

## Academies and Societies.

## Indian Academy of Sciences :

November 1935. SECTION A.—S. SIDDIQUI AND Z. AHMAD : *Alkaloids from the Seeds of Cassia absus, Linn.*—Two water soluble isomeric quaternary bases, to be called chaksine and iso-chaksine have been isolated. S. SIDDIQUI : *Studies in the Conessine Series. Part I.—Isomerisation of Conessine and its Nor-Bases.*—The isomerisation effected through the action of concentrated sulphuric acid on the corresponding bases in the cold has been studied. Iso-conessine is about thrice as potent as conessine. R. P. DODWADMATH AND T. S. WHEELER : *Studies in the Chemistry of Chalcones and Chalcone-Oxides. I. Phenyl-(3,4-methylene-dioxy-styryl)-ketone.*—The effects of presence of other groups in the nuclei on the reactivity of chalcones and chalcone-oxides are reported. R. ANANTHAKRISHNAN : *Some New Features in the Raman Spectra of Carbon and Silicon Tetrachlorides.*—Octaves of fundamental frequencies and their differential tones are recorded. C. S. VENKATESWARAN : *The Fluorescence of Ruby, Sapphire and Emerald.*—The photo-luminescence of the natural crystals has been studied at room-temperature and a number of new bands are observed. T. S. WHEELER : *On the Theory of Liquids—V.*—A summarised presentation of the theory developed in the previous papers of this series. S. BHAGAVANTAM : *Raman Spectrum of Deuterium: II.—Intensity and Polarisation Characters.*—The results when compared with those calculated from the theory of rotational Raman scattering due to Manneback, show satisfactory agreement. P. S. REGE AND T. S. WHEELER : *A Study of the Benzoin Reaction—IV.—The Kinetics of the Benzoin Reaction in the Presence of Organic Solvents.*—With inert solvents the heterogeneous reaction is unaffected, but the homogenous reaction is decelerated. The action of hydroxy compounds is complicated, but on the whole, they accelerate the reaction. K. NEELAKANTAM, T. R. SESHADRI AND R. H. RAMACHANDRA RAO : *Pigments of Cotton Flowers.—Part II.—Uppam (Gossypium herbaceum).*—The main components are gossypitrin and quercetin.—A new glucosidic pigment and a small quantity of gossypetin have also been isolated. S. PARTHASARATHY : *Determination of Ultrasonic Velocity in 52 Organic Liquids.*—The velocity depends upon chemical constitution. The adiabatic compressibilities of all the liquids have also been calculated. A. N. KAPPANNA : *Kinetics of the Reaction between  $\alpha$ -Bromopropionate and Silver Ions.—A Heterogeneous Reaction taking place on the Surface of Silver Bromide.* S. W. CHINCHALKAR : *Magnetic Birefringence in Solutions of Organic Substances. Part I.*—Aromatic hydrocarbons containing two or more benzene rings have been studied.

November 1935. SECTION B.—MAKUND BEHARI LAL : *On the Morphology of a New Species of Monostome of the Genus Notocotylus Diesing, 1839.*—Specimens of monostomes have been described as a new species of the genus *Notocotylus*. A. C. JOSHI : *Secondary Thickening in the Stem and Root of Stelleria Chamæjasme Linn.*—The anatomy of the stem and root of *Stelleria Chamæjasme*, a member of the family Thymelæaceæ, has been described. B. N. SINGH AND K. KUMAR : *An Analysis of the Influence of Season on Photosynthesis in the Tropics.*—Leaves adopt their structure and function according to the intensity

of external factors, and the specific adoptability is mainly brought about by suitable changes in the internal factors investigated. MAKUND BEHARI LAL : *A Review of the Genus, Notocotylus, with Description of a New Trematode Parasite of Mareca penelope from Lucknow.*—A new form belonging to the genus *Hindia*, but differing from the known species of the genus in the number and arrangement of the ventral glands, the arrangement of the uterine coils and the anterior extent of the vitellaria, has been described. ALBERTO CARLOS GERMANO DA SILVA CORREIA : *The Marathas of Portuguese India.*—From an anthropometric point of view, the Marathas do not constitute a race, nor can they be considered as belonging to an only caste, though the majority of them may belong to the *chatria*. FROILANO DE MELLO : *New Hæmoproteids of Some Indian Birds.*—New species of hæmoproteids have been recorded. L. B. KAJALE : *The Female Gametophyte of Alternanthera sessilis R. Br.* A. C. JOSHI AND J. VENKATESWARLU : *Embryological Studies in the Lythraceæ. I. Lawsonia inermis Linn.*—The development of the normal 8-nucleate embryo-sac, the double and triple embryo-sacs and degenerations in the embryo-sac are described.

