

spring. It is but feebly subject to the influence of altitude. So sensitive is it to the presence of oxidizable substances in the air that daily and local variations must be due to the existence in the atmosphere of 'actinic clouds' otherwise undiscoverable. In northern latitudes the atmosphere is less absorbent of actinic rays and hence that kind of radiation is more active relatively than in lower latitudes. The actinic effect of the sun increases more rapidly than the duration of its presence above the horizon; as a result, the effect produced during the long days of the northern summer is proportionally very great. The actinic effect may continue after the luminous effect of the sun's radiation has become clouded; thus the effect of a fine morning is not lost by a dark and cloudy evening. The duration of the day and the solar effect as usually measured are of little value for calculating the true actinic effect of sunlight. The paper as a whole is of unusual interest.

W. W. R.

SOCIETIES AND ACADEMIES.

KANSAS ACADEMY OF SCIENCE.

THE thirteenth annual meeting of the Academy was held at Baker University on October 27th, 28th and 29th, under the presidency of Professor S. W. Williston.

The scientific program was as follows:

- The migrations of birds.....J. R. Mead
 A list of the Goss Ornithological Collection, being the report of the Board of Curators....D. E. Lantz
 A Bibliography of Kansas ornithology, with an historical list of Kansas Birds.....D. E. Lantz
 A list of the birds taken in Mexico and Central America by the late Colonel N. S. Goss, with notes of localities.....D. E. Lantz
 An historical list of Kansas mammals.....D. E. Lantz
 The injurious insects of the year in Kansas.....S. J. Hunter
 Kansas *Lachnosterna*.....Warren Knaus
 Entomological collecting notes.....Warren Knaus
 Observations on the elm-twigg girdler.....Percy J. Parrott
 The natural history possibilities of Belvidere, Kansas.....C. N. Gould
 An inexpensive dissecting-stand for microscopical dissections.....S. J. Hunter
 Biological notes.....S. J. Hunter
 A floral horologue for Kansas.....B. B. Smyth

- Root tubercles and their production by inoculation.....D. H. Otis
 Therapeutical notes on some Kansas plants.....L. E. Sayre
 Notes on Kansas plants.....A. S. Hitchcock
 Bibliography of literature relating to wind effects on trees.....J. B. S. Norton
 On the finding of insects in the Comanche Cretaceous of Kansas.....C. N. Gould
Fusulina cylindrica shell structure.....Alva J. Smith
 Range and distribution of the *Mosasauria*.....S. W. Williston
 A new *Labyrinthodont* from the Kansas Carboniferous.....S. W. Williston
 Geological notes on Trego County and vicinity J. W. Beede
 A preliminary report on the geology of the Delaware Valley in Atchison County....J. W. Willison
 New developments in the Mentor beds...C. N. Gould
 Extremes and means of Kansas climate...F. H. Snow
 Viscosity of the ether.....A. St. C. Dunstan
 Alternating currents in a Wheatstone bridge where branches contain resistance and capacities.....Martin E. Rice
 Equilibrium of forces in a film originally spherical, grounded in the presence of an external electric charge.....L. I. Blake
 Some problems of marine telephony without wires.....L. I. Blake
 The dehydration of gypsite.....E. H. S. Bailey
 Some new mineral waters.....E. H. S. Bailey
 Decomposition of some diazo compounds with methyl alcohol.....Geo. F. Weida
 On the generation of finite transformations from infinitesimal transformations.....H. B. Newson
 Additional notes on the timbered mounds of the Kaw Reservation.....C. N. Gould
 Relativity in science.....E. B. Knerr
 The subject of the President's address was 'Science and Education.'

NEW BOOKS.

- Allgemeine Erdkunde*. I. HANN, ED. BRÜCKNER and A. KIRCHOFF. II. part, fifth edition. Prag, Wien and Leipzig, F. Tempsky. 1898. Pp. xii+368. M. 8.
Das kleine botanische Practicum für Anfänger. EDWARD STRASBURGER. Third edition. Jena, Gustav Fischer. 1897. Pp. viii+246. M. 6.
Nature Study in Elementary Schools. MRS. L. L. WILSON. New York and London, The Macmillan Co. 1897. Pp. xix+262.