

SCIENCE NOTES.

Prof. Albert van Szent Györgyi has been declared winner of the 1937 Nobel Prize for Physiology and Medicine. He was elected to receive the prize "as a reward for his discoveries on the biological processes of combustion, specially in relation to Vitamins A and C". For the history of the discovery of Vitamin C, readers of *Current Science* are referred to a contribution by the Nobel Laureate himself, in this Journal (*Curr. Sci.*, 1936, 5, 285).

* * *

We regret to have to report the death of Prof. Hans Molisch, distinguished Botanist at the age of 81. The following account of the life and work of Prof. Molisch has been taken from *Plant Physiology*, July 1937, No. 3:

Hans Molisch was born at Brunn (Mahren) on July 12, 1856. His parents were Johann and Franziska (Matza) Molisch. He was educated at the K.K. Deutschen Ober-Gymnasium at Brunn and at the University of Vienna, which institution he entered in 1885. On March 10, 1888, he was married to Ida Knoller, who is the mother of two children, Paul, born in 1889 and Fritz, born in 1894.

In 1889 Hans Molisch became ausserordentlicher Professor at the Technische Hochschule in Graz. Several years later, he moved to Prag, where in 1894, he was appointed Ordentlicher Öffentlicher Professor in the German University and Director of the Plant Physiological Institute. In 1909 he returned to Vienna with the same title. During 1922 to 1925 he was Visiting Professor at the Imperial University at Sendai, Japan, and travelled extensively in the Orient. Since 1925 he has been at the University of Vienna an Emeritus Professor of Plant Physiology. Throughout these years of his professional life he was very active in his investigations, and has published over 200 papers on plant physiology. He is also well known for his many books (about 20), some of which are standard text-books used in the universities while others serve to increase popular interest in physiological experiments. He was elected a corresponding member of the *American Society of Plant Physiologists* at St. Louis in 1935.

* * *

Gandhara School of Sculpture.—The Archaeological Survey of India has recently published a *Guide* to the sculpture of the Indian Museum, Part II, which gives an account of the genesis of the Gandhara School of Sculpture. The Greco-Buddhist School of Sculpture originated about the second century B.C. on the North-Western Frontier of India, the ancient Gandhara Country and remained at the service of the Buddhist Church for at least five centuries before it disappeared with the coming of the devastating hordes of the white Huns who swept over the Indian plains. The Gandhara region was the meeting ground of three civilizations—Indian, Greek and Persian, and the resulting hybrid culture found expression in a School of Art that employed a technique borrowed from the Greek and Roman masters, but modified according to Indian requirements. The first specimen of this style in the Indian Museum is a relief representing Buddha, collected in 1833-34 by Dr. Gerard near Kabul and presented to the Asiatic Society of Bengal. Other valuable presentations to the

Museum include, Sir Alexander Cunningham's collections from Jamalgarhi and other sites in the Peshawar District in 1848 and 1876, the sculptures discovered by Major Cole in 1883 at Senghao to the north of Mardan and the large collection brought back by Caddy in 1895-96 from Lorian Tangai in the Swat Valley.

An important feature of the *Guide* is a map showing the principal sites of the Gandhara tract.

* * *

Archaeological Excavations in the Punjab and the U.P.—Archaeological excavations have recently been started at Khokrakot, near the town of Rohtak in the Punjab, and at Kosam, which has been identified as the site of the ancient city of Kausambi, near Allahabad. There is at Khokrakot an extensive mound of ancient origin and it is hoped that the survey now started in the South-East Punjab and Western U.P. will throw some light on India's ancient history, which is particularly obscure in the period between the prehistoric Indus Culture, and the historic age commencing with the birth of Buddhism in the Lower Gangetic Basin.

Two hoards of cast copper coins which were in use in the early centuries of the Christian era have been discovered in the excavations and the place bids fair to be the richest site for antiquities in Northern India.

A new departure in these excavations is the arrangement made to associate with the work, scholars deputed from Universities. In response to the suggestion made by the Director-General of Archaeology to the Universities of India, the Benares University has sent one scholar to Kausambi to work with the official explorer, and the Punjab University, another who is now associated with the work at Rohtak. One of the greatest needs in archaeological work has all along been men who combine in themselves intellectual abilities of the highest order with considerable physical stamina to bear up against hardship. The steps now taken to associate young scholars, fresh from their Universities, with the strenuous work of an archaeological explorer, who works in the field, it is believed, will in time remove this long-felt want.

