Societies and Academies

PARIS

Academy of Sciences, June 12 (*C.R.*, **200**, 1997–2044). HENRI DESLANDRES: A simple and general relation of the molecular spectrum to the electrons and rings of electrons of the constituent atoms. JEAN REY: The energy yield of thermo-compressors. The importance of its definition. DAVID WOLKOWITSCH: The conoid of Plücker. JEAN LERAY: The problems of conformal representation of Helmholtz: the theory of [ships'] wakes and bows. JEAN MARIANI: The general signification of the macroscopic theory of fields. A. A. GUNTZ and E. BELTRAN: The influence of H^+ ions in the phenomena of reduction and hydrogenation. The view is put forward that the attraction of the H^+ ions and the electrostatic repulsion of the nuclei suggests that the H^+ ions present in certain media may possess the property of preactivating a large number of molecules producing catalysis and syntheses. MLLE. SUZANNE VEIL: Contact batteries and the effect of short-circuiting them. MARCEL SERVIGNE: Some phenomena of cathodic phosphorescence. Comparison of the cathodic phosphorescence of precipitated and natural calcium tungstate (scheelite), showing the effect of the crystalline state and of the addition of traces of silver on the phenomenon. LÉON and EUGÈNE BLOCH: Research on the regularities of the Cu III spectrum. MARTIN BATTEGAY and EUGÈNE RIESZ: The di-anthraquinonylguanidines. JOSEPH WIEMANN: The synthesis and constitution of a dimethylhexite. ANTONIN LANQUINE: The relations of the Saint-Maximin (Var) Trias with the south-eastern termination of the Sainte-Victoire chain and with the eastern termination of the Olympe chain. ROBERT PERRET and JACQUES BOURCART: The lavas of Adrar and Asger. JACQUES FROMAGET: The discovery of new evidence of the upper marine Trias in the Haut-Laos synclinal. MLLE. HÉLÈNE ARLAUD: The Turonian of the neighbourhood of Cassis and the Cretacean movements in western Provence. MARCEL CORMIER: Hydrocyanic acid in *Pyrocydonia Winkleri*. Similar to the parent quince tree, the hybrid *Pyrocydonia Winkleri* furnishes hydrocyanic acid, existing in the plant in the state of heteroside. The proportion of hydrocyanic acid is about seven times that found in the parent quince. HENRI COLIN and HENRI BELVAL: The glucides of flour and dough. BASILE LUYET: Nuclear structure studied *in vivo* by the method of ultra-violet photography. The resolving power of the microscope can be about doubled by using ultra-violet light with quartz objectives with glycerol immersion. Chromatin is specially opaque to the ultra-violet rays, contrasting with the cytoplasm, which is much more transparent. The author has applied these facts to the study of the physical structure of the caryoplasm. SERGE TCHAKHOTINE: The localised flocculation of colloids in the cell by ultra-violet micropuncture. LOUIS COTONI and JACQUES POCHON: A new method of titrating antipneumococcic sera by neutralisation of the antibodies *in vitro*. ALFRED BOQUET and ROGER LAPORTE: Bail's phenomenon and tuberculin intoxication.

CAPE TOWN

Royal Society of South Africa, April 17. M. R. LEVYNS: Veld-burning experiments at Oakdale, Riversdale. These experiments have extended over five years and have been carried out on rhenosterveld. The results after burning differ from those previously obtained at Stellenbosch. There an immediate return to rhenosterveld was demonstrated. In this case the vegetation undergoes a series of successional changes before rhenosterveld is onee more established.

May 15. F. G. CAWSTON: A second intermediary host for trematodes. J. V. L. RENNIE: On the flora of a high mountain in South-West Africa. In the higher parts of the Auas Range, near Windhoek, the thornveld is replaced by small shrubs, several of which might be interpreted as relics of an older flora in South-West Africa. *Passerina* and *Stoebe plumesa* are recorded for the first time from that territory. It has generally been assumed that the presence of certain Cape genera in East Africa and Angola is due to migration in former times via the eastern side of the subcontinent. The species here recorded suggest that at least certain elements of the Cape Flora could have reached the Huilla Plateau in Angola via a western route. A. GALLOWAY: Some prehistoric skeletal remains from the Natal coast. J. L. B. SMITH: The "Galjoen" fishes of South Africa. The Galjoen fishes are placed in a genus of somewhat doubtful taxonomic position. Owing to a combination of characters the institution of a new family (*Dichistiidae*) is proposed. E. E. GALPIN and E. A. GALPIN: Some biological notes on *Boscia rehmanniana*, Pest., and *Olea verrucosa*, Link. W. E. ISAAC and B. GERSHILL: The organic matter content and carbon-nitrogen ratios of some semi-arid soils of the Cape Province. The average C : N ratio for these, namely, 10·6 : 1, is contrasted with that of the winter-rainfall area (15 : 1). Decreasing organic matter content is accompanied by a decreasing C : N ratio. Although the organic matter of the semi-arid type of soil is low, the percentage of nitrogen in the organic matter itself is higher than for the winter-rainfall series. Hydrogen ion concentration figures show that the semi-arid type of soil is the more alkaline of the two. I. DONEN: The effect of time of picking on the chemical changes of Kelsey and Gaviota plums in store (read on March 20). Time of picking has no marked effect on chemical changes in the Gaviota plums. First appearance of bladderiness in all samples was noticed after about 44 days in store at 34°–36° F. Coincident with this breakdown a complete reversal of the sugar equilibrium was observed in the last two pickings. In the first two pickings of Kelsey plums, rate of loss of sugar was initially high and then declined rapidly to a minimum. In the last two pickings it remained uniform throughout the observed storage life. Internal browning of the tissue, accompanied by a reversal of sugar equilibrium, occurred sooner in the early pickings than in the later ones. Acid loss was high when sugar consumption was low and it is suggested that increase in rate of loss of acid is an 'overdraft' on stored acid due to insufficient supply of acid from oxidation of sugars. Low nitrogen and low acid therefore favour good keeping quality. This is correlated with delay in time of picking.

CRACOW

Polish Academy of Science and Letters, April 1. C. BIALOBRZESKI and I. ADAMCZEWSKI: The application of dielectric liquids to the study of the 'bursts' of ionisation caused by the cosmic rays. Compressed gas in the ionisation chamber is replaced by a liquid, such as hexane. The phenomenon is more distinct and more frequent. M. CENTNERSZWER and