## The U. P. Academy of Sciences :

September 1935. B. L. GULATEE : *On the Subterranean Mass-Anomalies in India.*—From the isostatic gravity anomalies in India, a distribution of mass anomalies expressed as a coating of normal crustal density in the reference surface has been determined. S. SUBRAMANIAN : *The Closure Property of Three Curves.* G. R. TOSHNIWAL AND B. D. PANT : *Measurement of Ionisation of the Kennelly-Heaviside Layer at Allahabad.*—The ionisation of the E region has been found in the month of April. The morning critical frequency was in the neighbourhood of 3.1 Mc./sec. at 8 A.M. The maximum critical frequency of 4.6 Mc./sec. was observed on the 18th April during the so-called "evening concentration". B. N. GHOSH AND L. P. VERMA : *On the Application of Heaviside's Operational Methods to the Solution of the Pianoforte Problem.* HRISHIKESHA TRIVEDI : *The Absorption Spectra of the Vapours of the Mono-Oxides of Copper, Iron, Nickel and Cobalt and the Determination of their Heats of Sublimation.* HRISHIKESHA TRIVEDI : *The Absorption Spectra of the Vapours of the Mono-Sulphides of Iron, Nickel, Cobalt and Copper and the Determination of their Heats of Sublimation.* S. S. JOSHI AND K. P. N. PANNIKAR : *The Variations of Viscosity during the Coagulation of Colloidal Aluminium Hydroxide by Potassium Chloride Solutions.*—The Progress of Coagulation at lowest concentrations of the electrolyte is sensibly discontinuous in the beginning. S. M. MEHTA : *Effect of Temperature on Borax Solutions in the Presence of Polyhydric Substances and Organic Acids.* RADHA RAMAN AGARWAL AND SIKHIBHUSHAN DUTT : *Chemical Examination of the Bark of Terminalia Arjuna Bedd. Part I.—The Isolation of Arjunin.*—An acidic principle, "arjunin" has been isolated, m. p. 192°C.,  $C_{26}H_{32}O_{11}$ . SIKHIBHUSHAN DUTT : *Chemical Examination of Glycosmis Pentaphylla and the Constitution and Synthesis of its Active Principles.*—"Glycosmin" which is a crystalline glucoside



has been found to be a veratroyl derivative of salicin. N. R. DHAR AND S. K. MUKHERJEE: *Further Experiments on the Fixation of Atmospheric Nitrogen in the Soil and the Utilisation of Molasses as a Fertiliser*.—Molasses used as a manure, increases the yield of sugarcane to the extent of 36 per cent. M. B. MIRZA: *Physaloptera Achari N.Sp. from Calotes versicolor with a Short Note on Abnormalities in the Genus Physaloptera*.—A number of worms obtained from the stomach, small and large intestines, of *Calotes versicolor* found in Hyderabad, Deccan, has been described. HAR DAYAL SRIVASTAVA: *Studies on the Family Heterophyidae Odhner, 1911. Part II.*—"Four New Parasites of the Genus *Haplorchis* Looss, 1899," *From Indian Fresh-Water Fishes with a Revision of the Genus*. B. P. PANDE: *Contributions to the Digenetic Trematodes of the Microchiroptera of Northern India. Part II.*—*Studies on the Genus Lecithodendrium Looss*. H. R. MEHRA: *New Trematodes of the Family Lecithodendriidae Odhner, 1911, with a Discussion on the Classification of the Family*.—The account of a new genus *Exotitendrium* from the Indian gharial *Gavialis gangeticus*, and two new species of the genus *Eumegacetes* Looss from an Ashy Swallow-Shrike is given.

31st October 1935. S. C. DAMLE: *A Note on Sir Shah Muhammad Sulaiman's New Theory of Relativity*.—The degrees of accuracy of the two differential equations of motion obtained by Sir M. Sulaiman in Section V (Chapter I) of his theory dealing with Planetary Orbit were different. To maintain the same degree of accuracy, in both equations, the term containing the first differential coefficient of the distance from the centre should be retained in the first of the equations. When this term is retained in the first equation and other corrections introduced in the second, the value obtained for the rotation of the perihelion of mercury in one complete revolution is numerically one-sixth of the usually accepted value and in the opposite direction. N. R. DHAR AND S. K. MUKHERJEE: *Use of Molasses in the Reclamation of Alkali and Usar Lands*.—Reclamation of alkali soils is possible by the application of Molasses to the extent of 90-360 maunds per acre. Crops have been raised on such reclaimed soils with good yields. N. R. DHAR AND S. P. TANDON: *Influence of Temperature on the Fixation of Nitrogen by Azotobacter*.—Nitrogen fixation by *Azotobacter* takes place best at 35°C.; sunlight and *azotobacter* are the two potent agencies which serve to meet nitrogen requirements of tropical soils. A. M. D'ROZARIO: *On Two New Xiphidiorcercaria from the Common Fresh-Water Snail, Indoplanorbis exustus (Deshaves) of the Northern India*.