* * *

The Records of the Mysore Geological Department (Vol. 35), which we have just received, contains, in addition to the Director's General Report for the year 1935-36, a few papers dealing with some of the deposits of economic value occurring in Mysore. In the paper on the "Gold bearing Alluvium in the Tungabhadra and its tributaries in the Shimoga and Honnali Taluks"—Mr. S. Lakshmana Rao gives a brief account of the physical features and geology of the area and proceeds to describe in detail the several localities where the occurrence of alluvial gold has been noticed. The author concludes that these several deposits are of such small value that they do not justify the undertaking of any large-scale dredging operations. Mr. T. P. Krishnachar has described some occurrences of clays and kaolins in the neighbourhood of Bangalore, and shows that the former are well suited for the manufacture of stoneware pipes, etc., and the latter for making porcelain. Mr. M.R. Ananthanarayana Iyer has an interesting

paper on a graphical representation of the composition of some manganese minerals, including a discussion of the nature of the mineral Vredenburgite.

Technological Reports on Standard Indian Cottons.—The Director of the Technological Laboratory, Indian Central Cotton Committee, has recently brought out a Bulletin dealing with the various improved strains of cotton grown regularly and on a large scale in the different provinces of India. It embodies the following details:—Season in which it is grown, Botanical Classification, History, Grader's Report, Fibre Properties, Spinning Tests, Yarn Tests, etc. The publication will be found useful to the producer, breeder and spinning and weaving mills, inland and abroad, who are concerned with standard Indian cottons. Copies of the Bulletin can be had of the Secretary, Indian Central Cotton Committee, Bombay, at Rs. 1-8-0 *plus* postage.

* * *

Microbiology in the Preservation of Animal Tissues.—The successful storage of animal tissues is, in the first instance, an exercise in applied microbiology. It is thought, therefore, that a useful purpose may be served by an attempt to gather together an account of some of the more fundamental bacteriological aspects of the problem.

In the first part of a Report issued by H. M. Stationery Office (Food Investigation; Special Report No. 45), consideration is given to the effect of *ante-mortem* factors; in the second, an outline of the physiology and biochemistry of certain micro-organisms is sketched, and in the final section, an attempt is made to indicate the lines along which control of infection and growth may best be carried out.

* * *

Official Publications on Motoring Subjects. H. M. Stationery Office has placed on sale a number of official publications dealing with various aspects of road traffic matters. Recent reports include the following:—(1) The use of coloured light for Motor Car Headlights, (2) Regulations on construction and design, etc., (3) Road Traffic, (4) Noise, (5) Road Surfaces, (6) Experimental Work on Roads and (7) Road safety among School Children.

* * *

The Science Press of India.—A Science news service, under the name of the *Science Press of India* has been started to serve the daily and weekly press of India with (1) Important science news from all parts of the world; (2) Views of leading scientists of India on matters of scientific industrial, agricultural and medical importance; (3) Short popular articles dealing with every-day science and with the work of Indian scientists; and (4) Reviews of important works on science of interest to the general public. It will be run on the lines of similar organisations that are functioning in England, Germany and America.

Further details regarding the Science Press of India can be had from Dr. B. L. Bhatia, D.Sc., F.Z.S., F.R.M.S., F.A.Sc., F.N.I., K.H.M., Director, Science Press of India, Hotosingh Road, Lahore.

* * *

Zoological Expedition to Burma.—A party of twenty students of the Banares Hindu Univer-

sity under the leadership of Dr. A. B. Misra, Professor of Zoology, went to Burma in October 1937, to study the zoo-ecology of animal life in certain selected parts of that country. The party visited Rangoon, Toungoo, Pathichaung, Thandaung, Mandalay, Madaiya, Moulmein, Bilugyun island, Paung and Zingayik. Some of these places which were selected especially for the purpose of ecological work, proved to be excellent localities for field-work. Part of the expenses of this expedition was defrayed by the Benares Hindu University, and the remainder met out of funds raised from private sources. This adventure had been approved of by the Vice-Chancellor, Pandit M. Malaviya. At the request of Dr. Misra, Mr. Ramnivas Bagla of Moulmein has presented a Gold Medal to be awarded to the best field-worker among the students, and this has been won by Mr. Narayan Chandra of the B.Sc. (final) Class.

