

Condamine: The estimation of carbon monoxide in industrial gases. Comparative analyses with ammoniacal cuprous chloride, acid cuprous chloride, and the Damiens cuprous sulphate reagent.—**Alfred Schoep**: Dumontite, a new radioactive mineral. This new mineral is found as an enclosure in cavities in tobernite from the Belgian Congo. It is a hydrated lead uranyl phosphate.—**G. Rempp** and **J. Lacoste**: New study on the daily variation of the direction of the wind at Strasbourg.—**Maurice Lenoir**: The nucleus of the mother cell of the embryonic sac in *Fritillaria imperialis* observed during its pro-synoptic evolution.—**Mme. L. Randoin** and **H. Simonnet**: The food equilibrium. Maintenance of the pigeon by means of a food regime entirely lacking the water soluble factor.—**Charles Henry**: The radiation of homeotherms and the calculation of nervous sensibilities.—**Marcel Duval**: The amount of sodium chloride in the blood of some marine invertebrates. Contrary to current views, the blood of certain marine invertebrates, particularly crustaceans, contains sodium chloride in slightly lower concentration than the external medium. As the blood and the surrounding sea-water are isotonic, it is probable that the deficiency in the osmotic pressure of the former is made up by the presence of organic substances.—**Paul Fleury**: The laws of action of laccase: influence of the reaction of the medium.—**R. Anthony** and **Mlle. F. Coupin**: A rhinencephalic convolution peculiar to certain carnivora: the *gyrus transversus area piriformis*.—**E. Hubault**: The presence of *Liponeura cinerascens* and of *L. brevivestris* in the upper valley of the Meurthe.

WASHINGTON.

National Academy of Sciences (Proc. Vol. 10, No. 8, August).—**P. S. Epstein**: On the simultaneous jumping of two electrons in Bohr's model. A new series in the arc spectrum of calcium ($1p - mp_1$), attributed to the simultaneous jumping of two electrons, has been discovered by **H. N. Russell** and **F. S. Saunders**. This condition can be accounted for on the principle of correspondence provided that there is coupling of electrons within the atom.—**J. A. Becker**: The Compton and Duane effects. The two effects may be distinct and their appearance or non-appearance may depend on the intensity of radiation. Using an aluminium crystal as the secondary radiator, the Compton effect (quantum shift) was obtained, and on decreasing the intensity and increasing the time of exposure of the photographic plate, the Duane shift (tertiary radiation) appeared faintly. An additional note states that measurement of the total intensity of scattered radiation in circumstances including both effects has shown that, contrary to expectation, it is proportional to the primary radiation.—**E. B. Wilson**: Coulomb's law and the hydrogen spectrum. Working from the simple equations for force, quantum condition, frequency condition, spectral law and energy, for the electron moving in a circular orbit, it is shown that either Coulomb's law holds, or the law of inverse cubes, involving a quantised force and potential energy, but with no restriction as to the size of the orbit.—**Carl Barus**: Density and diffusion measurement by displacement interferometry in extreme cases. Very high values were obtained for hydrogen; it appears that there is a static error, referred temporarily to the surface tension of the mercury in the gauge.—**L. B. Loeb** and **M. F. Ashley**: Ionic mobilities in gaseous mixtures. The behaviour of ions in gases has been ascribed to two causes: the clustering of neutral molecules about a charged molecule (cluster ion theory); and the attractive forces of a single charged molecule on surrounding neutral molecules

(small ion theory). Experiments on carefully prepared ammonia give results which, when related to the concentration of ammonia, are intermediate between what might be expected from the "cluster" and from the "small" ion theories. They are in accord with the hypothesis that mobility varies inversely as the square root of the molecular weight of the gas multiplied by the dielectric constant minus one. This modification of Kaufmann's law can be derived from Sir J. J. Thomson's equations for the mobility of ions.—**R. L. Moore**: Concerning upper semi-continuous collections of continua which do not separate a given continuum.—**George E. Hale**: The spectrohelioscope (see NATURE, Oct. 25, p. 628).—**M. T. Bogert** and **J. J. Ritter**: The constitution of the so-called "Pechmann dyes," and the mechanism of their formation from *beta*-benzoylacrylic acid. These highly coloured dyes, discovered by von Pechmann more than forty years ago, have the same percentage composition as naphthaquinones, but their constitution is different. *Beta*-benzoylacrylic acid seems to be transformed to the enolic form, which then loses water and condenses to a dilactone containing the indigo chromatophore.

Official Publications Received.

