

perceptible. The tree presents a most elegant appearance. The incautious botanist who, allured by the deceptive appearance, should approach to pluck the blossoms, would rue his attempt. The trunk and branches are hollow like those of the trumpet tree (*Cecropia*) and provided between space and space with partitions, which answer to the position of the leaves on the outside. These hollows are inhabited by a light brownish ant, about two- to three-tenths of an inch long, which inflict the most painful bites, causing swelling and itching for several days. If they find themselves captured, they attack and kill one another like scorpions. The Aramah Indians call the tree 'Jacuna' and the ant 'Jacuna Sae'.

The British Association and Steam Navigation

At the Liverpool meeting of the British Association in 1837, a grant was placed at the disposal of a committee to investigate the speed and fuel consumption of steam vessels, and the Peninsula Steam Navigation Company had liberally offered to cooperate with the committee in trials to be made in their ship the *Tagus*. With the view of making the necessary records, Dr. Lardner had made an apparatus which would enable the steam engine to make a journal of its own proceedings.

According to the April 1838 number of *The Civil Engineer and Architect's Journal*, his apparatus was intended to record the pressure of steam in the boiler, and in the engine, the vacuum in the condenser, the revolutions of the paddlewheel, the amount of water in the boiler and its density. The records were made by coloured pencils on a paper driven by clockwork, the apparatus being enclosed in a case 3½ ft. high and 3 ft. in diameter which was to be locked at the beginning of a voyage and was not to be opened until the ship returned to port. The coal consumed was to be ascertained from the amount on board at the beginning and the end of the voyage.

University Events

CAMBRIDGE.—J. A. G. de Courcy has been appointed superintendent of the Engineering Workshops. The Managers of the Frank Edward Elmore Fund have appointed Dr. J. C. Sinclair to a studentship.

J. R. Robinson, of Emmanuel College, has been awarded the Allen scholarship.

LEEDS.—C. L. Bird has been appointed lecturer in dyeing.

LIVERPOOL.—Dr. Rupert Montgomery Gordon, director of the Sir Alfred Lewis Jones Research Laboratory, Freetown, Sierra Leone, has been appointed to the Dutton Memorial chair of entomology in succession to Prof. W. S. Patton, who resigned in December last.

LONDON.—Dr. F. R. Winton has been appointed, as from October 1, 1938, to the University chair of pharmacology tenable at University College. Since 1933 he has been reader in physiology in the University of Cambridge.

Dr. R. V. Christie has been appointed as from April 1 to the University chair of medicine tenable at St. Bartholomew's Hospital Medical College. Since 1935 he has been assistant director of the Medical Unit and assistant physician at the London Hospital.

Societies and Academies

Paris

Academy of Sciences, January 31 (*C.R.*, 206, 289-384).

ERNEST ESCLANGON: Clocks indicating simultaneously mean solar time and sidereal time. It is possible to have a master clock, showing mean solar time, connected by a train of wheels to another clock showing sidereal time. The choice of the number of teeth on the connecting wheel work is worked out and a number of examples given showing the gear train and the corresponding error in seconds after 100 years starting with 1938.

GABRIEL BERTRAND and GEORGES BROOKS: The composition of fibres, shells and other lignified plant tissues. Studies from the point of view of the chemical or biological utilization of these plant products.

DIMITRI RIABOUCHINSKY: Comparison of the method of the variables ($\varphi, \psi_1, \psi_2, t$) with those of the variables of Euler and of Lagrange.

MARCEL GODCHOT and Mlle. GERMAINE CAUQUIL: The molecular transpositions obtained in the dehydration of the 1 methyl-3-cyclohexylisopropyl pinacones.

EDOUARD CHATTON: The plurality of the species of *Orchitosoma* and on their nature: the spermatogenic evolution of Metazoa taking place in the parasite state in the ovary of Copepods.

JULES DUBOURDIEU: Remarks relating to the theory of assurance accidents.