* * *

Sir Martin Forster, F.R.S., delivered the twentieth Streatfield Memorial Lecture on the 15th October. Sir Robert H. Pickard, F.R.S., who presided, in introducing the lecturer, said that Sir Martin was one of the most distinguished and successful of those who had been pupils of Frederick William Streatfield at Finsbury Technical College. The subject of the address was "Chemical Changes and Chances", the merits of which can be best appreciated by reading through the entire text which has been published by the Institute of Chemistry. At the conclusion of the address, the President handed Sir Martin Forster, the Medal presented by the City and Guilds of London Institute together with a photograph of Streatfield.

* * *

Sir S. Radhakrishnan.—The term of the appointment of Professor S. Radhakrishnan, Spalding Professor of Eastern Religions and Ethics, Oxford, has been extended to a period of 15 years. This has been done at the instance of the three faculties of Theology, Philosophy and Oriental Studies of the University. The arrangement also permits Sir S. Radhakrishnan to spend six months in the year at the Calcutta University.

* * *

Sir James Jeans, President Elect of the forthcoming Indian Science Congress, Calcutta, and Dr. F. W. Aston, F.R.S., have been awarded the **Joy Kisen Mukerji Gold Medals** for the year 1937, and 1938 respectively by the Indian Association for the Cultivation of Science. Sir John Russell, F.R.S., was the first recipient of this medal.

* * *

The United Provinces Pharmaceutical Association.—The General Annual Meeting of the U.P. Pharmaceutical Association was held in the Department of Pharmaceutics, Banares Hindu University, on the 19th November 1937. After the acceptance of the annual report and audited statement of accounts, the Office-bearers of the Council of the Association for the year 1938 were elected. Rai Bahadur Dr. B. N. Vyas, Lucknow, was elected President and Capt. S. K. Choudhury, Chief Medical Officer, Banares State, was elected Vice-President. Prof. M. L. Schroff, Head of the Department of Pharmaceutics, Banares Hindu University, was elected Hon. Secretary.

The U.P. Pharmaceutical Association has been recently registered under the Societies Registration

Act of 1860 and has the following aims and objects. (a) To train men for the profession of Pharmacy in the United Provinces who will be *at par* with those in other civilised countries and to devise ways and means for the attainment of this ideal. (b) To promote the cause of the science and art of Pharmacy in all their different branches. (c) To raise the status, outlook and ethics of those who are directly or indirectly engaged in pharmaceutical trade and profession by absorbing in the Association the various allied associations of the Province. (d) To participate in matters of interest affecting the science, art or profession of Pharmacy by sending representatives or otherwise, to various bodies dealing with or interested in such matters. (e) To hold examinations under the Association and to grant degrees and diplomas to properly qualified persons. (f) To establish a laboratory for the investigation of indigenous drugs with a view to incorporate the useful ones in an Indian Pharmacopœia when it is published. (g) To edit and publish journals, books, magazines, documents and other publications for promoting the cause of Pharmacy in India.

The ordinary membership of the Association will be open to those persons who hold the following qualifications: (a) Persons who are graduates in Pharmacy or Pharmaceutical Chemistry, of any University or College recognised by the Association. (b) Persons who are registered practitioners of medicine or surgery. (c) Persons who have worked for at least five years in some dispensary or hospital subsequent to the passing of an examination for the certificate of a compounder or dispensing chemist. (e) Persons who have passed any other examination requiring at least two years' training in Pharmacy and Pharmaceutical Chemistry subsequent to the Matriculation Examination or an equivalent examination held by any University or Board or High School and Intermediate Examination of the United Provinces. (e) Persons who have passed any of the examinations of this Association. (f) Persons who have been engaged in any manufacturing Pharmaceutical Laboratory for at least five years subsequent to their graduation from a University. (g) Persons who have been engaged in teaching pharmaceutical subjects, including Chemistry.

