
SCIENCE NOTES AND NEWS

Alcohol Production in Milk.—Only one instance of a yeast obtaining access into milk and causing alcoholic fermentation has been recorded in India. A strain resembling *Torula lactis* was isolated and studied by the author in 1926 from a sample of spoilt milk in Karnal (Bull. No. 183, Agl. Research Institute, Pusa). The organism was propagated over a long period, but ultimately it died off.

Recently, in the course of an investigation on the bacterial flora of *dahi* from the Bangalore District, some *dahi* was left overnight at room temperature (76° F.) in a glass-stoppered bottle. The stopper was found to be blown off the next morning owing to the production of carbon dioxide and the product had a pronounced alcoholic odour.

A plate culture on brom-cresol purple lactose agar from the sample of *dahi* of the previous day, showed white colonies of a butyrous consistency, which appeared to be yeast cells. The colonies changed the colour of the agar from purple to yellow owing to acid production. The organism was isolated in pure culture and when inoculated into sterile milk and incubated at 30° C. for four days, it produced about 2 per cent. of alcohol without curdling the milk. The organism is being studied as regards its fermentative reactions and morphological characteristics.

C. S. RAMAYYAR.

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Sulphur and Thionyl Iodides.—The existence of sulphur and thionyl iodides has been the subject of much controversy. The recent work of M. R. A. Rao (*Proc. Ind. Acad. Sci.*, 1940, 11, 162) has definitely established that these compounds are produced when dilute solutions of the corresponding chlorides in carbon tetrachloride are treated with dry potassium iodide powder under suitable conditions. A solution of sulphur iodide in carbon tetrachloride is yellow in colour. The compound decomposes rapidly in presence of light. The decomposition is favoured by a rise in temperature. Investigations on the kinetics of decomposition indicate that the velocity of decomposition increases rapidly with an increase in the concentration of the sulphur iodide. The reaction of sulphur iodide with aqueous sodium hydroxide has been investigated quantitatively and is found to be similar to that of sulphur chloride with the alkali.

Thionyl iodide is found to be much more unstable than sulphur iodide. Even during the preparation, a portion of the iodide decomposes into sulphur, sulphur dioxide and iodine according to the equation $2 \text{SOI}_2 \rightarrow \text{S} + \text{SO}_2 + 2 \text{I}_2$. The hydrolysis of thionyl iodide in presence of alkali has been studied and a quantitative interpretation of the products of hydrolysis given. Thionyl iodide is highly unstable in presence of light. It is more stable at lower temperatures. The absorption spectra of sulphur and thionyl iodides have been investigated and the results

are in conformity with the analytical data. The method adopted to prepare the sulphur and thionyl iodides, seems to be general in scope and applicable to the preparation of many such unstable iodides.

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Cytogenetical Analysis of the Chromosomes in the Pig.—A clear account of the structure and behaviour of the chromosomes in the pig is given by F. A. E. Crew and P. C. Koller (*Proc. Roy. Soc. Edin.*, 1939, 59, 163). The diploid number is 38 and the two sex chromosomes are unequal, the Y being shorter and about 2/3 the length of X. It is possible that the centromere in the sex chromosomes is situated between the pairing and differential segments. Regarding the chiasmata it has been noticed that their number does not undergo any change or reduction as meiosis advances, there being no terminalisation. In the five large bivalents the chiasma formation is localised and it has been observed that recombinations of genes in these bivalents are also limited. The case of an individual where a pair of chromosomes was heterozygous for an inversion is also reported.

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Natural History of Lake Vattern.—In a recent number of the *Acta Phytogeographica Suecica* (vol. XI, 1939), Nils Stalberg gives a complete account of Lake Vattern, with special reference to its natural history and vegetation. The Report was intended as a guide to the Excursions of the Ninth International Congress of Limnology, and of the Seventh International Botanical Congress which recently met at Sweden, and embodies all the known information about this Lake, including the author's own researches. The Report begins with a description of the geological history and the topography of the Vattern basin and proceeds to give an account of the Hydrography of the Lake in all its aspects. The latter half of the Report deals with the fauna and flora living in this basin—especially the latter of which several vascular plants, many characeæ and numerous epilithic algæ have been figured and described.

