duit the surface water from the roofs of the palace buildings, and thus securing a periodical flushing of the drains. In connection with this surface-water system there was elaborated a system of latrines and other contrivances of a sanitary nature, which are "staggeringly modern" in their appointments.

In the northeastern quarter, under the Corridor of the Game-Board, are still preserved some of the terra-cotta pipes which served as connections to the main drain. They are actually faucet-pointed pipes of quite modern type, each section two and one-half feet in length and six inches in diameter at the wide end, and narrowing to four inches at the smaller end. Dr. Evans states that jamming was carefully prevented by a stop-ridge that ran round the outside of each narrow end a few inches from the mouth, while the inside of the butt, or broader end, was provided with a raised collar that enabled it to bear the pressure of the next pipe's stop-ridge, and gave an extra hold for the cement that bound the two pipes together.

Indeed, the hydraulic science of the Minoan architects is altogether wonderful in the completeness with which it provided for even the smallest details. On a staircase near the east bastion, on the lower part of the slope, a stone runnel for carrying off the surface water follows the line of the steps. Lest the steepness of the gradient should allow the water to descend too rapidly and flood the pavement below, the runnel is so constructed that the water follows a series of parabolic curves, and the rapidity of its fall is thus checked by friction.

The main drains are duly provided with manholes for inspection, and are so roomy that two of the Cretan workmen spent days within them clearing out the accumulated earth and rubble without inconvenience. Those who remember the many extant descriptions of the sanitary arrangements, or rather the want of sanitary arrangements, in such a town as the Edinburg of the eighteenth century will best appreciate the care and forethought with which the Minoan architects, more than 3,000 years earlier, had provided for the sanitation of the great Palace of Minos.

PRODUCTION OF ELECTRIC-FURNACE STEEL.

According to Robert Pinot, secretary-general of the Comités des Forges de France, the production of steel in electric furnaces during the last three years was, in tons:—

	1909.	1910.	1911.
Germany	17,773	36,188	66,654
United States	13,762	52,141	29,105
Austria-Hungary	9,046	20,028	22,867
France	6,456	11,759	13,850
Total	47,039	120,116	126,476

The United Kingdom had hardly commenced to produce for the general market. The predominating lead of Germany and the drop in the electric steel production of the United States are notable features of last year's figures. Activity in France lies more in the field of ferro-alloys. Of these, France made altogether, in 1904, 34,200 tons, which amount had increased to 60,200 tons by 1910; the figures for ferro-alloys made in electric furnaces were respectively 5,756 and 23,800 tons; the electrically-produced alloys amounted in 1909 to 14,900 tons, and varied little in the years 1906 to 1909.

ALGAE AND THEIR RELATION TO PUBLIC WATER SUPPLIES.

In the monthly bulletin of the Ohio State Board of Health, there is a short discussion of algae and their relation to public water supplies, by Mr. L. H. Van Buskirk, assistant engineer of the State Board of Health. The discussion follows:

The State Board of Health receives frequent requests during the summer season from different municipalities of the State, for examinations of their public water supplies in which objectionable tastes and odors have developed. It has been observed by the residents of communities so affected, and also by the State Board of Health, that the tastes and odors occur sometimes as early as April, but generally not until the latter part of May or the first of June, and that they disappear as soon as cold weather is experienced in the fall. It has also been noted that the objectionable qualities are found in water that is stored in open basins or in impounding reservoirs in which there is an opportunity for stagnation due to the heat and light of the sun and the infrequent displacement of the water; and also that the peculiarities appear and disappear almost simultaneous with the occurrence of algae. It it an interesting fact that these features are not found to any extent in waters which are stored in reservoirs from which the sunlight is excluded. Algae do not develop in the dark. It is true, however, that certain other vegetable growths which give rise to the same unpleasant qualities thrive in waters which are protected from sunlight.

It must be understood that not all tastes and odors found in water are caused by algae, for there are a large number of other agencies which effect these qualities, among which are oil wastes, salt, sulphur, organic matter, iron, and bacteria. An example of bacterial growth is crenothrix which thrives in waters containing organic matter and iron. These bacteria when present in a water cause unpleasant tastes and odors. A water supply containing crenothrix is objectionable for laundry purposes due to the effects of the iron which collects in its cells upon linen. The growth develops rapidly in the dark and is found in covered reservoirs or storage basins and in distribution systems. In public water supplies containing large amounts of iron, the bacterial growth is often seen in the water as drawn from the hydrants in the form of small red filaments. It is difficult to destroy the bacteria unless the iron is removed from the water.

A further discussion of the causes of tastes and odors will be confined to purely algal growths concerning which the following facts are given.

The appearance of algae is familiar to practically all, as there are indeed few who have not seen the green scum floating upon the surface as well as the growths along the sides and bottoms of our lakes and ponds. These latter growths are not to be mistaken for the ordinary aquatic plants which are also abundant. Many people living or visiting in a community where the water supply is stored in open reservoirs know full well what the objectionable tastes and odors are like and many have noticed the green color of the water as drawn from the tap. The same qualities are frequently observed when fire hydrants on dead ends are opened for the purpose of cleansing the mains. The algal growth discharged from dead ends must not be confused with the red crenothrix which is found much more frequently.

The simplest forms of plant life are grouped under one general heading and are called thallophytes. Thallophytes may in general be separated into two divisions known as