bought in England in 1887 that was made by means of the sodium process. I paid $40 a pound for that at that time; it is worth to-day thirty-three cents a pound, that is to say if bought in ton lots. If you examine this piece of aluminum and compare it with any other sample of aluminum you have lying on the table here, you will notice immediately that this is very much harder than any aluminum made to-day, for the simple reason it contains a very small quantity of iron which robs it to some extent of its malleable properties. The important thing is to get the aluminum pure and free from either iron or carbon. Now the first method I have described of making aluminum by means of absorbing the oxygen by means of carbon is impracticable for this reason, that aluminum has the unfortunate property of alloying itself with a small quantity of carbon ,and it then becomes entirely useless; all its valuable properties are gone. It is brittle, hard and easily powders. It is the same thing with iron and with a number of impurities which entering even in very small quantities render the valuable properties of aluminum nugatory. I have heard you speak here of the use of corundum. Generally there is not a single compound containing alumina which cannot be treated by laboratory methods for the elimination of aluminium from it. This substance here, pyrophyllite, I could treat very easily, and extract aluminium from it, but the question is could it compete with the present process of the manufacture of aluminum from bauxite? By no means and under no circumstances whatever, for the simple reason that it would require the additional expense of separating the silica from the alumina. With bauxite this is not necessary, because bauxite is already a hydroxide of alumina. Any other compound containing alumina requires treatment for the extraction of alumina by some additional process not required for bauxite. It is for this reason that bauxite is used as an ore. In the case of corundum, for instance, there would be no difficulty by the electric smelting process, in eliminating the oxygen, but corundum is not pure $Al_2 O_3$, but contains usually iron, and the resulting aluminum would contain it to the detriment of its valuable properties.

By the Hon. Mr. Sullivan:

Q. What is the percentage of aluminum in bauxite as compared with corundum?—A. I could not give you that.

Q. Even as an average?—A. I cannot say. The variability of its composition even in thes ame opening is considerable.

Q. It it not the quantity, it is the facility with which it is removed from the bauxite that makes bauxite more valuable than any other ore?—A. Bauxite is very nearly in the condition into which every other ore would have first to be brought before it could be treated; that is the point.

Q. What are the other substances—I do not mean elementary, but any form—in bauxite?—A. There is a small quantity of iron, a small quantity of silica and some organic matter, but the method of treating bauxite by any modern process gets rid of these impurities entirely.

Q. That is more than can be done with any other ore we have?—A. Yes. If you will allow me to make a remark—because I happened to hear what was said before—the question was asked can this corundum be made use of as an ore for the production of aluminium. Well, it cannot by means of the modern process, not by electrolysis very readily. If smelted by the electrothermic process it would combine with carbon. More than that, it is altogether too valuable a substance as an abrasive to be ever made use of for an ore. As a matter of fact, they are using bauxite now at Niagara Falls and converting that into artificial corundum.

By the Hon. Mr. Domville:

Q. Carborundum?—A. No, corundum, artificial corundum, $Al_2 O_3$. It pays, therefore, better to sell it as an abrasive than to make use of it as an ore for the production of aluminium.