WOLFGANG DÖBLIN: First elements of a systematic study of the ensemble of powers of a law of probability.

KARL MENGER: A simplified axiomatic of the algebra of projective geometry.

GUSTAVE CHOQUET: Study of certain networks of routes.

ANDRÉ LICHNEROWICZ: Regular space-time exteriors.

LOUIS SACKMANN: The comparative study of the portance of a wing of an aeroplane and of the régime of flow on the extrados.

JEAN MANDEL: The equilibria through plane parallel sections of plastic media at the limit of flow, and, in particular, of earth and of the ductile metals.

JEAN LOUIS DESTOUCHES: Centre of gravity and relations of uncertainty.

Mlle. NATALIE REIN: A form of differential equations of the limited elliptical problem.

ANDRÉ DANJON: The determination of the elements of the orbits of visual double stars.

JOSEPH MIKULAŠ MOHR: The dependence of the observed radial velocity and of the term K of stars of type B with distance.

DIKRAN G. DERVICHIAN and MAURICE JOLY: Homogeneous transformation points in monomolecular layers.

CONSTANTIN SALCEANU and CORNELIU ISTRATY: The determination of the positions of resonance in tubes by means of a galvanometric deviation. An application of the resonance method of Bungetzianu, in which the telephone method of defining the resonance positions is replaced by a galvanometer method. Results obtained with water, alcohol, acetone and carbon tetrachloride are given graphically.

RAYMOND ZOUCKERMANN: The variations of the explosive potential of a discharge tube without internal electrodes, under the influence of ultra-violet or visible light. The curve showing the relation

between the explosive potential in hydrogen, in a tube with external electrodes, and the pressure of the gas, is changed when the gas is exposed to light, the explosive potentials being always lower in the latter case. The cause of this phenomenon is obscure.

AMÉDÉE GUILLET: Vagueness in the working of systems formed, like the microphone and the coherer, of a large number of associated elementary contacts.

Mlle. MILKA RADOÏTCHITCH: The influence of the solvent on the infra-red absorption spectra of various solutions of neodymium and samarium acetylacetonates. The infra-red absorption bands of salts of the rare earths in solutions of organic solvents undergo displacements and variations of intensity depending on the solvent, a result analogous with that already found in the visible spectrum.

MAURICE PARODI: Study of the transmission of some benzene derivatives in the extreme infra-red.

PIERRE GRIVET: The modulation of light at high frequency. Its application to the measurement of very short periods of time.

JACQUES RABINOVITCH: The magnetic double refraction of benzene solutions of the pinenes.

Mlle. YVETTE CAUCHOIS and Mlle. MARIE LOUISE ALLAIS: The L spectra of emission and absorption of thorium and its characteristic levels.

PIERRE AUGER: The new heavy particles of cosmic radiation.

MARC FOËX: The solubility of oxides in fused boric anhydride at 1200°C . Experimental data for the solubility of various metallic oxides in fused boric oxide at 1200°C . are given. From the figures it is concluded that the solubility of the oxides varies regularly with the molecular weight. Several oxides, hitherto considered as insoluble in fused boric oxide, have in reality an appreciable solubility.

GUY GIRE and FRANÇOIS FOUASSON: Basic selenates and tellurates.

FRANÇOIS OLMER: The reduction of the oxides of iron by carbon monoxide in the presence of some natural impurities. The catalytic action of iron on the decomposition of carbon monoxide is impeded, or even entirely stopped, by the presence of phosphoric anhydride or of alumina.

JACQUES PARROD: A reaction of ethyl dihydroxymalonate. Application to the detection of mesoxalic acid. The reaction between ethyl dihydroxymalonate, zinc sulphate and ammonia produces an intense green fluorescence.

GASTON GIBAUT: The magnetic disturbance of January 25, 1938.

CHARLES MAURAIN: Remarks on the preceding communication.

ROGER FAILLETTAZ: An anemometer with photoelectric cells for the study of atmospheric turbulence.