Indian Chemical Society.—At the ordinary meeting of the Society held on November 19th, the following gentlemen were admitted as Fellows:—(1) Sailesh Chandra Sen, M.Sc. (*Pusa*); (2) Sardar Doghar Singh (*Travancore*); (3) Dr. A. N. Ghei, M.B., B.S., D.T.M., D.P.H. (*Lahore*); (4) Mr. M. Raman Nayar, M.A., A.I.I.Sc. (*Lucknow*); (5) B. N. Pramanik, M.Sc., Ph.D. (*Shahjahanpur*); (6) N. K. Brahmachari, B.Sc. (*Calcutta*).

National Institute of Sciences of India.—The Seventh Ordinary General Meeting of the National Institute of Sciences of India was held at Delhi, on Saturday, the 6th November, Prof. M. N. Saha presiding.

1. Condolence resolutions touching the death of Prof. Albert Heim and Lord Rutherford of Nelson were passed.

2. The following gentlemen were elected Ordinary Fellows:—Prof. Y. Bhâradvâja, Principal B. L. Bhatia, Prof. G. R. Paranjpe,

Dr. H. Srinivasa Rao, Dr. K. Rangadhama Rao, Prof. M. R. Siddiqui, Prof. A. C. Sirkar, Dr. M. B. Soparkar, Hon'ble Sir Shah M. Sulaiman and Col. F. C. Temple.

3. The following gentlemen were elected Honorary Fellows:—Prof. Ludwig Diels, Sir James G. Frazer, Prof. Robert Robinson and Dr. C. M. Wenyon.

Royal Asiatic Society of Bengal.—At the Ordinary Meeting held on Monday, 6th December, Charu Chandra Das-Gupta read an interesting paper entitled *Bibliography of Ancient Indian Terracotta Figurines*. The paper constitutes the first attempt to give a complete bibliography of ancient Indian terracotta figurines.

At the same meeting, Mr. Chintaharan Chakravarti exhibited manuscripts of a Tantra Work giving *inter alia* the family history of the royal patron of the author. Two communications: (1) "Possibilities of the Persian quatrain", by L. S. Dugin and (2) "The Study of Heraclitus", by John van Manen, were made at the same meeting.

Allahabad University.—At the Special Convocation held in connection with the Golden Jubilee Celebrations of the Allahabad University presided over by H. E. Sir Harry Haig, the Chancellor, Honorary Doctorates were conferred on the following eminent Scientists:—

D.Sc.—Sir Shah Sulaiman, Sir P. C. Ray, Sir Arthur Eddington and Dr. V. H. Blackman.

Merit Doctorates were conferred on Mr. Surendralal Das, Mr. Muralidhar Srivastava, Mr. G. D. Bhale Rao, Mr. Radheraman Agarwal, Mr. S. K. Banerji, Mr. S. K. Mukherji, Mr. Santaprasad Tandon, Mr. L. S. Mathur and Mr. V. N. Chatterji.

Andhra University.—Dr. C. R. Reddy, Vice-Chancellor, Andhra University, announced, on the occasion of the annual convocation, held on the 2nd December, that H. H. The Maharaja of Travancore and Maharani Sethu Parvathi Bai have donated a lakh of Rupees for the University. He also announced that a sum of Rs. one lakh has been most graciously donated by H. E. H. The Nizam of Hyderabad.

The Honorary Degree of Doctor of Literature was conferred on H. H. The Maharaja of Travancore and on Her Highness the Maharani Sethu Parvathi Bai in recognition of their "great and courageous act of social liberation and national significance effected by throwing open the temples in their traditionally orthodox State to the entry of Harijans."

The Raja Sahib of Challapalli has been pleased to donate Rs. 8,000 to found a senior Studentship in the University. The Maharaja of Jeypore and Sir Alladi Krishnaswami Aiyar have donated Rs. 3,000 each for the creation of two Studentships.

