

AGENTS OF SANITATION.

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THE consideration of the relation of animal life to the evolved products, leads to another topic, which consists in the discussion of what is to be done with sewage, as it has been defined in one of the foregoing numbers of the OWL. All those constructions and appliances which take charge of sewage immediately upon its production, constitute a system of Sewerage; and from considerations already made in this paper, it is easy to see that the excellence of such a system depends upon the effectiveness, expediency, dispatch, and economy with which it will effect the drainage and purification of the subsoil and accomplish the removal of house refuse of every description. This article will still confine itself to generalities, leaving particularities of system and theory for subsequent investigation.

Among the first of the essential requisites of good sewerage is the removal, before putrefaction sets in, of all offal, refuse, and dejecta, not only from the house, but from any neighborhood where infection or disgust might spread to atmosphere or water, which serve for the sustenance of life. This requisition arises from the knowledge acquired of the production and propagation of disease, and from the experience we have of the spreading of contagion and epidemics due to a neglect of such expeditious action. And even though no detriment to health were experienced, yet this law should be stringently enforced, from the very fact that such matter as that of which we treat, is exceedingly disgusting and revolting to all the senses. It is in the interest of social and moral development that the mind and the intellect enjoy the possession of the exquisite qualities of purity and clearness; and such a delightful state in the moral order cannot exist where the senses and the physical being are dwarfed, con-

taminated by contact with vile existences. Such matter should be kept not only out of sight, not only away from the reach of any of the senses, but even so effectually away, that it can in no possible manner even reach any part of the human organization until it has been so transformed by nature, that is by the elements, that it has finally assumed a condition of comparative purity. This last statement tends to frustrate every design which is likely to antagonize human health and life; for none of the deleterious effects of sewage should be able to spread its havoc in any way or form. If, however, putrescible matter be indiscriminately mixed with vegetable germs and thrown over plants and grasses, it is evident that a keen source of disease propagation is encouraged. The vegetable kingdom should be maintained in an unquestionable degree of excellency, since it is directly the food of man and since it nourishes and develops the animal tissue upon which he satisfies his carnivorous tastes. The air, the water too, are daily, hourly, momentary food, which should possess qualities of indisputable excellence. The soil, also, should be dry and uncontaminated, and no water should be allowed in it within three or four feet of the cellar floor. No pains should be spared in securing perfect drainage; and attention should be paid, not only to the ground directly under and immediately surrounding the dwelling, but also to the adjacent land, as its condition might have a weighty influence in connection with the sanitation of sites occupied by residences. However beautifully a villa may be drained and sewered, yet its healthfulness will never come up to ordinary expectations as long as damp marshes and stagnant pools abound in the vicinity. Such a condition of affairs recalls the admonition of Virgil, *Ecl. iii.* 92:—

"Qui legitis flores et humi nascentia fragra,
Frigidus, O pueri, fugite hinc, latet anguis in
herba."