Mr. W. C. Kretz read a paper on the 'Positions and Proper Motions of Stars in Coma Berenices from Rutherfurd Photographs.' Rutherfurd took fourteen photographs in the years 1870, 1875 and 1876 of the cluster in Coma Berenices. The positions of these stars on the plates were measured with a Repsold measuring machine, and the reduction was made by the method worked out by Professor Jacoby. Great precautions were taken to eliminate all possible errors. The positions obtained were compared with those obtained by Chase with the Yale heliometer in 1892. In this manner a catalogue of the positions and proper motions of twenty-four stars was obtained, which was the object of the research.

Wm. S. Day,
Secretary.

THE NEW YORK SECTION OF THE AMERICAN CHEMICAL SOCIETY.

The regular monthly meeting of the New York Section of the American Chemical Society was held at the Chemists' Club, 108 West Fifty-fifth street on Friday evening, April the 7th; Dr. Wm. McMurtrie presiding, and about sixty-five members present.

The following papers were read: 'The Toxic Action of Sodium Fluoride,' by H. B. Baldwin. 'The Chemistry of the By-Products of Coke Ovens,' J. D. Pennock. 'Notes on the Chemistry of the Carbides,' J. A. Matthews. 'The Distribution of Alkali in Montana,' F. W. Traphagen and W. M. Cobleigh; read by Mr. Cobleigh.

Mr. Baldwin said that, owing to the now somewhat extended use of sodium fluoride in the arts and as a preservative and insecticide, there is considerable liability of accidental poisoning from the substance. Several cases are cited with the symptoms observed, the most prominent of which are nausea and vomiting within a few minutes. One case resulted fatally from an unknown dose, probably about ten grams. Five grams produced serious results in another case. The author took several experimental doses and was made ill by 0.25 gram. A case is also cited where about 50 grams were taken with complete recovery. The literature of the substance as a toxic agent is very meagre, but experiments have been made by several German and French investigators. Shultz found that by subcutaneous injection the lethal dose per kilogram of body weight was for rabbits 0.2–0.4 gram, for dogs 0.3 gram and for frogs 0.005–0.006 gram. Sodium fluoride should be classed among the less violent poisons and ought to find a place in works on toxicology.

The paper of Messrs. Traphagen and Cobleigh was an interesting description of the distribution of alkali in Montana with analytical data.

Professor Matthews gave a classification of the carbides thus far known, according to their methods of preparation and properties, and described their commercial development, beginning with carborundum, of which in 1895 the production was about 300 pounds per diem. Last July the daily output was 4,300 pounds and over. It is said to be harder than emery and lighter. It has been successfully used in plate-glass grinding, as well as for all ordinary purposes. Recently it has been put to an entirely new use, that of furnishing silicon to steel, being a substitute for ferro-silicon where the addition of some carbon is not objectionable.

The calcium carbide industry was also reviewed, and several uses other than for preparation of acetylene were mentioned, as follows: Drying alcohol and other organic liquids, absolute alcohol being easily prepared by its use; to deoxidize and carbonize iron, and as a reducing agent in fire assays. Moissan has used it as a reducing agent in the preparation of other carbides.

Mr. Pennock's paper gave interesting particulars out of the construction of the coke ovens at Syracuse, N. Y., with details of the percentages of bye-products, composition of the gas, tar, etc., closing with lantern views of the exterior and interior of the buildings, showing the retorts and other important parts of the plant.

Durand Woodman,
Secretary.

DISCUSSION AND CORRESPONDENCE.

MESSRS. LEHMANN AND HANSEN ON TELEPATHY.

To the Editor of Science: One or two of your readers may possibly remember a small exchange of words between Professor

Titchener and myself *apropos* of his article in SCIENCE for December 23d (Vol. VIII., p. 897).

Messrs. Lehmann and Hansen had sought to show experimentally that the results of certain experiments by Professor H. Sidgwick, which the latter had ascribed to 'thought-transference,' were really due to involuntary whispering by the agent, overheard hyperæsthetically by the subjects. Professor Titchener closed his article by saying: "The brilliant work of Messrs. L. and H. has probably done more for scientific psychology than could have been accomplished by any aloofness, however authoritative."

To these words I, in your next number, took exception, saying that if Professor Titchener would read Sidgwick's and my criticisms of the work of the Danish investigators, he would probably agree 'that, owing to the fewness of the data which they had collected, they entirely failed to prove their point.' I, consequently, called their essay 'an exploded document'; to which my 'scientifically-minded' *confrère* rejoined (in SCIENCE for January 6th) that he had carefully read the criticisms, and had thus seen us 'handling the fuse,' but that he had 'not yet heard the detonation.'

As the explosion was so audible to me, the disproof being quasi-mathematical, I was astounded at this hardness of hearing in my colleague; and, to make sure that I was not a victim of auditory hallucination, I wrote to Professor Lehmann to know what he himself thought of his conclusions, in the light of the criticisms in question. His answer, somewhat belated, just arrives.

He says: "Your own as well as Professor Sidgwick's experiments and computations prove, beyond a doubt, that the play of chance had thrown into my hands a result distinctly too favorable to my theory, and that the said theory is consequently not yet established (*bewiesen*)."

This is identically Professor Sidgwick's and my contention; and for his candor, as well as for his willingness to take pains to experiment in this region, Professor Lehmann deserves to stand high as a 'psychical researcher.'

Professor Titchener, meanwhile, still hugging the exploded document, wanders upon what he calls 'the straight scientific path,' having it apparently all to himself. May the consciousness of his fidelity to correct scientist principles console him in some degree both for his deafness and for his isolation.

WILLIAM JAMES.

CAMBRIDGE, April 20, 1899.

TWO CORRECTIONS.

MY attention has just been called to this paragraph in SCIENCE, June 3, 1898, p. 784, foot of column two:

"*Erratum:* In the review of Wilder's System of Nomenclature, p. 716, col. I, line 5, for 'chippocamp' read 'hippocamp.'"

This prompt public correction renders needless and unjust the commentary upon the subject in my address last December before the Association of American Anatomists (*Proceedings*, p. 33, and SCIENCE, April 21, 1899, p. 577), and I deplore my non-acquaintance with it up to the present time. Since none of those who heard my address reminded me of the 'Erratum,' it seems to have been overlooked by them also.

In this connection may properly be corrected a typographical error in the address itself (*Proceedings*, p. 16, and SCIENCE, April 21, 1899, p. 566, note, title 6); the date of publication of the 'Review' in SCIENCE should be May 20th, not 28th.

These corrections will be incorporated in the *Proceedings* and sent to those who receive copies of SCIENCE from me.

B. G. WILDER.

ITHACA, N. Y., April 26, 1899.

[It may be explained the typographical error referred to above was not due to any oversight on the part of the writer of the review. An inverted comma (') was inserted in the proof before hippocamp, which was mistaken by the printer and the proof reader for a *c*.—ED. SCIENCE.]

NOTES ON PHYSICS.

A NEW THEORY OF THE ZEEMAN EFFECT.

DURING the last eight or ten years Goldhammer has published at intervals in *Wiedemann's Annalen* a series of papers dealing with the electro-magnetic theory of light, and espe-