

## Societies and Academies.

## PARIS.

**Academy of Sciences, July 12.**—M. Henri Deslandres in the chair.—L. Maquenne and E. Demoussy: The catalytic action of copper salts on the oxidation by air of ferrous compounds. Copper salts accelerate the oxidation of ferrous salts by air, even in dilutions so great as 0.2 mgr. of copper per 100 c.c. of solution. The amount of oxidation depends on the nature of the acid present, and is in direct relation with the degree of hydrolytic dissociation.—P. A. Dangeard: *Vacuome, plastidome, and spherome in Asparagus verticillatus.*—F. Widal, P. Abrami, and M. N. Iancovesco: The possibility of promoting the hæmoclasic crisis by the intravenous injection of portal blood collected during the digestive period. The action of the liver on the proteids of incomplete disintegration arising from digestion and carried by the portal vein. An experimental proof that the gastrointestinal mucous membrane absorbs not only amino-acids, but also compounds in which the proteolysis is incomplete. These products are present in the portal vein for about two hours and a half after a meal, and their injurious action upon the general circulation is prevented by the liver.—H. de Chardonnet: The influence of the American rocking-chair upon the respiration.—J. A. L. Waddell: The economical use of special alloy steels in the construction of bridges. The higher elastic limit of a special steel compared with that of an ordinary carbon steel may more than compensate for the increased price. Some detailed examples are given.—C. E. Guillaume: The anomaly of elasticity of the nickel steels: The realisation of an elinvar and its application to chronometry. The limitations of nickel steel watch-springs are discussed, and a new ternary nickel-chromium steel alloy suggested, containing chromium with small quantities of manganese, tungsten, and carbon equivalent to 12 per cent. of chromium. The results with springs of this material used with a balance-wheel made of a single metal have proved extremely satisfactory. The change of temperature from 0° C. to 30° C. with a watch fitted with one of these springs was two seconds in twenty-four hours, and the rate was practically a linear function of the temperature.—G. Fubini: Projectively applicable surfaces.—L. E. J. Brouwer: Enumeration of the classes of representations of a surface on another surface.—M. Galbrun: The application of the equations of elasticity to the deformations of a helical spring.—P. Chevenard: Study of the elasticity of torsion of nickel steels with a high proportion of chromium. A study of three series of ferro-nickels containing approximately 5, 10, and 15 per cent. of chromium. The results are given graphically in three diagrams.—E. Jouguet: Remarks on the laws of resistance of fluids.—G. Sagnac: The two simultaneous mechanics and their real connections.—M. Pauthenier: Study of the ratio of the absolute retardations in carbon bisulphide for increasing durations of charge. The appearance of electro-striction. When the duration of the charge of the Kerr condenser much exceeds a millionth of a second, the ratio of the retardations in carbon bisulphide is no longer equal to -2. The contraction of the liquid under the influence of the electric field, electro-striction, complicates the results; when the time of change is  $8.1 \times 10^{-6}$  seconds, the effect of electro-striction exactly compensates the double refraction for the vibrations perpendicular to the field.—C. Florisson: The galena-metal contact rectifier. Artificial increase of sensitiveness.—H. Weiss: The constituents formed by reciprocal penetration of zinc and copper at a temperature where one of the two metals and all