ROBERT BUREAU: Ionospheric disturbances starting suddenly and their effects on the long waves.

MARIUS CHADEFAUD: The plasts and amylogenesis in the *Dasycladaceae*.

GEORGES MANGENOT: The oospheres, the pollen tubes and fertilization in the maritime pine.

ANTONIN TRONCHET: The optical properties of the papillous cells of the tendrils of *Eccremocarpus scaber*.

M. and MME. FERNAND MOREAU: The hormonal formation of the perithecium in the *Neurospora*.

ANDRÉ HOLLANDE: The parabasal apparatus of the *Cryptomonadines*.

MAURICE FONTAINE and RENÉ GUY BUSNEL: The localization of the role of flavine or of a body similar to flavine in the skin of fish.

ANTOINE MAGNAN, CHARLES PERRILLIAT-BOTONET and HENRY GIRERD: Simultaneous cinematographs in three perpendicular directions, two by two, of a bird in flight.

SERGE TCHAKHOTINE: Experimental parthenogenesis of the egg of the *Pholas* by ultra-violet micropuncture, terminating with a living larva.

MARCEL MAZILLE: A dry and irreversible dialysis of blood serum.

ALEXANDRE BESREDKA: The disappearance of the vaccinating power of diphtheric anatoxin in the presence of antidiphtheric serum. Whilst the anatoxin, injected alone, exerts an immunizing power, it ceases to have this influence in the presence of antidiphtheric serum. The animal behaves as if the anatoxin were annihilated by the serum.

HENRI VIOLLE: Contribution to the study of endemic exanthematic typhus.

P. G. CHARPENTIER, MAURICE DOLADILHE, CHARLES MOREL and LOUIS PLACIDI: The anaphylactizing properties of the blood serum are localized in the viscous protein of this serum.

Prague

Czech Academy of Sciences and Arts

January 15, 1937.

J. MILBAUER and J. VODRÁŽKA: Simultaneous estimation of SeO_3'' , SeO_4'' , AsO_3''' , AsO_4''' . Arsenates are precipitated by magnesium solution, arsenites are oxidized to arsenates by ammoniacal H_2O_2 ; selenates are estimated as BaSeO_4 by using $\text{Ba}(\text{ClO}_4)_2$ instead of BaCl_2 .

FR. KOSTEČKA: Transplantation of tooth germs.

R. BRDIČKA: The application of the polarographic protein reaction for cancer diagnosis. The polarographic estimation of proteins in blood serum shows that the results in cases of cancer are distinctly lower than in normal cases, provided that time is allowed for the denaturation of the proteins.

J. GOLL: Metallography of nickel ores from Dobšina.

K. ŽEBERA: The Cretaceous formation at Kladno.

FR. FUČKOVÁ: An anthropometric contribution to rib morphology.

March 12, 1937.

FR. NĚMEJC: The cone called *Discinites Feistmanteli*.

J. WOLF: The surface relief of resorption cells.

E. VOTOČEK: The carbohydrates of papyrus pith (*Cyperus papyrus*).

E. VOTOČEK and R. MÜLLER: New reagents for the identification of ketoses.

E. VOTOČEK and O. WICHTERLE: Additive products of hydrocyanic acid, glycosylarylamines, and glycosylpiperidines.

B. NĚMEC, J. BABIČKA and I. SMOLER: Spectroscopic and chemical estimation of gold in plants. The amount of gold in the ashes of various plants was determined, and found to be surprisingly high in some specimens.

Z. KÖCHER: The influence of higher sulphonated alcohols on the resorption through the epithelium of the gastro-intestinal tract.

J. KOROUS: Development of the functions of one real variable into a series of certain orthogonal polynomials.

V. RYPÁČEK and T. MARTINEC: Dependence of the titration acidity of soil suspension and soil filtrate on the size of the soil particles.

R. KETTNER: Geological structure of the northern slope of Kralova Hole near Liptovská Teplička (Low Tatras).