Benares Hindu University.—At the Twenty-First Annual General Meeting of the Court of the Benares Hindu University, held on the 27th November, Pandit Madan Mohan Malaviya, Vice-Chancellor, announced that H. H. The Maharaja Sahib of Bikaner had been pleased to

donate a sum of Rs. 25,000 on the occasion of the Golden Jubilee Celebration of his accession to the throne.

Seth Mathurdas Vasanji donated a sum of Rs. one lakh which is in the form of an endowment, the interest of which will be utilized for the purposes of the University. The Vice-Chancellor also announced that H. H. The Maharaja of Panna has promised a donation of Rs. 1 lakh and H. H. The Maharaja Sahib of Dewas (Junior) Rs. 20,000.

In pursuance of its policy to encourage the advancement of technical and professional education, the Senate has introduced courses of instruction in glass technology. The regulations provide for two degree examinations, B.Sc., and M.Sc., in Glass Technology and a Certificate Examination. The U.P. Government has sanctioned a grant of Rs. 8,000 to the Department of Research.

* * *

University of Mysore.—1. *Personnel*: (1) Mr. A. B. Mackintosh, M.A., on his return from leave took charge of the Principalship of the Central College, Bangalore, on the forenoon of the 15th November 1937, from Mr. C. R. Narayan Rao, M.A., L.T., Professor of Zoology and Officiating Principal, permitted to retire from that date.

(2) Dr. A. Subba Rau, B.A., D.Sc. (Lond.), Professor of Physiology, Medical College, Mysore, appointed as Professor of Zoology, Central College, *vice* Mr. C. R. Narayan Rao, took charge of his new office on the forenoon of the 22nd November 1937.

(3) Mr. S. Hiriyannaiya, B.A., M.B.B.S., Assistant Professor of Physiology, Medical College, Mysore, was appointed to act as Professor of Physiology in the College, *vice* Dr. A. Subba Rau transferred to the Central College.

(4) Consequent on the grant of three months' leave to Dr. P. R. Subba Rao, Professor of Ophthalmology, Medical College, Mr. A. M. Ponnambalam, Professor of Pharmacology, was appointed as Professor of Ophthalmology.

2. *Lectures.*—Mr. Ernest Salter Davies, C.B.E., M.A. (Oxon.), Director of Education, Kent, England, delivered a lecture at Bangalore on "Education for Industry and for Life".

3. *Meeting of the Senate.*—The ordinary meeting of the Senate for the year was held on the 27th November 1937.

Among the propositions that were passed, mention may be made of the following:—

(i) Prescription of the minimum percentage of marks to be obtained by candidates for the S.S.L.C. Examination under the revised scheme for being eligible for admission to University courses of study.

(ii) Course of studies and scheme of examination in Hindi as an optional subject for the Intermediate Examination in Arts.

(iii) Addition of the following to the list of optional groups for the B.Sc. degree examination:—

Physics, Mathematics, Economics.

Chemistry, Geology, Botany.

Chemistry, Geology, Zoology.

(iv) Provision for candidates failing in the Honours Degree examination to take the ordinary degree examination,

(v) Limiting the number of attempts at the Pre-Medical Examination to two instead of three.

(vi) The following proposals were recommended to the University Council for consideration:—

(a) Institution of a course for diploma in Music controlled and recognised by the University. (b) Institution of a course in Insurance Business as one of the branches of study in the University. (c) Reduction of the scale of tuition fees in all the colleges to the old scale. (d) Institution of a system of voluntary service by the graduates of the University.

The Senate resolved to record its sense of gratitude to *Rajasabhabhushana Divan Bahadur* Dr. Sir K. P. Puttanna Chetty, Kt., C.I.E., LL.D., for his generous donation to the University.

* * *

Nagpur University.—The University Court has accepted the recommendation of the Academic Council to confer the degree of LL.D. on Mahatma Gandhi. The Court has also decided to confer the same degree on H. E. Sir Hyde Gowan.

Mr. T. J. Kedar was elected Vice-Chancellor of the University, at the meeting of the Court, held on the 10th December.

* * *

Travancore University.—Dr. D. L. Mowdill, D.Sc., has been appointed as the Director of research in the University to conduct researches in applied science in the Central Research Institute which aims at co-ordinating the research work carried out in the laboratories attached to various departments of the Government of Travancore. Dr. H. Parameswaran, D.Sc., has been appointed Director of Technology.