their alloys are in the solid state. The constant temperature required for these experiments was secured by the use of a sulphur vapour bath under a reduced pressure, the temperature thus obtained varying only at most 1° from 410° C. Micrographic methods were used for studying the resulting alloys, and two photographs illustrating the results are reproduced.—MM. Lespicau and Garreau: The phenylpropines. The reaction between benzyl chloride and the monosodium derivative of acetylene failed to give benzylacetylene, the isomer phenylmethylacetylene being the only product. The same substance was obtained by starting with epibromohydrin and phenylmagnesium bromide and treating the resulting compound,  $C_6H_5 \cdot CH_2 \cdot CBr \cdot CH_3$ , with alcoholic potash. A yield of 40 per cent. of the desired benzylacetylene was obtained by the interaction of phenylmagnesium bromide and propylene tribromide.—G. Mignonac: The catalytic hydrogenation of nitriles: mechanism of the formation of secondary and tertiary amines. The best explanation of the secondary reduction products arising from the reduction of benzonitrile by hydrogen in presence of nickel and working in an anhydrous liquid is that the primary reduction product is benzaldimine,  $C_6H_5 \cdot CH \cdot NH$ . This can give benzylamine by direct reduction and benzalbenzylamine by condensation, and the latter compound has been isolated in quantity.—G. Zell: The proportional constant relating seismic frequency with rainfall.—R. Abrard: The geological constitution of Djebel Tselfat, Western Morocco.—G. Arnaud: A bacterial disease of ivy, *Hedera helix.*—C. Porcher: Milk and aphous fever. Comparisons of the quantity and quality of the milk from aphous teats of a cow when the milk is retained and drawn off.—A. Vandet: Reproduction of the Planaria and the meaning of impregnation in these animals.—M. de Laroquette: Analogies and differences of biological action of the various parts of the solar spectrum.—C. Pérez: A new Cryptoniscian, *Enthylacus trivinctus*, an intrapallear parasite of a Sacculina. A case of parasitism of the third degree.—J. Dragoiu and M. Fauré-Fremiet: Histogenesis and time of appearance of different pulmonary tissues in the sheep.—G. Bertrand and Mme. Rosenblatt: Does chloropicrin act upon soluble ferments? From experiments carried out with sucrase (from yeast and from *Aspergillus niger*), amygdalinase, urease, catalase, zymase, laccase, and tyrosinase, it was found that chloropicrin exerts only a feeble inhibiting action on soluble ferments, and some other explanation must be found for its highly toxic action upon living cells.

## CAPE TOWN.

**Royal Society of South Africa, June 16.**—Dr. A. Ogg, vice-president, in the chair.—L. Péringuey: Note on a recent discovery of stone implements of Palæolithic type throwing light on the method of manufacture in South Africa. The author described a collection of Palæolithic stone implements from the Montagu Caves, and showed that the completed implement is flattened, rounded at one end and tapering to a point at the other, and being chipped to a sharp edge all the way round. From this demonstration it is now possible to pronounce that many of the implements so far known which are blunt at one part or another are unfinished or damaged specimens. Further, it is shown that a large block was chipped down in order to form a relatively small delicately worked implement, and the very large chipped stones that have sometimes been found are seen to be initial stages in the manufacture.—W. A. Jolly: The reflex times in *Xenopus laevis*. The author described his method of measuring exactly the reflex times in the reflexes from the limbs of the South African clawed frog or toad,



and gave a note of the times ascertained in the de-cerebrate animal.—C. L. **Herman**: Notes on the Platana of the Cape Peninsula. The marked difference in the shoulder-girdle of the Platana of the Cape Peninsula from that described and figured by Boulenger as appertaining to *Xenopus laevis* was pointed out. The importance of the shoulder-girdle as a basis for systematic classification was referred to, and the probability of this Platana being a primitive form was suggested. The formation of the external nasals was described, and attention directed to the horny epidermal fold on the superior half of the nasals which gives it rigidity. The synchronous contractions of the nasals and the movement of the premaxilla and maxilla were described and their nature was discussed. It was suggested that this occurs in all the *Xenopus*, and the wish was expressed that this remarkable phenomenon, now described for the first time, should be looked for in the case of water-frogs generally.—J. R. **Sutton**: A possible lunar influence upon the velocity of the wind at Kimberley (second paper). In this paper the author continues the investigation described in a previous paper under the same title. A table and a diagram are given showing the deviations of wind-speed at the times of perigee from the monthly means, arranged in hours of the lunar day. The ranges of velocity deduced are somewhat greater than those previously found for the average of all lunar distances. The noon and midnight perigee curves are remarkable, and suggest that the wind-speed deviations attributable to the moon are largely due to the superimposition of the lunar air-tide upon the diurnal variations of wind velocity. Thus no two different places could be expected to have quite the same velocity deviation curves.

