These formations occupy long narrow belts, comparable in extent with the sedimentary rocks, and belts of plutonic rocks alternate with volcanic rocks. Attention was called to the prevalence and attitudes of the schistose plane, due to deformation, and to the similar deformation of sediments and crystallines in the same area. The whole series of stratigraphic and structural results in sediments and crystallines was classified as part of the Appalachian system.

Prof. Van Hise discussed the relations of secondary structures to the forces that produced them, and it was concluded that there have been two entirely different structures described under the term 'cleavage.' Following the English geologists, it was held that one of these structures develops normal to the pressure in a deep-seated zone of rock flow, and that this ought properly to be called 'cleavage.' Following Becker it was held that there have often developed two intersecting structures on shearing planes in the zone of fracture. For this structure the term 'fissility' was proposed.

Mr. Becker, in discussing Prof. Van. Hise's paper, expressed himself as certain that true cleavages as well as ruptures are produced at large angles (not necessarily 45°) to the line of force. He regards the existence of such cleavages as well established, both by experiment and by theory. In his opinion, no adequate theoretical or experimental basis exists for asserting that cleavage is normal to force, and field observations on slates leave the exact direction of force to inference.

The communication, which was listened to with much interest, was illustrated by a number of diagrams.

On account of the importance of the subject it was proposed to invite Prof. Van Hise to give the Society a more extended presentation of it at the meeting to be held January 29th.

W. F. Morsell.

INDIANA ACADEMY OF SCIENCE.

The eleventh annual meeting of the Indiana Academy of Science was held at Indianapolis, December 27–28, 1895.

The meeting was quite largely attended and much interest was manifested. More than forty new names were added to our list of members.

The address of the retiring President, Mr. Amos W. Butler, on 'Indiana: A Century of Changes in the Aspects of Nature,' was intensely interesting and very instructive.

The papers were numerous and most of them of importance to the scientific work of the State.

The report of the Biological Survey on Turkey Lake deserves special mention. It indicated a great amount of work and will be productive of much good in creating a deeper interest in such work. Many papers ought to be mentioned, but space will not permit.

The officers for the next year are as follows: President, Stanley Coulter, Purdue University; Vice-President, Thomas C. Gray, Rose Polytechnic; Secretary, John S. Wright, Indianapolis; Assistant Secretary, A. J. Bigney, Mooles Hill College; Treasurer, W. P. Shannon, Greensburg.

The Spring meeting will probably be held in connection with the Ohio Academy, near the State line.

A. J. Bigney,
Assistant Secretary.

NEW BOOKS.

Anleitung zur Mikrochemischen Analyse. H. Behrens. Hamburg & Leipzig, Leopold Voss. 1896. Pp. xiii+108. M. 5.

Handbook to the British Mammalia. R. Lydekker. London, W. H. Allen & Co. Limited. 1895. Pp. xiii+339.

The Elements of Physics, Vol. I., Mechanics and Heat. Edward L. Nichols and William S. Franklin. New York and London, Macmillan & Co. 1896. Pp. xi+228. $50.

The Story of the Solar System. G. F. Chambers. New York, D. Appleton & Co. 1896. Pp. 181. 40 cents.

Life, Letters and Works of Louis Agassiz. Jules Marcou. New York and London. 1896. Vol. I., pp. ix + 303; Vol. II., pp. x + 318. $4.00.

Old Faiths and New Facts. William W. Kensley. New York, D. Appleton & Co. 1896. Pp. 345. $1.50.

Studies of Childhood. James Sully. New York, D. Appleton & Co. 1896. Pp. viii + 527. $2.50.