5th November 1935. S. PRADHAN: *The Genitalia and Their Role in Copulation in Epilachna indica (Coccinellidae: coleoptera) with a Discussion on the Morphology of the Genitalia in the Family*.—The structure, disposition and the mode of working of the muscles of the male and female genitalia of *Epilachna indica* were described. H. TRIVEDI: *The Absorption Spectrum of Hydrogen Bromide Molecule and its Upper Unstable State*.—An experimental verification of the author's theory of continuous absorption of a diatomic molecule by means of which it is possible to deduce the nature of the repulsive state. V. V. NARLIKAR AND D. N. MOGHE: *A Note on a General*

*Line-Element*. D. N. MOGHE AND R. V. SASTRY: *The Field of a Non-Static Spherical Condensation*. SATYENDRA RAY: *The First Universal Principle of Sulaiman*. SATYENDRA RAY: *On Two Mutually Contradictory Interpretations of Einstein's Line-element by Sulaiman*. K. L. GUPTA: *On the Convergence and the Summability of the Conjugate Series of the Derived Fourier Series*. S. M. SANE AND A. B. SEN: *On Some Toluene Sulphonyl Esters of Phenols*. M. RAMAN NAYAR: *Variation of Physical Properties with Change in Concentration of Iodic Acid Solution*. UMAKANT SHUKLA: *Necessary and Sufficient Condition for the Equality of*

$$\frac{d}{dy} \int_a^b f(x,y) dx \text{ and } \int_a^b \left[ \frac{d}{dy} \{f(x,y)\} \right] dx$$

B. M. GUPTA: *On the Relationship Between the Soluble Fatty Acids and the Potash Equivalent of Acids giving Barium Salts*. A. C. CHATTERJI: *Influence of Lyophilic Colloids on the Wettability of Naphthalin*.—The power to wet and the protective effect of lyophilic colloids bear a very close relation to each other, both being due to absorption of the colloid by the respective particles.

### Indian Chemical Society:

October 1935. HANS KRALL AND RAMESWAR DAYAL GUPTA: *The Phenylthiocarbamides.—A Contribution to the Study of the Triad, -N-C-S—, Part I.—Aniline Thiocyanate*. SANATSARAN MEHTA AND HANS KRALL: *The Phenylthiocarbamides.—A Contribution to the Study of the Triad, -N-C-S—, Part II.—Action of Hydrolytic Agents on Phenylthiocarbamide*. SANATSARAN MEHTA AND HANS KRALL: *The Phenylthiocarbamides.—A Contribution to the Study of the Triad, -N-C-S—, Part III.—Action of Nitrous Acid on Phenylthiocarbamide*. DINES CHANDRA SEN: *Studies in the Camphor Series.—Part I*. L. MCMASTER AND C. R. NOLLER: *The Formation of Amides from Nitriles by the Action of Hydrogen Peroxide*. H. K. SEN, KANAILAL ROY AND PANKOJ ROY: *Note on a Routine Gas Analysis Apparatus*. SISIR KUMAR GUHA: *Studies in Indigoid Dyes*. UMAPRASANNA BASU AND BASUDEB BANERJEE: *Synthesis in the Pyridine Series.—Part II*. NIRMALAPADA CHATTERJEE: *The Coagulation of Ferrocyanide Sols Containing Varying Amounts of Potassium Ferrocyanide*. B. B. DEY: *Preparation of Resorcinol Monomethyl Ether (A Correction)*.

### Asiatic Society of Bengal:

November 1935. (MEDICAL SECTION). *Live fishes inspected in the food and air passages of man*.—At the recent Meeting of the Medical Section of the Asiatic Society of Bengal, Dr. S. L. Hora of the Indian Zoological Survey addressed the members on the recent Indian cases of live fish found in the human pharynx and air passage. The Surgical aspect of such cases was presented by Lt.-Col. B. G. Mallaya. Dr. E. W. Gudgeon had reported 38 cases of live fish impacted in the pharynx and air passage, which were compiled from records covering the period from 1567 to 1933. Nearly 32 per cent. of such accidents are



said to have occurred in India and Burma. Dr. Hora instituted further enquiries into such calamitous occurrences and has collected information regarding 19 more cases; altogether there have been 31 authenticated reports of such accidents in India. On mapping out the distribution of these misfortunes according to the provinces where they occurred and according to the types of fish producing them, Dr. Hora has placed the latter in the following order of delinquency.—*Anabas testidinus* responsible for 17 cases; *Colisa Fasciata*, 4; *Mustacembelus*, *Nandus* and *Cynoglossus*, 1 each; 7 undetected. Out of the 19 recent cases, the Madras Presidency claims 6, Assam 5, Burma and Bihar and Orissa 3 each. Bengal and Bombay Presidency 1 each. In Dr. Gudger's Indian cases, the offending fishes were found in the pharynx of the victims; Dr. Hora reports that in 13 cases, fishes were lodged in the food passage and in 6, he found them insinuated in the air passage; more than 63 per cent. of these cases proved fatal.