### Books Received.

Observations et Expériences faites sur les Animalcules des Infusions. Vol. i., pp. viii+105. Vol. ii., pp. iii+122. By L. Spallanzani. (Paris: Gauthier-Villars et Cie.) 3 francs each.

Mémoires sur la Respiration et la Transpiration des Animaux. By A. L. Lavoisier. Pp. viii+67. (Paris: Gauthier-Villars et Cie.) 3 francs.

A Junior Inorganic Chemistry. By R. H. Spear. Pp. viii+386. (London: J. and A. Churchill.) 10s. 6d. net.

A Junior Inorganic Chemistry. By R. H. Spear. Part i. Pp. vi+148. (London: J. and A. Churchill.) 5s. net.

Ministry of Finance, Egypt. Survey Department. Contribution à l'Etude des Vertébrés Miocènes de l'Égypte. By R. Fourtau. Pp. xi+121+3 plates. (Cairo: Government Press.) P.T. 20.

University of Iowa Studies in Natural History. Vol. viii., No. 3. Barbados-Antigua Expedition. By C. C. Nutting. Pp. 274. (Iowa City: University of Iowa.)

Archimedes. By Sir T. Heath. (Pioneers of Progress Series.) Pp. ii+58. (London: S.P.C.K.; New York: The Macmillan Co.) 2s. net.

The Nature-Study of Plants in Theory and Practice for the Hobby-Botanist. By T. A. Dymes. Pp. xviii+173. (London: S.P.C.K.; New York: The Macmillan Co.) 6s. net.

Vergleichende Anatomie des Nervensystems. Erster Teil.: Die Leitungsbahnen im Nervensystem der Wirbellosen Tiere. By Æ. B. Drooglever Fortuyn. Pp. viii+370. (Haarlem: De Erven F. Bohn.) 12.50 guilders.

Euvres Complètes de Christiaan Huygens. Tome NO. 2648, VOL. 105]

Treizième. Dioptrique 1653; 1666; 1685-1692. Fascicule i., 1653; 1666. Pp. clxvii+432. Fascicule ii., 1685-1692. Pp. 434-905. (La Haye: M. Nijhoff.)

An Introduction to Chemical Engineering. By A. F. Allen. Pp. xvi+272. (London: Sir I. Pitman and Sons, Ltd.) 10s. 6d. net.

Meddelanden från Statens Skogsförsöksanstalt, Häft 17, Nr. 3. Markstudier I Det Nordsvenska Barrskogsområdet. Bodenstudien in der Nord-schwedischen Nadelwaldregion. By Olof Tamm. Pp. 49-300+4 Tavl. (Stockholm: Statens Skogsförsöksanstalt.)

The Institution of Civil Engineers. Abstracts of Papers in Scientific Transactions and Periodicals. New Series, No. 4, July. Pp. 238. (London.)

Conseil Permanent International pour l'Exploration de la Mer. Rapports et Procès-Verbaux des Réunions. Vol. xxvi., Procès-Verbaux (1918-19 and 1919-20). Pp. vi+92. (Copenhagen: A. F. Høst et Fils.)

The Statesman's Year Book, 1920. (57th Annual Publication.) Edited by Sir J. Scott Keltie and Dr. M. Epstein. Pp. xlv+1494. (London: Macmillan and Co., Ltd.) 20s. net.

Wasp Studies Afield. By Phil Rau and Nellie Rau. Pp. xv+372. (Princeton: University Press; London: Oxford University Press.) 8s. 6d. net.

Darkwater: Voices from Within the Veil. By W. E. Burghardt Du Bois. Pp. ix+276. (London: Constable and Co., Ltd.) 10s. 6d. net.

The Essentials of Histology: Descriptive and Practical. By Sir E. Sharpey Schafer. 11th edition. Pp. xii+577. (London: Longmans, Green, and Co.) 14s. net.

White Lead: Its Use in Paint. By Dr. A. H. Sabin. Pp. ix+133. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd.) 7s. 6d. net.

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