* * *

Modified Schering Bridge.—For the purpose of determining the characteristics of samples of both liquid and solid dielectrics, the Leeds & Northrup Company has developed a modified form of Schering Bridge in which convenience, safety and accuracy are considerably enhanced. High voltage is applied only to the test sample and to the standard air capacitor. All adjustable elements being confined within a grounded shield, the operator is fully protected and accuracy is assured. The guard rings of the standard capacitor and of the sample are brought to the proper potential by merely connecting them to the grounded shield.

A method of compensation for residual capacitance is used which enables results to be calculated from simple equations. In the case of low power factors, the result is read directly. Capacitances ranging from 40 mmf to 0.020 mf and power factors from 0.0001 to 0.70 can be accurately determined.

The bridge is intended for use on 60 cycle circuits and the standard air capacitor and sample holders listed are rated at 10 K. V. Apparatus for other voltages and frequencies can be supplied.

For further details, ask for Catalog E-54 (2) from Leeds & Northrup Company, 4934 Stenton Avenue, Philadelphia, Pennsylvania or their Sole Agents in India: The Scientific Instrument Co., Ltd., 5 A, Albert Road, Allahabad,

Announcements.

Chronica Botanica.—From February 1938 *Chronica Botanica* will be issued *bi-monthly* and no longer as a Year-book. The annual subscription will be reduced from 15 to 7 guilders. The new periodical will continue to give all the essential information which was given in the old year-book, and will include some important new sections as well. Like the Year-book, the new *Chronica* will aim at promoting documentation, good-will and international co-operation among plant scientists. Results of research will be published only in the first two sections. The world list of plant science institutions and societies will appear as an annual supplement. The contents of the reorganized *Chronica* will be as follows:—

(1) *Scientific Communications*: A medium for the quick publication of short preliminary notes on the results of recent research or announcing new discoveries. (2) *Forum Botanicorum*: Discussions, Announcements, Letters to the Editor. (3) *International Congresses*: Detailed programmes, short reports, decisions, resolutions, etc. (4) *Quotations*: From recent articles of general and timely interest. (5) *Miscellaneous News*: News notes of all kinds of plant science institutions, experiment stations, gardens, etc., including notes on new research projects. (6) *Herbarium and Museum News*: Expeditions, new collections, lists of new acquisitions, etc. (7) *Personalia*: Appointments, Retirements, Resignations, Deaths (short obituaries), Miscellaneous, New addresses. (8) *Queries*: Requests for co-operation and information, exchange offers. (9) *New Periodicals*: Short accounts of new plant science periodicals, changes in existing periodicals. (10) *New Books*: Short reviews of new plant science books.

Indian Statistical Conference.—The Conference will be held at Calcutta from 7-9th January 1938; Prof. R. A. Fisher will be the General President. The work of the Conference will be carried on in active co-operation with the Indian Science Congress and two joint discussions with the Indian Science Congress, one on Agricultural Statistics and the other on Theoretical Statistics, have been organised. One or two sessions of the Conference will be devoted to Economic Statistics and one session to Public Health and Vital Statistics.

The minimum subscription for membership of the Conference will be Rs. 10.

The Annual General Meeting of the Indian Chemical Society will be held at Calcutta in the Chemistry Section Room of the Indian Science Congress, on 5th January 1938.

Lucknow University Studies.

The following Science Lectures have been arranged for the Winter Session (1937-38). The lectures will be held at 6-30 p.m. on the days notified:—

Jan. 12, 13 and 14 (Biology Theatre).—

“The theory of non-linear partial differential equations.”

By Dr. M. R. Siddiqi, Ph.D., Professor of Mathematics, Osmania University, Hyderabad.

Jan. 29, 30 and 31 (Biology Theatre).—

“Physiological psychology.”

By Dr. W. Burrige, Prof. of Physiology and Dean, Faculty of Medicine.

Feb. 4, 5 and 6 (Biology Theatre).—

“The mean value theorem of the differential calculus and its applications.”

By Dr. A. N. Singh, Lecturer in Mathematics.

Feb. 11, 12 and 13 (Chemistry Theatre).—

“The Nature of protective foods.”

