

halides there are formed organometallic compounds.

A special meeting of the Chemical Society of Washington was held Wednesday, March 29, 1905, in the chemical lecture hall of the George Washington University. At this meeting an illustrated lecture upon 'The Chemistry of Electrochemistry' was delivered by Professor W. D. Bancroft, of Cornell University.

A. SEIDELL,
Secretary.

THE AMERICAN CHEMICAL SOCIETY.
CORNELL SECTION.

At the November meeting of the Cornell Section of the American Chemical Society, Mr. E. S. Shepherd spoke on 'The Importance of Physical Chemistry in the Study of the Strength of Metals.' After a brief introduction, the speaker traced the development of the pyrometric study of alloys and pointed out how inexplicable were the results obtained. The subject of metallography was discussed and it was shown how neither metallography nor pyrometry could, unaided, solve the problem of the constitution of alloys. It was then shown that physical chemistry furnished a simple explanation of all the facts observed. The equilibrium diagrams for iron-carbon, copper-tin and copper-zinc were discussed. The theory of hardening steel and tempering was briefly explained. By means of the tensile strength curves the speaker showed what a great change in the physical properties of the bronzes can be induced by suitable heat treatment. Quoting results obtained by Shepherd and Upton working on a grant to W. D. Bancroft from the Carnegie Institution, it was shown that certain bronzes could have their tensile strength doubled by heat treatment. Thus a bronze containing 81 per cent. of copper would show a strength of 73,000 pounds per square inch if quenched from above 500° C. and only about 30,000 pounds per square inch when annealed. It was shown how the elongation of the 97 per cent. copper bronze was 30 per cent. for a quenched bronze and only 3 per cent. for the annealed. From these and the similar changes in iron and steel the

speaker pointed out the very great need for equilibrium diagrams as a basis for further investigations of the mechanical properties of metals. The speaker mentioned the great value of metallography, pointed out its limitations and was of the opinion that it was only one of the several essential methods of investigation.

In closing, the speaker discussed the work of Beilby on the surface flow, and hard and soft states of metals. The lecture was illustrated by a large number of lantern slides.

W. S. LENK,
Secretary.

THE ONONDAGA ACADEMY OF SCIENCE.

At its regular meeting, February 17, the academy elected the following officers:

President—Professor T. C. Hopkins.

Vice-President—J. D. Wilson.

Recording Secretary—Philip F. Schneider.

Corresponding Secretary—J. E. Kirkwood.

Treasurer—Mrs. L. W. Roberts.

Councilors—A. M. Reese and E. N. Pattee.

Professor W. M. Smallwood presented the following facts concerning a tumor in the kidney of a frog:

During the past semester in one of the elementary courses in the university while dissecting the frog it was noticed that the kidneys of one were abnormally large and irregular in shape. They were at once fixed in Carnoy's fluid and subsequently studied with some care. The kidneys were about four times as large as the normal kidneys and showed no evidence of the presence of the adrenal in its normal position. A study of the cytology revealed the presence of a tumor resulting from the abnormal growth of the adrenal tissue. A comparison of these conditions with available human adrenal tumors showed a very striking agreement not only in the general arrangement of tumor tissue to the kidney tissue, but also in the finer details of structure. This agreement is so striking as to leave no doubt but that the pathological conditions in the frog are to be characterized as an adrenal tumor. It is interesting to note that similar results obtain in such widely different animals as the frog