

Nature of Bence Jones's Protein: REUBEN OTTENBERG and WILLIAM J. GIES.

Bence Jones's protein and crude elastose not only have several proteose properties in common, but unlike the ordinary proteoses, each is precipitated from its aqueous solution when the latter is gently warmed. Bence Jones's protein occurs in the urine of patients suffering from sarcoma of bone marrow or from osteomalacia. Bone contains considerable elastin-like material (osseoalbumoid). The possibility that Bence Jones's protein may be a derivative of osseoalbumoid, and the great desirability of making our knowledge of this elusive protein more definite, led the authors to undertake a study of a preliminary phase of the work that will be necessary to determine the points at issue.

They sought first to ascertain whether crude elastose, when injected subcutaneously or intraperitoneally, is eliminated in the urine and whether it can be detected there by the heat-precipitation test. When thus introduced in dogs, crude elastose, obtained by peptolysis of ligament elastin prepared by Richards and Gies's method, not only promptly appears in the urine, but may be identified in it by the heat-precipitation test. This observation makes it clear that if elastose is formed in bone or in any other tissue by any pathological process, the elastose thus produced may pass into the urine without material alteration of the characteristic property referred to.

Before proceeding further in this connection, the authors intend to prepare osseoalbumoid (bone elastin?) in sufficient quantity to permit of a determination of the nature of its proteoses and their fate when injected into animals.

WILLIAM J. GIES,
Secretary

THE AMERICAN PHILOSOPHICAL SOCIETY

A STATED meeting of the society was held on Friday, October 4. The following papers were read:

DR. EDGAR F. SMITH: "New Results in Electrolysis."

PROFESSOR SIMON NEWCOMB: "A Study of Correlations among Terrestrial Temperatures, as

indicating Fluctuations in the Sun's Thermal Radiation."

R. H. MATHEWS, L.S.: "Language of the Burdawal Tribe in Gippsland, Victoria."

DISCUSSION AND CORRESPONDENCE

SMELTER SMOKE

IN an article recently published in the *Journal of the American Chemical Society* (July, 1907) on gases *vs.* solids, an investigation of the injurious ingredients of smelter smoke, by Professor W. Clarence Ebaugh, the results of the investigation are contrary to previous experiments along this line as well as to the experience of the writer, and it appears to him that the conclusions are based on misleading and inadequate data.

The writer is very much averse to criticizing the work of a brother scientist, but since the results of this work, if uncontradicted, will undoubtedly be used in many cases between smelters and injured parties, it would only seem proper to point out the fallacy of the arguments. Not to be misunderstood in the beginning, the writer wishes to explain that he is firmly of the opinion that the solid emanations which arise from a smelter (including perhaps, soluble copper, arsenic and lead compounds) are injurious to vegetation in so far as they reach it, but that such emanations reach as far as sulphur dioxide or have so injurious an action appears to be decidedly doubtful and has certainly not been proven in the paper published by Professor Ebaugh.

On page 953, of his article, Professor Ebaugh says:

In the first place, the injury (in the Salt Lake Valley) does not occur simultaneously over a large area; on the contrary, it seems to be restricted in its range. Secondly, it is rarely found that a number of crops grown successively in a given locality show the effect of smelter smoke, etc.

The above assertions are, of course, only the personal opinion of Professor Ebaugh but in the main they are diametrically opposed to the experience of the writer who has examined smelter injury at Redding, Cal., Ducktown, Tenn., and at Anaconda, Mont. In every case examined by the writer the injury *did* occur