
SCIENCE NOTES AND NEWS

International Geological Congress

The Eighteenth Session of the International Geological Congress, originally planned for 1940 and postponed on the outbreak of war, is to be held in Great Britain in 1948, on the invitation of the Geological Society of London.

Sessional meetings will take place in London from August 25th to September 1st, 1948.

All communications should be addressed to the General Secretaries, Eighteenth Session International Geological Congress, Geological Survey and Museum, Exhibition Road, London, S.W. 7.

Two New Technical Schools for India

The Most Reverend Louis Mathias, Archbishop of Madras, announced in New York on November 15th that the Roman Catholic Church was planning to help India's industrialisation programme by opening two technical schools to train Indian technicians in various engineering fields and allied sciences. He said the schools will cost \$250,000.

Rev. Mathias arrived in America in November to obtain used machinery and other equipment as well as funds for the project. He said the schools, which will be in the City and suburbs of Madras would be open to all faiths "to train the youth of India for the vast responsibilities which are to be theirs in the future".

Indian Institute of Metals

The Indian Institute of Metals will be inaugurated on December 29th at the Royal Asiatic Society's Hall by Dr. Syama Prasad Mookherjee, Minister for Industry and Supply.

The Institute has been founded by leading metallurgists in India with the object of promoting and advancing the study and practice of the science and technology of making, shaping and treating metals and alloys. The Institute has among its members highly qualified metallurgists who have specialised in the various branches of metallurgy.

Sir J. J. Ghandy, Director, Tata Industries, Ltd., has been elected first President of the Institute and will deliver his presidential address at the inaugural meeting.

A Carnegie Grant

The Cornell University has announced the receipt of a 180,000-dollar-grant from the Carnegie Corporation of New York, to investigate the impact of modern agriculture, science and industry on such areas as India, the Far East and Latin America.

The President of the University, Mr. Edmond E. Day, said that the fund will be used in a programme of research and instruction in which anthropologists and other scientists will study contemporary problems.

The findings will be used at Cornell in special training courses to prepare interested American and foreign students for work in these regions.

Scientific Research in U.P.

The Committee appointed by the U.P. Government for the promotion and encouragement of scientific research in universities and elsewhere in the province will be presided over by Dr. K. S. Krishnan, Director, National Physical Laboratory, Government of India. The first sitting of the Committee will be inaugurated by Mr. Sampurnanand, Education Minister.

In setting up this Committee the Government have no intention of interfering with the freedom of research in universities. The Government have provided a sum of Rs. 50,000 in the budget under education for the current financial year for financing researches not conducted by the universities. A sum of one lakh has also been provided in the budget for the current year for giving assistance to universities towards conducting research in science.

Applied research will be undertaken at the Committee's own initiative or at the instance of private individuals or firms. In the latter case the party concerned will be required to make such contributions as the Committee may consider necessary.

Telephone Manufacture

Plans for setting up a new telephone plant factory in India are reported to be complete by the Government of India. The new factory is likely to be established in Bombay where a factory for the manufacture of telephone apparatus and parts already exists. The new plant-manufacturing factory is intended to meet the increasing needs of the automatic telephone system which the Government of India propose to introduce throughout the country.

The project is expected to cost the Central Exchequer seven crores of rupees and is likely to be completed in three years' time.

Intermediate for Dyes and Developers

2, 4-Diaminophenol obtained by the reduction of *m*-dinitrobenzene, a valuable intermediate required for photographic developers of the 'Amidol', 'Diamol' and 'Dolmi' class, and of dyes employed in the dyeing of furs and hair, has been prepared in good yields in the laboratories of the Presidency College, Madras, by the electrolytic reduction of *m*-dinitrobenzene in sulphuric acid emulsion using a copper or monel cathode and a lead anode in the presence of mercuric and ceric sulphates. In simplicity and economy of operation and low upkeep charges, the process is reported to be superior to other processes.

Vegetable Oil for Diesel Fuel

Investigations carried out under the auspices of the Council of Scientific and Industrial Research have shown that most of the Indian vegetable oils can be successfully employed as Diesel fuels. Cotton seed oil, in particular, gives exceptional performance in that its consumption is definitely less than that of mineral oils. Despite their good performance, however, vegetable oils cannot compete with mineral fuels because of the high price. If vegetable oil could be used as a vehicle for powdered solid fuel, the resulting fuel will be cheaper than the oil and may be able to compete with the mineral oil. This possibility has been tested in the laboratories of the Council. The results show that with the use of a stabilizer prepared from the oil itself, colloidal fuels containing as much as 35% by weight of charcoal can be prepared and stored for lengthy periods without the charcoal settling down. Provided the injection system is replaced to suit the new fuel, a thermal efficiency approaching that of groundnut oil can be attained, the charcoal part being burnt as efficiently as oil itself. For this to be possible the charcoal should be reduced in size to about 2μ and the injection system should be redesigned.

