in leather dresses, then wade into the sea, and secure the amber with bag-nets hung at the end of long poles. They conclude that much amber has been detached from its bed when they discover many pieces of lignite floating about. In some parts the faces of the precipitous cliffs along the shore are explored in boats, and masses of loose earth or rock, supposed to contain the object of search, are detached with long poles having iron hooks at their ends. That which is washed ashore generally

consists of small pieces, more or less damaged, while the specimens obtained by digging or dredging are frequently of large size, and of a tuberous form, so that, though inferior in quantity to the former, their value is probably ten times greater. Digging for amber is a favorite pursuit of the peasantry, and though in many cases it proves unsuccessful, yet sometimes it is highly remunerative. Near the village of Kowall, a few miles from Dantzic, avenues of trees were planted a few years back along the high road. On digging one of the holes destined for their reception a rich amber nest was found. Favorable signs induced the landowner to persevere in digging, and at length, at a depth of about thirty feet, such rich deposits of amber were found, as enabled him to pay off all the mortgages on his estate. The territories where amber is found extend over Pomerania and East and West Prussia, as far as Lithuania and Poland; but chiefly in the former provinces, where it is found almost uniformly in separate nodules in the sand, clay, or fragments of lignite of the upper tertiary and alluvial formations. It also occurs in the beds of streams, and in the sand-banks of rivers. How far its seat may extend under the Baltic is, of course, unknown. Amber is likewise met with on the coast of Denmark and Sweden, in Galicia, and Moravia, near Christiania in Norway, and in Switzerland, near Basle. It is occasionally found in the gravel-pits near London; specimens have been dug up in Hyde-park. At Aldborough, after a raking tide, it is thrown on the beach in considerable quantities, along with masses of jet.—*Dr. Hervey*.

EARTH WORMS.—These insignificant and unattractive creatures are of the greatest benefit to the fields which they inhabit, though many have supposed to the contrary. They are very humble, but are efficient servants of the agriculturist; and far from injuring his meadow and his garden, they devote themselves with the most praiseworthy assiduity to turning over the soil to a greater depth and more thoroughly than can be done with the best appliances known to science. These animals—for so they are classified by the naturalists—are scarcely more than animated tubes. They seem to live by taking earth and earthly substances in at one end and passing them out at the other. This simple process of digestion is aided, however, by a mucous secretion; and the worm has a habit, when he has filled himself with earth, of ascending to the surface, turning round and working himself back again into the ground. This operation unloads him, and the process, repeated by millions of his fellows, cannot but have a highly beneficial effect upon the quality of land. It is said by Mr. Darwin that these worms have been known to cover a field to the depth of thirteen inches in the course of eighty years. A slow process, to be sure, but so are all the processes of nature. This, however, is not all that they do. They carry their shafts and galleries to a depth of several feet, and cross and intersect in all directions, loosening the soil, opening it to the air and water, and, in short, doing all that they can to help vegetation, without preying upon it or injuring its roots in the slightest degree.

FRESH AIR.—One of the problems of social life, and one which has never yet been quite satisfactorily solved, is that of ventilation. But few others are of more importance with regard to health, especially in large towns and crowded neighborhoods. A simple method for ventilating sleeping and living rooms has been recommended in a recent publication. Cut a piece of wood three inches high, and exactly as long as the breadth of the window. Raise the sash, place the slip of wood on the sill, and draw the sash closely over it. If the slip has been well fitted, there will be no draught in consequence of this displacement of the sash at its lower part; but the top of the lower sash will overlap the bottom of the upper one, and, between the two bars, perpendicular currents of air, not felt as a draught, will enter and leave the room and the atmosphere will be kept fresh and wholesome.—*From "Casell's Family Magazine" for July*.

NEW STYLE OF WATER TRANSPORT.—The syenite monolith known as Cleopatra's Needle is to be transported to London by sea, by casing it in wood, and rolling it overboard. To make it float properly, it is to be covered with timber and planks till the boxing is large enough to float stone and all. To compensate for its tapering form, one end is to be made larger than the other, and when finished, the timber dressing will be something over twenty feet thick at the larger end. The ends will be tapering, to assist the steamer in towing, and even if the cigar-shaped mummy runs aground, its casing will save it from harm. The most risky part of the voyage will be the launching and the rolling ashore. In this connection it may be noticed that cylindrical boilers are transplanted through the canals in Holland in somewhat the same way. The flues are plugged up with wood, and the steam openings are covered with air-tight caps, and, when

well painted with red lead, the boilers are rolled into the canals, and, behind a steam-boat, make their voyage in perfect safety.—*Scribner's for August*.