Western Australia: Geological Survey. Bulletin No. 89 (revised and amended edition of Bulletin No. 50): The Geology and Mineral Industry of Western Australia. By A. Gibb Matland and A. Montgomery. Pp. 119. (Perth: Fred. Wm. Simpson.)

U.S. Department of Agriculture: Bureau of Biological Survey. North American Fauna, No. 47: Revision of the American Pikas (Genus Ochotona). By Arthur H. Howell. Pp. iv+57+6 plates. (Washington: Government Printing Office.) 15 cents.

The Rockefeller Foundation. Annual Report, 1923. Pp. xiii+389. (New York: 61 Broadway.)

Sultanic Agricultural Society: Technical Section. Bulletin No. 13: Experiments on the Spacing of Crops. By James Arthur Prescott. Pp. 64. Bulletin No. 14: The Effect of Water on the Cotton Plant; an Account of Experiments conducted at Bahim on the Irrigation of Cotton. By James Arthur Prescott. Pp. 63. (Cairo.)

Department of Commerce: Bureau of Standards. Scientific Papers of the Bureau of Standards, No. 491: Theory of Determination of Ultra-Radio Frequencies by Standing Waves on Wires. By August Hund. Pp. 487-546. (Washington: Government Printing Office.) 15 cents.

University of California Publications in American Archaeology and Ethnology. Vol. 21, Nos. 1 and 2: The Uhle Collections from Chincha, by A. L. Kroeber and William Duncan Strong; Explorations at Chincha, by Max Uhle. Pp. 94+24 plates. (Berkeley, Cal.: University of California Press.) 1.60 dollars.

Bulletin of the National Research Council. Vol. 9, Part 1, No. 48: Critical Potentials. By K. T. Compton and F. L. Mohler. Pp. 125. (Washington, D.C.: National Academy of Sciences.) 1.60 dollars.

Ministry of Agriculture, Egypt: Technical and Scientific Service. Bulletin No. 30 (Botanical Section): A Banana Disease caused by a Species of Heterodera. By Tewfik Fahmy. Pp. ii+11+9 plates. 5 P.T. Bulletin No. 38: A Multiple Temperature Incubator. By C. B. Williams and T. W. Kirkpatrick. Pp. iv+9. 3 P.T. (Cairo: Government Publications Office.)

Ceylon Journal of Science. Section B: Zoology and Geology. Spolia Zeylanica, Vol. 13, Part 1, September 16th. Pp. 141. (Colombo: Colombo Museum; London: Dulau and Co., Ltd.) 3 rupees.

University of California Publications in American Archaeology and Ethnology. Vol. 17, No. 5: Nabaloi Tales. By C. R. Moss. Pp. 227-353. 1.75 dollars. Vol. 17, No. 6: The Stage Mounds at Richmond, California. By Llewellyn L. Loud. Pp. 355-372+2 plates. 35 cents. (Berkeley, Cal.: University of California Press.)

Report of the Aeronautical Research Institute, Tokyo Imperial University. Vol. 1, No. 8: Kinematographic Study on Aeronautics. By Kwan-ichi Terazawa, Kichisuke Yamazaki, and Yuzo Akishino. Pp. 213-224+plates 16-18. (Tokyo: Maruzen Kabushiki-Kaisha.) 1 Yen.

Auxiliary Tables of the Survey of India. Fifth edition. Revised and extended by Dr. J. de Graaff Hunter. Part 1: Graticules of Maps. Pp. 25. 1 rupee; 2s. Part 2: Mathematical Tables. Pp. xiii+89. 2 rupees; 4s. Part 3: Topographical Survey Tables. Pp. xxi+52. 1.8 rupees; 3s. (Dehra Dun: Trigonometrical Survey.)

Bernice P. Bishop Museum. Bulletin 10: Report of the Director for 1923. By Herbert E. Gregory. Pp. 38. Bulletin 11: Vocabulary of the Mangaian Language. By F. W. Christian. Pp. 31. Bulletin 12: The Island of Lanai; a Survey of Native Culture. By Kenneth P. Emory. Pp. 129+11 plates. Bulletin 13: Bibliography of Polynesian Botany. By E. D. Merrill. Pp. 63. Bulletin 14: The Characters and Probable History of the Hawaiian Rat, by Gerrit S. Millar, Jr.; Ectoparasites of some Polynesian and Malaysian Rats of the Genus Rattus, by H. E. Ewing. Pp. 11. (Honolulu, Hawaii.)

Memoirs and Proceedings of the Manchester Literary and Philosophical Society, 1923-24. Vol. 68. Pp. 148 + xxxvi + vii. (Manchester: 36 George Street.) 12s.