

are necessary for keeping the human body in health. It is well known that a long continuance of such food, thus prepared, engenders scurvy. The Admiralty are now making experiments with a process devised by Dr. Morgan, an Irish gentleman; and a few days since some animals were slaughtered, and their carcasses subjected to this process in the presence of the officers of her Majesty's Victualling Department at Deptford. A bullock having been killed in the usual way, the chest was immediately opened, and a metal pipe with a stop-cock inserted in connection with the arterial system. This pipe was connected by means of elastic tubing, with a tub filled with brine, placed at an elevation of about twenty feet above the floor. The stop-cock being turned, the brine was forced through the arteries of the animal, and, passing through the capillaries, flowed back through the veins, carrying with it all the blood, making its exit by means of an incision provided for that purpose. About six gallons of brine passed thus through the body, washing out all the blood from the vessels. Having thus cleared the vessels, the metal pipe was connected with another tub, similarly placed, containing the preservative materials to be injected, and, at the same time, their exit, after traversing the body, was prevented. On communication being made, the liquid was forced into the vessels, and, by means of the pressure, it penetrated into every part of the animal, and might be seen exuding from any point where an incision was made. The liquid used on the occasion of the late experiments consisted of six gallons and a-half of brine, ten pounds of sugar, three-quarters of a pound of saltpetre, with half a bottle of catchup and an infusion of cloves and pepper. The whole process is very rapid, and is extremely simple, requiring nothing that can be called machinery. It took no longer than three minutes to send the first six gallons of liquid through the animal to wash out the vessels, and about three minutes more to inject the animal with the preservative liquid. Indeed, so rapid is whole proceeding, that, even on the occasion above referred to, where the men were unaccustomed to the work, and the arrangements were necessarily imperfect, the time occupied was only twenty minutes from the killing the animal to the complete infiltration being made. The beast is then skinned, cut up into pieces, large or small, as may be required, and taken to a drying-room, where it is hung until thoroughly dried, after which it is packed in boxes with sawdust and charcoal. It is confidently believed that the meat treated in this manner will stand any climate. So far as its preservative powers have been tested in this country, the process is stated to answer the purpose. A purveyor at Portsmouth has for some time past treated meat in this way with success, and sells it in the regular course of trade. It is obvious that any variety of liquids, chemicals, or condiments may be thus injected into the animal and the meat flavoured in any way that may be thought desirable; the meat may also be dried like hams or bacon, if so wished. Indeed, it would seem that the method is peculiarly fitted for this purpose. In hot countries, and in countries where animals are abundant, and where now they are bred almost entirely for their wool, fat, or hides, the process

seems especially valuable, as by it the meat, instead of being thrown away, might be rendered available for export for food to other countries. The Victualling Department have had a few animals thus prepared for experiment, and it is intended to send the meat out on voyages to various parts of the world to test its keeping qualities. So little machinery is required, that a ship's crew could readily carry out the process at any place where they could land and animals were abundant, and thus lay in a store of meat which, although, no doubt, salted to a certain extent, would not have the same disadvantages in a sanitary point of view, as meat preserved in brine-pickle.—*Grocer.*

Coal—A Geological Question.

The various kinds of coal with which we are acquainted are believed to be of vegetable origin, the remains of forests of a former epoch, and the theories as to their formation are well known; but there appears to be one fact connected with the subject which, as far as we can learn, has been entirely overlooked, and which will go to prove that the trees and plants which are now furnished in all parts of the world differ from those of the epoch to which we allude. When wood and land plants of any description are burnt, we always find that the ashes which remain contain carbonate of potash, from which source that salt is commercially supplied. On the other hand, when sea plants are burnt their ashes abound in carbonate of soda, and until of late years this salt was entirely derived from that source; it is now, however, also obtained from common salt. We have, therefore, a supply of these two alkaline salts, the one from the ashes of land plants and the other from the ashes of sea plants. But as we find neither the one salt nor the other in the ashes of any coal that we have examined, and as we do not find any account of these alkaline bodies being found by any other analyst in any variety of coal, we have reason to infer that coal is not derived from a vegetable kingdom similar to that with which the earth now abounds.

Now, neither wood nor coal contain the substances which they respectively afford by destructive distillation; but the elements of each being liberated by heat reunite and form certain well-known compounds, those produced by wood essentially differing from those produced by coal under the same circumstances, and whilst the ashes of the wood charcoal afford carbonate of potash, the charcoal or coke of coal does not, as we have before said, yield that substance.

We readily admit that the elements constituting wood might undergo certain changes in the earth during its transformation into coal, so that the destructive distillation of coal in the present day may give rise to products differing from those of wood similarly treated; but we would ask, What has become of so imperishable a compound as the carbonate of potash, which, if coal be derived from forests similar to those of our own time, it ought to contain? We might also ask a similar question as regards carbonate of soda, supposing it be contended that the origin of coal has been from sea plants.—*Sanitary Reporter.*