

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.