Important Mineral Finds in Mysore

Applying the geophysical techniques, the Geology Department in Mysore has discovered a promising pyritiferous ore body at a depth of 80' below the surface at Guddarangavvanahalli and another in Ingaladhal, both in the Chitaldrug district. The latter is estimated to yield about half a million tons of pyritic material with a sulphur content varying from 25 to 42 per cent. in an area of about 100 acres so far surveyed. The ore can be utilized for the manufacture of sulphuric acid.

A large body of graphite schists estimated to yield 50,000 tons of the ore at a depth of 10-15 feet below the surface and suitable for pencil making, lubricants, paints, foundry facings and electrodes, has also been discovered.

Indian Forest Ranger College

The Report for the year 1945-46, of the Indian Forest Ranger College, Dehra Dun, which has been published after a lapse of four years, shows that the College expanded by fifty per cent. during the year, to meet the demand for trained Forest Rangers.

The two-year course at the College includes teaching of Silviculture, Forest Protection, Forest Management, Forest Mensuration, Forest Utilisation, Forest Law and the allied subjects such as Forest Botany, Forest Pathology and Mycology, Forest Entomology, Forest Engineering, Geology, Soil Science and Forest Surveying. In addition, extensive tours are made to forests in many Provinces to impart practical training.

Award of Doctorate

The D.Sc. Degree of the Andhra University has been awarded to Mr. J. Venkateswarlu for his thesis on "The Morphology of *Martifloræ* with Some Observations on the *Nyctaginaceæ*."

Mr. P. Venkateswarlu, M.Sc., has been awarded the D.Sc. of the Benares Hindu University for his thesis on "Molecular Spectra of the Halogens".

World Committee on Malaria

Dr. D. K. Viswanathan, Assistant Director of Public Health, Malaria, Bombay Province, has been appointed by the Government of India to be a member of the Expert Malaria Committee of the Interim Commission of the World Health Organisation.

Dr. Viswanathan will visit the U.S.A. in the near future, to attend the meeting of the expert Malaria Committee in Washington in May 1948, and to study the methods of health publicity followed in that country. He is also being deputed by the Government of Bombay to the Congress of Tropical Medicine.

A New Pest of Jute

Ferrisia virgata CKII (Coccidæ), a fairly common mealy bug in India, has recently been recorded as a pest of jute (*C. olitorius*), particularly on these plants which were under selfing covers for experimental purpose in the Dacca farm of the Indian Central Jute Committee. The damage is mostly caused by the nymphs which usually remain congregated around the mother and suck up the sap of the stems, pods, petioles and leaves. The female has a pair of long white caudal filaments, her whole body covered with white powdery meal and cottony hairs, and can lay as many as one thousand eggs in course of two or three days after which she dies.

Foam for Fighting Fires

Large petrol fires cannot be fought with the usual fireman's water jet, because the petrol floats on the water and continues to burn. Foam is lighter than petrol and it can form a blanket on top of the petrol and so extinguish the flames. The type of foam largely used in Britain is called mechanical foam; it is produced by churning up air and water with a foam stabilising agent.

The most suitable agents are chemical breakdown products of hoof and horn meal, or glue mixed with materials similar to soapless shampoos or chemically treated blood. The latter is a waste material from abattoirs.

The new foam compound is said to have the additional advantage of a much lower viscosity than other types and so it could be used without modification in R.A.F. crash tenders. It produces a high efficiency foam for combating aircraft fires.

Details of the researches on fighting petrol fires with foam are published in *Chemical Research Special Report, No. 6.—A Study of Mechanically Produced Foam for Combating Petrol Fires* (H. M. Stationery Office, London).

