

SCIENTIFIC DEPARTMENT.

Cold in the head is a disease of frequent occurrence, yet comparatively few are aware of the manner in which it is brought on. A medical man contributes a very interesting article on this subject to a recent number of *Chambers' Journal*. The mucous membrane lining the nostrils is provided with numerous blood vessels and with glands which secrete mucus. In passing through the nostrils the air is warmed by passing over the blood vessels and is moistened by the mucus, which also by virtue of its adhesiveness, retains any solid matter that may be present. Cold in the head is simply a superabundant flow of mucus. When any part of the body is chilled by exposure to a draught the nerves of that part are stunned or paralysed, and the paralysis is conveyed to the nerve-centre, and then to extremities in an opposite direction. A draught upon the back, therefore, may cause temporary paralysis of the nerves belonging to the mucous membrane of the nose. When such paralysis takes place the blood-vessels of this membrane become distended and an excessive flow of blood to these vessels is set up, which excites unusual activity in the glands that secrete mucus. The flow of this excess of mucus constitutes cold in the head. It may exist in one nostril or in both.

Sanitarians have long been desirous of finding some ready means of disposing of sewage water. When poured into rivers it not only contaminates the water, but by this means a large amount of valuable fertilizing material contained in the sewage is lost. Sewage water has, in some cases, been applied directly to growing crops with excellent results, but for the great majority of crops direct application is unsuitable, for the large amount of water produces far more harm than is compensated by the fertilizing material in the water. The problem of utilizing sewage water has at length been practically solved. At Essones, in France, there is a large paper mill which has to dispose of 10,000 cubic metres every twenty-four hours. The sewage is run into tanks where it is thoroughly mixed with lime-water, which destroys all odor and precipitates all solid matter in a very short time. The sediment is run off into a drying-room where it hardens. It is further dried by exposure to air and sold as a valuable fertilizer. Five acres of land are required wherein to conduct the operations for purifying 10,000 cubic metres per day. It is proposed to utilize the sewage of Paris in a similar way. Works for this purpose would require 150 acres as the sewage water of Paris amounts to 300,000 cubic metres per day.

Mr. A. H. Foord, of the Geological Survey of Canada, spent several weeks last summer searching for fossils in the vicinity of Scaumenac Bay, P. Q., and secured a large quantity of remains of fishes from the Devonian rocks of that region. Mr. J. F. Whiteaves, palæontologist to the Survey, has examined these remains and reports that they represent a new genus and several species not previously described. It will be readily understood that this collection is very valuable when it is remembered that Devonian rocks have as yet yielded fishes from two or three localities only. The study of Mr. Foord's