Dealing with the surgical treatment of fish obstruction Lt.-Col. Mallaya observed that the condition of the patient and the position of the fish must determine the line and the extent of operative interference. A foreign body blocking the vital passages must rapidly produce suffocation and Dr. Mallaya suggested that in view of the extreme urgency of all such cases, a tracheotomy or pharyngotomy performed even with a pocket knife would relieve respiratory embarrassment, and in other less desperate cases where

only the nasopharyngeal passage is affected, perhaps a pair of long forceps might suffice to provide relief. The removal of the fish from the passages must be at once delicate and difficult for the obvious reason that the animal may remain alive for some time and may be bristling with spines. Accidents of this kind must be due to follies. Further history of such cases of live fish being impacted, regarding age, sex and occupation of the victims must throw light upon the immediate causes of accidents.

#### Meteorological Office Colloquium, Poona:

Four meetings were held during November 1935. At the first of these held on the 4th, Father M. Selga of the Philippines Weather Bureau addressed the gathering on "Typhoons and Weather in the Philippines" and described the organisation of the Weather Service in the Islands; also, Father R. Raphaël of the St. Xavier's College, Bombay, who was in Quetta at the time of the big earthquake, gave an account of some personal impressions in respect of the same. The programme at the three remaining meetings was as follows:—

12-11-35.—Mr. P. K. Raman: "Some recent work on problems relating to the thermal balance at the earth's surface."

19-11-35.—Dr. S. K. Banerji: "Calculation of velocity and acceleration of a system of isobars."

26-11-35.—Mr. M. S. Katti: "Some recent work on meteorology in relation to the soil."

### University and Educational Intelligence.

#### Andhra University:

Applications will be received by the Registrar Andhra University, Waltair, for the following posts in the University Colleges:—

Professor of Economics.

Professor of Politics.

Professor of Pure Chemistry.

Professor of Applied Chemistry.

Salary Rs. 800—50, 2—1,000.

The Syndicate will be prepared to consider higher terms in exceptional cases. Further particulars can be had from the Registrar.

Sir J. C. Coyajee, Professor of Economics, has resigned his appointment. He was Professor of Economics for nearly three years.

A Diploma course in Librarianship has been introduced in the University.

The M.A. (Hons.), M.Sc. (Hons.), and Ph.D. degrees were awarded for the first time this year, to candidates for research work done by them.

#### Allahabad University:

Pandit Iqbal Narain Gurtu was elected Vice-Chancellor of the Allahabad University, at a meeting of the Council held on the 4th December.

#### Aligarh Muslim University.

The Academic Council of the Aligarh Muslim University decided at its meeting held on 13th November to accept the thesis submitted for the Ph.D. Degree in Physics by Mr. Mohd. Jan Khan. As examiners Sir C. V. Raman, Dr. W. Jevons,

Imperial College, London, and Prof. R. Samuel, Aligarh, have been appointed. The thesis comprises two parts. In part I, the candidate has worked out the absorption spectra of a number of polyatomic molecules and shows that the ground state of molecules formed by a central atom in a higher state of valency does not arise from the ground state of a molecule formed by atoms of lower valency but from an excited level. The second part deals with the spectra of SeO and SeO<sub>2</sub>, the vibrational analysis of which is given. The constants of these molecules show a close correspondence. Both these results clearly indicate a strong localisation of the bonds.

#### Benares Hindu University:

*New Appointments.*—In the new session which commenced in July, eleven new appointments were made. The following are some of the important ones:—

- (1) Rao Bahadur K. V. Rangaswami Aiyangar, M.A. (Madras), appointed Principal of the C. H. College of Arts and University Professor of Economics.
- (2) Dr. S. K. Belvalkar, M.A. (Bom.), Ph.D. (Harvard), I.E.S., appointed University Professor of Sanskrit.
- (3) Dr. P. N. Roy, M.A. (Cal.), D.Litt. (Rome), appointed Professor of Modern European Languages.
- (4) Dr. Mrs. Indumati B. Adarkar, M.B.B.S. (Bom.), D.L.O., M.R.C.S. (London), appointed Lecturer in Domestic Science for the Women's College.