By Dr. B. M. Gupta, Ph.D., Assistant Public Analyst, Lucknow.

Feb. 19, 20 and 21 (Chemistry Theatre).—

“The temperature co-efficient of chemical reactions.” By Dr. A. C. Chatterji, Lecturer in Chemistry.

Feb. 26 and 27 (Chemistry Theatre).—

“Chemical processes in gaseous systems.” By Professor P. S. MacMahon, Head of the Chemistry Department.

March 5 and 6 (Biology Theatre).—

“The problem of plant immunity.”

By Dr. S. N. Das Gupta, Reader in Botany.

March 18 and 19 (Biology Theatre).—

“The poisonous plants of India.”

By Brev.-Col. R. N. Chopra, Sc.D., I.M.S., School of Tropical Medicine, Calcutta.

March 20 (Biology Theatre).—

“The solar corona.”

By Dr. M. N. Saha, D.Sc., F.R.S., Professor of Physics, Allahabad University.

We acknowledge with thanks, receipt of the following:—

“Agricultural Gazette of New South Wales,” Vol. 48, No. 11.

“Allahabad Farmer,” Vol. 11, No. 6.

“American Museum of Natural History,” Journal Vol. 40, No. 4.

“Biochemical Journal,” Vol. 31, No. 10.

“Biological Reviews,” Vol. 12, No. 4.

“Berichte Der Deutschen Chemischen Gesellschaft,” Vol. 70, No. 11.

“Bulletin of the American Meteorological Society,” Vol. 18, No. 9.

“Bulletin of the University of Illinois,” Vol. 34, No. 103.

“Calcutta Medical Journal,” Vol. 32, No. 11.

“Canadian Journal of Research,” Vol. 15, No. 10.

“Contributions from Boyce-Thomson Institute,” Vol. 9, No. 1.

“The Chemical Age,” Vol. 38, Nos. 956-60.

“Experimental Station Record,” Vol. 77, No. 5.

“Forschungen und Fortschritte,” Vol. 13, Nos. 31-33.

“Genetics,” Vol. 22, No. 6.

“Indian Forester,” Vol. 63, No. 12.

“Indian Forest Records,” Vol. 3, No. 3.

“Indian Journal of Agricultural Science,” Vol. 7, No. 5.

“Journal of Agricultural Research,” Vol. 55, Nos. 6 and 7.

“The Philippine Agriculturist,” Vol. 26, No. 6.

“Journal of Chemical Physics,” Vol. 5, No. 11.

“Journal de Chemie Physique,” Vol. 34, No. 10.

“Journal of the Institute of Brewing,” Vol. 43, Nos. 10 and 11.

“Journal of Nutrition,” Vol. 14, No. 5.

“Journal of Research,” National Bureau of Standards, Vol. 18, No. 5.

“Journal of the Royal Society of Arts,” Vol. 85, Nos. 4431-35,

- "League of Nations: Bulletin of Health Organisation," Vol. 6, No. 3.
 "Medico-Surgical Suggestions," Vol. 6, No. 11.
 "Nature," Vol. 140, Nos. 3547-50.
 "Nagpur University Journal," Nos. 1 and 2.
 "Russian Journal of General Chemistry," Vol. 69, Nos. 9-17.
 "Review of Applied Mycology," Vol. 16, Nos. 9 and 10.
 "Research and Progress," Vol. 3, No. 6.
 "Science and Culture," Vol. 3, Nos. 4 and 5.
 "Sky," Vol. 2, No. 1.

- "The Indian Trade Journal," Vol. 126, Nos. 1638-41.
 "Transactions of the Faraday Society," Vol. 33, No. 199.

Catalogues.

- "Dextra Industrial X-Ray Unit" (Adam Hilger, Ltd., London).
 "Catalogue No. 6" (Verlag von Gustav Fischer in Jena).
 "Monthly List of Books on Natural History and Science" (Wheldon & Whesley).

ACADEMIES AND SOCIETIES.

