ponds at a scale distance of 2700""" to -^*-0 of an ampere. With compensating magnet 1 lo^mm deflection to 12/10 of an ampere. A difference of 10° C. between the junctions of one german silver and iron thermo-element gives a deflection of 120^mm through 1000 ohms resistance at a scale distance of 2700^am.—Annalen der PhysiJe und Chemie, No. 12, 1884, pp. 677-686. j. T.

12. Electrical resistance of microphone contacts during movement.—The theory of the action of the microphone is still little understood. Otto Boekmann, in his paper, gives the results of many measurements upon polished carbon contacts with different current strengths, and with varying pressure upon the contacts. The results are expressed graphically, and the author concludes that the resistance of polished carbon contacts, under constant pressure and with constant current strength, is smaller during movement than during rest. After cessation of the movement the contacts return to their original resistance. The difference between the resistance of movement, and that of rest is greater, the greater the original resistance—or which is the same thing—the less the original pressure. The resistance of movement with constant pressure and decreasing strength of current increases and returns to its original amount, after cessation of movement. The resistance decreases with diminished movement and diminished strength of tone of the tuning fork interrupter, the pressure and the strength of the electrical current remaining the same. The resistance during the movement is with same strength of tone and strength of current not dependent upon the number of vibrations, which the movement indicates—it is also independent of the pitch.—Ann. Phys. Chem., No. 12, 1884, pp. 651-665. J. T.

13. Resistance of the Siemens Mercury unit.—H. Wild communicates in detail the results of his new measurements of the mercury unit and obtains the value 1.S.E. = 0·94315 ohm, and therefore concludes that 106·027 of mercury, one square millimeter in section at 0° C, represents the resistance of an ohm.—Annalen der Physik und Chemie, No. 12, 1884, pp. 665-677. J.T.

II. GEOLOGY AND NATURAL HISTORY.

1. A Scorpion from the Upper Silurian. —A fossil Scorpion has been found in the Upper Silurian (Ludlow) of Gotland, Sweden, and named by MM. Torell and Lindstrom, Palaiophonus nuncius. The specimen is well preserved and shows clearly the cephalothorax, the abdomen with seven dorsal plates and the tail, consisting of six segments, the last pointed to form the poison-dart. The sculpture of the surface consists of tubercles and longitudinal ridges, and is exactly as in recent scorpions. One of the stigmata is visible on the right side, proving that the animal respired air.

Further, a fossil scorpion was obtained last year by Dr. Hunter, of Carluke, from the Upper Ludlow beds of Lesmahago, in Lanarkshire. Owing to the ill health of Mr. B. N. Peach, to whom it was sent, it was not studied until a photograph of the Swedish species was received from Dr. Lindstrom. The two are closely allied, and may be of the same species.—Ann. and Mag. Nat. Hist., January, 1885, p. 76, citing the note on the Swedish Scorpion from Comptes Rendus, December 1, 1884, p. 984.

2. Dinocerata, a Monograph of an Extinct Order of Gigantic Mammals; by OTHNIEL CHARLES MARSH. 56 plates and 200 woodcuts, i-xviii and 237 pp. 4to. Washington, 1884. United States Geological Survey, Volume X. Advance copy issued with the permission of the Director.—A review of this important memoir will appear in the next number of this Journal.

3. Names of extinct Reptiles; by O. C. MARSH.—The name Amphisaurus, given by the writer to a genus of Triassic reptiles, proves to be pre-occupied, and may be replaced by Anchisaurus. The name of the family would then be Anchisauridæ. Camptonotus, applied to a genus of Jurassic reptiles, has also been used, and Camptosaurus may be substituted. Limnophis, already in use, may be replaced by Lestophis.

4. Botanical Necrology for 1884.—The list should begin with the name of a devotee to botany who died some time in the year 1883, namely:

AUGUSTUS FENDLER. After Dr. Engelmann's death, the beginning of a notice of Mr. Fendler was found upon his table, from which it was learned that he had died at Trinidad, some time precious. Inquiries sent to the Port of Spain, where he had for several years resided, remain unanswered. An autobiographical account which he addressed to a correspondent (and which, with some of his letters, we hope will before long be printed), enables us to state that Mr. Fendler was born at Gumbinnen, on the easternmost border of Prussia, January 10, 1813, lost his father in infancy, was sent to the gymnasium of the town when twelve years old, but was at sixteen apprenticed to the town clerk, where, perhaps, he perfected the neat and clear hand-writing with which his correspondents are familiar. Having a fondness for mathematics and chemistry, he obtained, in 1834, upon examination, a nomination to the Royal Polytechnic School at Berlin, but relinquished it after a year on account of delicate health; in 1836 he came from Bremen to Baltimore, "with a couple of dollars in his pocket," worked in a tan-yard in Philadelphia, then in a lamp factory in New York; in 1838, traveled in the most economical way to St. Louis, which required thirty days, and was employed by a lamp-maker who made "spirit-gas" for lighting public limits, coal-gas being then unknown so far west. Soon after he made his way to New Orleans and to Texas, where he was witness to the ravages of yellow fever in the summer and fall of 1839; he returned to Illinois, broken in health and empty in purse, taught school for some time, then, the spirit of wandering and of solitude coming strongly upon him, he took possession of an uninhabited