School than by any other equal number of Tech. fellows during the same time. One fellow used to come to the table with a large volume of "Ten Years a Cow Boy"; he said he got it cheap at a mark-down sale.

After the blast furnaces, we went to puddling furnaces, beginning with the Upper Union Mills of Carnegie, Phipps, & Co. That day (Thursday, June 11th) was terribly hot everywhere, and in the works that we visited it was 120° F. in the shade! It was a tired-looking crowd that filed in to dinner that noon. The afternoon was spent in a "session" and in cooling off for the banquet which was given in the evening at the elegant quarters of the Duquesne Club.


After the dinner, Capt. Hunt introduced Mr. C. E. Stafford as toastmaster, who then called for a toast "To the Institute of Technology." Prof. Richards responded, and in his remarks told the objects of the Summer School. He also related several anecdotes of the "dodges" which some gold miners had tried to "work off" on him. Mr. Hibbard then answered to the toast "Steel Plates," and gave a short description of the rolling of the immense armor plates for the new cruisers. Mr. Holbrook's toast was "What time does the eleven o'clock train go?" He ought to know, as he is general superintendent of the P. & L. E. R. R. Prof. Hofman then told of the many and great improvements that had been made in the mining laboratories during the last few years, the increase of territory, and the addition of new machines and furnaces.

The remarks of Prof. Very were especially interesting because they were of things so unique. He said, "Our friends have been telling us of things on the earth and in the earth, but I shall talk of the 'regions above': I am a flying-machine crank." Then followed a description of the wonderful experiments that he and his co-workers had been undertaking to find out the principles of the soaring of birds in order to apply them to the paddles and planes of flying-machines. He told us also of the instruments at the Allegheny Observatory, of which he is superintendent, for measuring small quantities of heat; so delicate is one that when pointed at a cow in a pasture half a mile away, it can measure accurately the heat radiated from her body!

Capt. Hunt was introduced as the "aluminum crank." He assumed this name with good grace, and told us that the newspapers had exaggerated some of the qualities of aluminum—by the way, this metal is aluminum, not aluminium—and underrated others. Capt. Hunt has recently accomplished something in his line, that an eminent French metallurgist said, in a paper published last August, was impossible, namely, the direct reduction of aluminum by carbon. Mr. McKenna spoke on natural gas, and Mr. Weston did the honors for the Summer School by responding to the toast "To the Visitors." After a chat and cigars, the party broke up, voting the banquet the pleasantest event of the trip.

Friday morning was spent at the works of the Crescent Steel Co. Many of the processes used here are "secret," so notebooks and rules were kept out of sight. In the afternoon we went to the puddling furnaces of the Vesuvius Iron and Nail Co. There we