A DINNER PARTY AND SCARLET FEVER.—A few weeks ago some respectable, cleanly, healthful English ladies and gentlemen sat down to dinner together in a private residence surrounded by a model neighborhood. A few days later nearly every member of this same dinner party was suffering from scarlet fever. How they took it no one knew; it has been suggested that the disease was communicated by the cream, or by the table-cloth, the latter having been cleaned at a laundry. The case is not the only one of its kind; similar though perhaps not so violent outbreaks of disease have taken place in many circles, and no one has been able to trace the infection to its source. The truth is that immunity from infectious and contagious diseases can be secured only by the isolation either of those who fear the disease, or of those already afflicted. To seclude the former is well nigh impracticable, but the spread of disease is so easily prevented, and so many people are endangered by neglect of proper precautions, that the whole subject urgently demands thorough, careful legislative attention.—*Christian Union*.

SELLING MILK IN GLASS BOTTLES.—We see it stated that a milkman at Elmira, N. Y., has introduced a new plan of delivering milk. In his wagon are arranged side racks, containing quart and pint bottles filled with pure, fresh milk, full measure. These bottles are delivered as required; the customer returns the bottle left the day before; and no pitchers, pails, bowls or dishes are necessary. Another advantage of the system, especially in warm weather, is that each bottle is tightly corked, and can be laid in a pail or pan of cold water, keeping it fresh and sweet, or put away in a cooler, taking up little room. His improvement is a most unselfish one, as it will accommodate his customers much more than himself. He will have all these bottles to handle and wash, but it must be a great convenience to his customers, who can afford to pay a little extra.—*Herald of Health*.

TRAMWAY MOTORS.—While the subject of steam-rail transit is attracting attention in New York, other cities are solving their transit questions in their own several ways. The fireless locomotive, using a boiler loaded up with steam at the termini, is in successful operation, and the coiled-spring idea is undergoing experiment. In place of one spring, wound up at intervals along the road by means of stationary engines, a number of springs each properly wound up, are taken on at the beginning of the route, and as fast as one expends its energy in moving the car, another is brought into play, and the train is continued till all are exhausted, or the run is made. Another style of motor, said to be in practical operation, employs a horizontal compressed air-engine under the floor of the car. Suitable tanks, loaded up by a compressor at one end of the road, supply the engine, and a speed of twelve miles an hour has been obtained for a short distance.—*Scribner's*.

METHOD OF PRESERVING EGGS.—Professor Sacc now announces that by far the best method of preserving eggs for an indefinite length of time consists in coating them with paraffine, of which one pound will answer for fifteen hundred eggs. After being thus treated they do not experience any loss in weight, and will remain unchanged for several months. It is essential, however, that the eggs be perfectly fresh, as, should decomposition have commenced, the operation will not prevent its continuance.

—The professor of hygiene in Amherst College has for the past fourteen years kept a record of the sickness among the students which involved an absence from college duties of two or more consecutive days. He attributes it to the requirement of regular gymnastic exercises that there has been a large and constant decrease in sickness as the classes advanced from year to year. Freshmen are always the most sickly and seniors the most healthy class in college. Study, like any other work, is healthy if the laws of health are decently observed.

—In a meteorological article in the *Revue des Deux Mondes* for June 1st, we have the curious statement that it is observed that a wet summer does comparatively little to feed the water springs, and that a dry winter will be followed by a dearth of water, even though the summer rains were abundant; and accordingly when the rainfall in the Department de l'Oise was found, between November, 1873, and April, 1874, to be much below the average the farmers were officially warned to expect a scarcity of water and had time to provide steam power instead.

—A patent has been taken out for an invention by which it is claimed that glass can be used as a building material for house-fronts, floors, or pavements, superior to marble in durability and economy. It can be made plain or variegated and its colors are indestructible.