National Institute of Sciences of India :

November 6, 1937 (Meeting held in the Physics Lecture Theatre, University Buildings, Delhi).—
 M. ISHAQ: *The O-O-Band of OD*. T. S. WHEELER: *The theory of liquids*. H. S. PRUTHI AND E. S. NARAYANAN: *A study of the behaviour of some common varieties of sugarcane with reference to the attack of borers*. D. S. KOTHARI: *Joule-Thomson effect and adiabatic changes in degenerate gas*. B. RAMAMURTI: *The chemical fixation at low temperature and its significance in agriculture*. M. N. SAHA AND K. B. MATHUR: *The propagation of electromagnetic waves through the atmosphere*. B. N. SRIVASTAVA: *Joule-Thomson expansion of a non-degenerate gas*.

* * *

Indian Academy of Sciences:

November 1937. SECTION A.—S. R. SAVUR: *Evaluation of $I_p (n - r, r + 1)$* . R. SAMUEL: *An Energetical Interpretation of the Semipolar Double Bond*.—Based on a number of experiments on the photo-dissociation of inorganic molecules, it is shown, that the essential features of the conception of a semi-polar bond can be retained as far as chemical reactivity is concerned, without introducing this second variety of covalency for such molecules. N. R. TAWDE AND D. D. DESAI: *Role of Argon in the Production of Swan Bands*.—A systematic study has been made of the intensity changes that take place in the Swan system by the gradual addition of argon to a discharge tube of 'H' pattern having a capillary tube and fitted with carbon electrodes. R. K. ASUNDI AND S. MUJTUBA KARIM: *On the Emission Spectrum of $SiBr_4$* .—The spectrum is studied under different conditions of the flowing vapour and with condensed and uncondensed discharge. The nature of the spectrum undergoes certain radical changes under varying conditions of the flowing

vapour. R. D. DESAI AND S. A. HAMID: *Heterocyclic Compounds. Part V. Synthesis of 2-Methyl-6-ethyl-7-hydroxy-chromone and its Derivatives*.—Kostanecki reaction has been applied to 2:4-dihydroxy-5-ethylacetophenone to prepare 7-acetoxy-6-ethyl-3-acetyl-2-methyl chromone and its derivatives. S. CHOWLA: *On a Trigonometric Sum*. A. L. SUNDAR RAO: *Photo-decomposition and Absorption Spectrum of Potassium Permanganate*.—It is found that while photo-decomposition increases slightly with frequency, there is no strongly selective wave-length.

* * *

SECTION B.—S. A. AKTHAR: *Report on Some Nematode Parasites of Kabul, with description of New Species*.—One new species of the genus *Ascardia* Dujardin, 1845, one of the genus *Subulura* Molin, 1860, and one of the genus *Tachygonetria* Wedl, 1862, have been described. MAKUND BEHARI LAL: *Studies on the Trematode Parasites of Birds*.—Two new forms coming under the sub-family Bilharziellinae Prie, 1929, have been described; owing to certain peculiar characters presented by them, an emendment of the sub-family diagnosis is necessitated. N. KESHAVA PANIKKAR AND R. GOPALA AIYAR: *The Brackish-water Fauna of Madras*.—Observations concerning 92 species of invertebrates and 50 species of vertebrates inhabiting the brackish-waters of the City of Madras, have been reported.

* * *

Meteorological Office Colloquium, Poona:

November 9 and 16, 1937.—DR. C. W. B. NORMAND: "Morqule's work on the theory of storms":—He explained how the main results regarding energy changes can be obtained graphically by the use of indicator diagrams like tephigrams.

Errata.

Vol. VI, No. 5, November 1937.

(1) Contribution entitled "The Thermodynamics of Duststorms":

Page 211, Column 1, line 52, for "15 hours 38 minutes" read "15 hours 15 minutes".

(2) Contribution entitled "A Convenient and Rapid Method for Determining Compressibilities of Gases and Vapours":

Page 214, Column 2, last line, for "² K. L. Ramaswamy, *ibid.*, 1936, 4, 108-33" read "² K. L. Ramaswamy, *Proc. Ind. Acad. Sci., A*, 1936".

(3) Contribution entitled "An Indirect Method of Estimating Cocaine in Mixtures of Cocaine and Novocaine":

Page 220, Column 1, line 17, for "Sodium nitrate" read "Sodium nitrite".