

Two numbers have been issued. The first includes reports of experiments, chiefly with kerosene, upon the insects injuriously affecting the orange-tree and the cotton-plant. The second includes reports of observations on the Rocky Mountain locust and the chinch-bug, together with extracts from the correspondence of the division on miscellaneous insects.

—The University of Pennsylvania has conferred the degree of M.A. on Professor Lewis M. Haupt, C.E.; and of Sc.D. on Professor Isaac Sharpless, professor in Haverford college.

—At the meeting of the Royal astronomical society, May 11, Professor C. Pritchard of Oxford gave an account of his recent expedition to Cairo, and of the work on which he has for the last two years been engaged; viz., the measurement of the magnitude of the stars visible to the naked eye from the pole to the equator, including at present all those brighter than the fifth magnitude. This work is now complete. He found, that, at Oxford, Laplace's law of alteration of a star's light as measured in magnitude—according to the secant of the star's zenith distance—did not hold good for zenith distances exceeding 65°, and that for stars at lower altitudes the alterations in apparent magnitude were conflicting and not satisfactory. For the purpose of accurately investigating the effect of atmospheric extinction of light under better circumstances, he chose the climate of Upper Egypt, where the atmosphere is uniform and stable, as the proper locality for repeating the Oxford observations, and rendering the research complete. A duplicate set of instruments was left at Oxford in charge of the senior assistant, who observed the same stars with Professor Pritchard at Cairo. The results of both sets of observations are embodied in the formulae, —

Atmospheric absorption

At Cairo = $0.187 \times \text{Sec. Z.D. in magnitude}$;

At Oxford = $0.253 \times \text{Sec. Z.D. in magnitude}$.

Thus the whole effect of the atmosphere at Cairo is to diminish the brightness of stars seen in the zenith by about two-tenths of a magnitude, and at Oxford by about one-fourth of a magnitude. At an altitude of about 30°, the stars at Cairo will be brighter than in England by about one-fifth of a magnitude, and consequently many more faint stars are just visible at Cairo than can be seen at Oxford.

—Alexander Melville Bell has written a primer, which will soon be published, for use in elementary schools in teaching the methods of visible speech. The book can be used by any teacher without special training in the peculiarities of the system.

—A correspondent states that the shortest scientific article known to him, and perhaps the shortest ever published, is by William Griffith, in the bulletin of the U. S. fish-commission for 1882, p. 12, under the title 'Result of planting shad in the Ohio River.' The article contains twenty-six words, and occupies two lines.

—At the meeting of the Cambridge entomological club, June 8, Mr. S. H. Scudder discussed the homologies of the male abdominal appendages of butter-

flies, and Mr. G. Dimmock showed a living *Buthus occitanus*, and described some of its habits.

—The Argentine government has sent Col. Solá, with a party of two hundred soldiers, to explore the Pilcomayo in its course through the Gran Chaco. The party is accompanied by a delegate of the Argentine geographic institute, whose chief object is to discover the remains of Crevaux, and ransom two of his men who are reported to be held as prisoners by the Indians.

RECENT BOOKS AND PAMPHLETS.

***Continuations and brief papers extracted from serial literature without repagination are not included in this list. Exceptions are made for annual reports of American institutions, newly established periodicals, and memoirs of considerable extent.*

Adam, L. Les idiomes négro-aryen et maléo-aryen, essai d'hybridologie linguistique. Paris, *Maisonneuve*, 1883. 76 p. 8°.

Bisson, E. Nouveau compas de mer donnant la direction vraie du méridien magnétique sur les navires en fer. Paris, *impr. Chaix*, 1883. 20 p., 4 fig. 8°.

Boutillier, L. Des corallaires à madrépores et de leur action géologique. Rouen, *impr. Cagniard*, 1883. 30 p. 8°.

Camoy, J. B. Biologie cellulaire: étude comparée de la cellule dans les deux règnes au triple point de vue, anatomique, chimique et physiologique. Aachen, *Barth*, 1883. 8°.

Crié, L. Les origines de la vie, essai sur la flore primordiale; organisation, développement, affinités; distribution géologique et géographique. Paris, *Doct*, 1883. 79 p., illustr. 8°.

Crozals, J. Les Peulhs, étude d'ethnologie africaine. Paris, *Maisonneuve*, 1883. 271 p. 8°.

Desdevises du Dezert, T. Le noyau central et les marches de la langue d'oïl. Rouen, *impr. Cagniard*, 1883. 28 p. 8°.

Duguit, L. Quelques mots sur la famille primitive, conférence faite à Bordeaux, le 16 mars 1883. Paris, *Larose*, 1883. 32 p. 8°.

Elsner, F. Recepte für pharmacie und chemische grossindustrie. Halle, *Knapp*, 1883. 9+216 p. 8°.

Fabre, J. H. Cours de physique (programmes de 1882). Paris, *Delagrave*, 1883. 304 p., illustr. 18°.

Ferri, L. La psychologie de l'association depuis Hobbes jusqu'à nos jours (histoire et critique). Paris, *Baillière*, 1883. 4+382 p. 8°.

Fricero, A. Considérations diverses sur l'emploi des huiles minérales lourdes dites oléonaphtes comme lubrifiants. Marseille, *impr. Grangé*, 1883. 12 p. 8°.

Greer, H. Recent wonders in electricity, electric lighting, magnetism, telegraphy, telephony, etc., N.Y., *Agent Coll. electr. eng.*, 1883. 168 p., illustr. 8°.

Guyot, A. Memoir of Louis Agassiz, 1807-73. Princeton, *Robinson pr.*, 1883. 49 p. 8°.

Instructions relatives à l'établissement des pépinières de vignes américaines. Paris, *impr. nat.* 1883. 36 p. 8°.

Le Breton, G. La céramique polychrome à glaçures mét. alliques dans l'antiquité. Rouen, *impr. Cagniard*, 1883. 45 p. 8°.

Leplay, H. Chimie théorique et pratique des industries du sucre: étude historique, chimique, et industrielle des procédés d'analyse des matières sucrées, etc., suivie de la description d'un nouveau procédé d'analyse chimique industrielle des matières sucrées. T. I. Paris, *Baudouin*, 1883. 28+452 p. 8°.

Marin La Meslée, E. L'Australie nouvelle. Paris, *Plon*, 1883. 12+298 p., illustr. 18°.

Quenstedt, F. A. Die ammoniten der schwäbischen Jura. i. heft, mit ein atlas. Stuttgart, *Schweizerbart*, 1883. 48 p., illustr. 8°.

Schneider, A. Zoologische beiträge. i. band, i. heft. Breslau, *Kern*, 1883. 3+63 p., 12 lith. 8°.

Tellier, C. Étude sur la thermo-dynamique appliquée à la production de la force motrice et du froid. fasc. i. Paris, *impr. Mouillot*, 1883. 7+97 p. 8°.

Thompson, D'Arcy W. A catalogue of books and papers relating to the fertilization of flowers. London, *Macmillan*, 1883. (2)+36 p. 8°.