and mouth under a notched rim. One detached face has much the character of some of the heads at Hoclulago, but the Onondagas seem to have made some terra cotta articles merely as ornaments.

Two other later sites, not far off, supply some more articles of this kind, but it is needless to describe all of these. Quite a number have been passed over now. On the earliest of these Onondago sites are occasionally found some large and curious clay pipes, with from four to five grotesque faces encircling the top of the bowl, while others intertwine all down the curving sides even to the mouthpiece. I have seen them nowhere else.

Of this pottery one fragment with a face at the angle was recently found on a fishing site near the head of Onondaga Lake. It is of interest as showing that the Onondagas even then visited the lake, though their homes were far away. It is interesting, too, to find that the Mohawks and Onondagas, the real founders of the Iroquois League, both had this unique pottery for a short time three centuries ago, and that it has not yet been found in the homes of the other Iroquois.

HOW ALUMINIUM IS OBTAINED FROM ITS ORES.

ALUMINIUM is now so rapidly growing in demand with the cheapening of the metal that it attracts more or less popular attention. In the form of clay the metal is all around us, but this ore is too poor in the metal and too difficult of working to make it a profitable source of supply. Corundum is the oxide and theoretically nearest the metal from a metallurgical point of view. Indeed, the metal has been extracted from this mineral on a small commercial scale, but the supply is too limited.

The metallurgy of the aluminium is theoretically the same as iron, that is, the compound used for extracting the metal is in each case an oxide. The oxygen in both cases is removed by carbon. The facility of carrying into practice the extraction of the metal is entirely different. In an ordinary blast furnace the carbon of the coal or coke easily extracts the oxygen from the iron ore, so that a pound or two of coal produces a pound of metallic iron. The oxide of aluminium defies such easy processes, and requires a temperature vastly greater than the fiery iron furnace. This is obtained by electric currents, and a process of electro-metallurgy is adopted. A trough is lined with gas carbon. In this, cryolite to the extent of 500 pounds is placed. Into this press, enormous electrodes are inserted, and the heat melts the cryolite, which is not decomposed by the electricity. With this fused mineral, about a third of its weight of oxide of aluminium is mixed, and it is soon dissolved. In this condition the aluminium compound is decomposed, the oxygen being removed at the expense of the carbon electrodes, and the molten particles sink in the cryolite. As the cryolite (fluoride of aluminium and sodium) is not consumed, the operation is continuous. However, the affinity between the metal and oxygen is so great that not merely the carbon of the electrodes is consumed, but about 75 pounds of coal are needed to develop horse-power to produce electricity enough to decompose the oxide.

From the method pursued, we see that the ore most available is that nearest approaching an oxide and rich in the metal. Of the natural compounds occurring in large quantities, beauxite is the most important. This is essentially a hydrated oxide of aluminium, but with usually an admixture of oxide of iron and frausilica. A high grade ore contains 60 per cent of alumina, only one or two per cent of each of the other constituents, and the balance is water. In this country the beauxite occurs in Georgia, Alabama and Arkansas. It is from the recent volume on the Paleozoic Belt of Georgia, by Dr. J. W. Spencer, that we derive the materials for this notice. This report is the most exhaustive treatise upon beauxite which has appeared in this country. The mineral occurs as masses of small concretions in great products in the Knox dolomite (the lowest formation of the Lower Silurian system). Where it is formed, the calcerous matter has been leached out of the impure limestone, leaving a great mass of a peculiar siliceous clay or loam, which is sometimes 200 feet thick. This represents that as much as 2000 feet of limestone have been removed from the region, which has been exposed to atmospheric degredation for long geological ages. As the alumina has resisted solution, a process of concentration has gone on so that the accumulations make themselves conspicuous. The ore always occurs in proximity to brown iron and manganese ores. The author explains their occurrences as having been brought down in solution by streams and deposited in lagoons, in which the limestones were also forming. The author gives us here an interesting chapter on chemical geology, without saying so in his treatment of the origin of the beauxite. Under the conditions of occurrence ferric oxide often replaces a portion of the alumina, sometimes to the extent of twelve or fifteen per cent. This, however, is no injury, for in preparing alumina for furnace uses a valuable bye-product is obtained. Silica may sometimes reach 20 or 30 per cent. In this case, the mineral must be considered more or less a mixture of beauxite and clay. Amongst the beauxite, iron and manganese deposits, great pockets or "horses" of clay, or often kaolin, are frequently seen. When the silica is present in such quantities the mineral becomes too poor to be of use. For making alumina the beauxite is fused with soda, from which mass the pure alumina is extracted. With the visible supply of beauxite and greater economy in the power consumed, we may hope before very long to see the metal at twenty-five or thirty cents a pound, when its uses in the arts will be enormously increased.

—When we examine the total number of books that have for their subject an Oriental country we are surprised to find how large a proportion of them have been written by travelers who were there for a comparatively short period, who did not understand the language of the people they describe, and whose knowledge must, consequently, have been acquired mainly at second-hand. It is a pleasure, therefore, to find in Miss Adele M. Fielde's forthcoming volume—"A Corner of Cathay"—a graphic record of original research concerning the life of the Chinese, by one who lived among them for twenty years, and whose familiarity with their language enabled her to enter into their modes of thought, and to ascertain from themselves the reasons for their peculiar and amazing customs. As an inmate of native households she possessed peculiar facilities for a study of their life, domestic, social, and intellectual, from the question of the legal status of the women to the curious games played by the children. In her illustrations she was aided by a native artist of wide local fame, and his pictures, as winsomely guiltless of perspective as were those of the early Italian artists and as charming in tint as Pekinese enamels, are skilfully reproduced in colors and present a new feature in American illustration. The name of the book is taken from the populous and picturesque region about Swatow, in the southeastern corner of China. It will be published by Macmillan & Co.