

from the air passages. The treatment which this view of the disease indicates must, therefore, be mainly directed towards the removal or neutralisation of the infective materials, or that portion of mucous membrane which may be in the first instance attacked.

#### THE LONDON INTERNATIONAL HEALTH EXHIBITION.

##### SEWAGE DISPOSAL.

There are three typical exemplifications of processes of sewage disposal at the Exhibition: that adopted by the Manchester Corporation, Moulton earth system, and an exhibit of the A B C process carried out at Aylesbury.

Manchester has for the past ten years adopted a "pail system," keeping all refuse matters as far as practicable out of the sewers, and has been able to manufacture a saleable manure and other products. The excreta are received into a pail, and mixed with fine ashes; this mixture is effected by the ashes being shot against a sort of sifter, the fine ash-dust falling into the pail, the coarse into a special receptacle. The pail is of steel, of a special construction, and provided with a caoutchouc rim, on which a cover is securely and hermetically clamped by a simple arrangement; the pails will hold about ten gallons, and are removed daily or at longer intervals, according to circumstances, in a collecting van, which has two compartments, one for the pails, another for house refuse. The quantities annually dealt with by the Corporation are as follows: Fish, bones, dead animals—dogs, cats, &c.—boots, hats, &c., 137 tons; Slaughter house refuse, 1,205 tons; Human excreta, 31,817 tons; Vegetable matters—cabbages, potatoes, straw, &c., 38 tons; Wet and dry cinders, 36,210 tons; Domestic dust, 11,932 tons; Glass and stone bottles, broken pots, mortar and brickbats, 480 tons; Rags, paper, iron, wire, and tin, 110 tons; making a total of 82,019 tons.

The several matters are dealt with as follows:—The animal matters, deprived of fat, which is worked up into soap, grease, &c. are treated with sulphuric acid to fix the ammonia; the dried mass is then broken up, powdered, and sold to the farmers as manure. The excreta are treated similarly. A model of the machines by which the drying and grinding is effected is exhibited. The cinders are used in the furnace fires, in order to effect the evaporations. Rags, paper, iron, wire, and tin, are sifted out and sold. Some of the refuse is made into bricks, mortar and concrete. Samples of all the manufactured products are on exhibition.

Manchester has adopted this system for ten years, and is satisfied with it. The death-rate is high-fluctuating between 24 and 25 per 1,000, but the old death-rate previous to the adoption of the system was 33 per 1,000, and at that time there were 60,000 cesspools.

The earth closets have been lately improved, and as now made are in action automatic, a hopper is charged with earth, and by either pulling a handle or by the mere act of rising, a certain quantity of earth is thrown into the pail. There is a model of an upstairs closet; by a lift arrangement earth can be conveyed to the closet from behind, so that it is unnecessary for the requisite supply of earth to be conveyed up the stairs; in the same way the pail receiving the excreta may be removed.

The system as applied to schools is exemplified by means of a model. This system is a very cleanly good system for isolated houses or small communities; it has been in use at the Charter House School, Godalming, for some years; at the Board Schools, Sutton; at New College, Oxford, and at Girton College, Cambridge, and it appears to meet with the approval of the managers of these establishments.

The A B C Process for the disposal of sewage is exhibited in a detached build-