A Photoelectric Hygrometer

An instrument that measures small absolute humidity changes by the photoelectric examination of the 9,400 Angstrom units absorption

band of water vapour is described in the *Bulletin of American Meteorological Society* (September 1947). The instrument consists of a small source of light which sends its radiation over an air path of less than one and a half metres to a dispersing system. The resulting spectrum then is allowed to fall on two vacuum phototubes; one centered in the 9,400 Angstrom units absorption band of water vapour, the other located at 8,000 Angstrom units where no water vapour absorption bands exist. As the absolute humidity in the air path is varied, the phototube in the region of the band is affected; whereas the reference phototube is not. The phototubes are arranged in an amplifying circuit so as to magnify the effect of varying humidity. The instrument uses a portable microammeter instead of the sensitive galvanometer of all previous spectral hygrometers. Humidity changes of 2 to 8×10^{-5} centimetre of precipitable water-path over 143 centimetres of air path can be measured. An investigation of the small sensitive range of the instrument was carried out and the results indicate that the device is confined to use over a small humidity range with equipment available at the present time.

Diet and Tumour Growth

Experiments on the incidence of cancer and other neoplasms show that caloric restriction of the diet inhibits the genesis of all types of mouse tumours that have been studied, namely, induced skin tumours and sarcomas, spontaneous mammary carcinomas, lung adenomas, hepatomas, and spontaneous and induced leukemia. Fewer mice develop tumours, and these appear at a later time on restricted caloric intake. It is thought probable that the main influence occurs during the development of the tumour rather than during the preparatory stage.

Among human beings, analysis of mortality records of insured persons reveals that individuals who are overweight when past middle age are more likely to die of cancer than are persons of average weight or less. Coupling these results with those obtained with mice, it is concluded that the avoidance of overweight might result in the prevention or at least delay in the incidence, of a considerable number of cancers in human beings.

Cystine and choline in the diet have also been found to influence tumour growth. While a diet restricted in cystine reduced the incidence of leukemia, choline-deficient diet caused neoplasms.

—(*New York Acad. Sci.*, Vol. 49.)

Locating Cable Faults

Early and precise location of a fault in a cable is an essential factor in any efficient telegraph or telephone system. Britain's Post Office radio engineers working on the problem have developed a fault-locator which is based on the same principles as those applied in radar.

This new fault-finder, known as a pulse locator, comprises a cathode-ray tube detector, and it transmits a high frequency pulse over

a cable. The pulse is reflected back from any obstruction due to a fault. The time taken by the pulse to travel to and from the fault is measured on an oscilloscope. From this is calculated the distance to the fault.

This pulse locator is outstanding for the clarity and reliability of its indications, particularly when more than one fault is present. Faults on co-axial cables which contain co-axial tubes, each pair of which can carry several hundred simultaneous conversations, can be located within one per cent. of their true distances at ranges up to ten miles.

Publications Received

The Indian Sugar Industry (1946-47 Annual), Vol. XII, November 1947. Rs. 6. Editor M. P. Gandhi.

Indian Forest Records (New Series), *Utilisation*, Vol. 4, No. 1, 1946. (Published by the Forest Research Institute, Dehra Dun.) Price As. 5.

Indian Forest Records (New Series), Vol. 3, No. 7, 1945. (Published by the Forest Research Institute, Dehra Dun, U.P.). Price Rs. 5-12.

The Role of Glaciers and Snow on Hydrology of Punjab Rivers. By Kanwar Sain. (Published by the Central Board of Irrigation, Simla.)

Proceedings of the Royal Physiographic Society at Lund, Band 16, 1946.

Report of the Industrial Delegation. (A.I.M.O., Bombay), 1947.

ERRATA

Vol. 16, No. 11, November 1947, p. 343, Note on "The Colouring Matter of *H. esculantus*": Column 1, para 1, last sentence: Delete "One of the varieties of" and begin the sentence with "The".

Para 2, line 17: Read "230-32°" for "230-320° C."

Column 2, para 1, line 8: Read "yellow-green-blue" for "yellow green blue".

Para 2, line 1: Read "was" for "is".

Vol. 16 Page	Subject	Portion	Para Line	
139	"Abnormally dry etc"	Left	1 5	<i>read</i> well-distributed <i>for</i> well-disturbed
	"	Right	1 16	<i>read</i> of <i>for</i> or
174	"Air mass etc."	Left	1 8	<i>read</i> moist layer <i>for</i> moist
175	"	Right	5 16	<i>read</i> air can be made easily unstable <i>for</i> air is unstable
245	"Abnormally heavy rainfall etc."	Left	1 26	<i>read</i> a satisfactory theory <i>for</i> data
	"	Right	3 4	<i>read</i> comes <i>for</i> come
247	"	Right	1 12	<i>read</i> strong winds only below 1.5 to 2.0 kms. even on a good monsoon day <i>for</i> such variations