

state of solution from the strata through which the water percolates; others are produced by the chemical changes going on in the earth, by the aid of water and internal heat; and others are evolved by the direct agency of volcanic heat.

*Salt Springs.*—The most important mineral springs in an economical point of view are those which produce common salt. These are called salines, or rather such is the name of the region through which the springs issue. They occur in various parts of the world; and the water is extensively evaporated to obtain table salt. They contain also other salts; nearly the same, in fact, as the ocean.

Some of these springs contain less, but usually they contain more salt, than the waters of the ocean. Some of the Cheshire springs in England yield 25 per cent.; whereas sea water rarely contains more than 4 per cent. In the United States they contain from 10 to 25 per cent. They are found in New York, Ohio, Virginia, Pennsylvania, Illinois, Michigan, Missouri, Arkansas, and Upper Canada. 450 gallons of the water at Boon's Lick, in Missouri, yield a bushel of salt; 300 gallons at Conemaugh, Penn.; 280 at Shawnee town, Ill.; 120 at St. Catharine's, U. C.; 75 at Kenawha, Va.; 80 at Grand River, Arkansas; 50 at Muskingum, Ohio; and 41 to 45 at Onondaga, N. Y.; 350 gallons of sea water yield a bushel at Nantucket. In Ohio 1,300,000 bushels of salt were manufactured from these springs in 1855. The springs in New York yield annually about six millions of bushels, and those in Virginia three and a half millions. In all these places deep borings are necessary, sometimes even as deep as 1,000 feet; and usually the brine becomes stronger the deeper the excavation.

*Origin of Salt Springs.*—In many parts of Europe, salt springs are found rising directly from beds of rock salt, so that their origin is certain. In this country, beds of rock salt have been found in Virginia, and they doubtless exist wherever salt springs occur. The springs in this country issue almost invariably from the Silurian rocks.

*Gas Springs.*—Carbonic acid, and carbureted hydrogen, are the most abundant gases given off by springs. They sometimes escape from the soil around the springs, over a considerable extent of surface, and produce geological changes of some importance. Carbonic acid, for example, has the power of dissolving calcareous rocks, and of rendering oxide of iron soluble in water. It contributes powerfully also to the decomposition of those rocks that contain feldspar. Carbureted hydrogen is sometimes produced so abundantly from springs that it is employed, as at Fredonia, in New York, in supplying a village with gas lights. At Charles-