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Biological Standardisation of Gas-gangrene Antitoxins.—The recent *Bulletin of the Health Organisation* of the League of Nations is devoted to the subject of standardisation of gas-gangrene antitoxin (*perfringens*). The method in vogue, was subjected to criticism by Prof. M. Weinberg of the *Pasteur Institute* of Paris who observed considerable divergences in the titres assigned to *perfringens* antitoxins when different toxins were used for assays on mice. His conclusion was that it was necessary to employ a standard test toxin in addition to the standard serum. A critical enquiry into the method of standardisation was undertaken at Buenos Aires, Copenhagen and Hampstead institutes. The results obtained are reported in the *Bulletin*,

The Bulletin also deals with the question of the standardisation of the *gas-gangrene anti-toxin* (Sordelli). Infections due to the gas-gangrene represented by the Sordelli bacillus are frequently met with on the American Continent, although very rare in Europe and the elaboration of an international standard preparation and of an international unit for the corresponding serum are justified.

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Rehabilitation of Adult Prostitutes.—The results of the enquiry into the problem of rehabilitation of adult prostitutes carried out by the *League of Nations*, are presented in a recent volume (*League of Nations Publications IV—Social Questions*, iv, 1939, 4, pp. 157). The rescue work carried out by general welfare institutions has been reviewed. Of the large number of prostitutes rehabilitated by these institutions, very little is known about their later career. In the opinion of most of the workers in this line, rehabilitation succeeds with those women who have practised prostitution for a short time. While some workers think that domestic work is most suitable for the rehabilitated prostitutes, others suggest industrial occupation or factory work as the best. Re-entry into normal life is best achieved through a happy marriage and many reports agree that a high proportion of marriages of former prostitutes proves successful. Judging from the actual volume of success achieved by these agencies in respect of the diminution of prostitution, the League's Committee on Social Questions rightly comes to the conclusion that "there are no facts to warrant the hope that measures of rehabilitation, by themselves will ever greatly diminish the number of prostitutes".

G. S. G.

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Ancient Coins Discovered at Taxila.—Two hoards of punch-marked coins, discovered in Sir John Marshall's excavation on the *Bhir* mound, the oldest of the three successive cities at Taxila dating back to the sixth century, B.C., have been recently studied by Mr. E. H. C. Walsh, i.c.s. The results of his study have been published in a monograph issued by the ARCHÆOLOGICAL SURVEY OF INDIA. From a study of the weight of the coins, the conclusion is reached that India must have had, from the earliest times, an independent system of weight. The coins furnish a future standard of reference for punch-marked coins, as the coins extend over a longer period and contain more varieties and are in every respect more complete than the British Museum specimens. Certain minute coins less than 1/5" in diameter and weighing about 2½ grains, are the most unique amongst the finds.

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Studies on Indian Coals.—Important researches on Indian coals have been conducted at the *Indian School of Mines*, Dhanbad. These include studies on washability and coking, occurrence of sulphur in Indian coals and chemical composition of Indian coal ashes. X-ray studies were also made of vitrain in Indian coals with special reference to coals in

the Jharia Coalfield and of the structure of pyrene. In addition, a number of original scientific papers have been published.

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Botanical Survey of India.—The annual report for the year 1938–39 records the efforts made throughout the year to secure specimens of medicinal plant products, plant materials used as vegetable insecticides, etc. Commercial timbers, samples of hand-made and machine-made paper of different qualities have also received attention; in this connection one is tempted to ask if an activity in this direction may not be considered as a duplication of the work carried out by the Forest Research Institute at Dehra Dun.

Systematic botanists have been assisted by the survey and the Herbarium at the Royal Botanic Gardens, has been strengthened by the addition of some 2,000 plants. Special attention should be invited to the investigations on the poisonous plants of India conducted by Col. Chopra and his collaborators.

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University of Bombay.—*Department of Chemical Technology:* The Prospectus and Research Report for 1938–39 of this Department indicate clearly the two important functions which this recently started university department is fulfilling. Advanced training and facilities for research are provided in Textile Chemistry and Chemical Engineering to suitable candidates in order to equip them to occupy responsible positions in industry. The department also acts as a centre of research and analytical laboratory for the benefit of the industries of the Bombay Presidency and is endeavouring to co-operate with mills and industrial concerns in carrying out industrial research on their behalf or investigating any technical problems that may arise in the course of their work. Further, routine chemical analyses of every kind are undertaken on behalf of industry in general. The Department also functions in particular as a test house for the mill-owners of Bombay and Ahmedabad.

The research report has been conveniently divided into four sections dealing respectively with work published, papers forwarded for publication, work completed and research in progress. We are glad to note that a good beginning has been made in the Department by way of subsidised research. Thus "A fellowship of Rs. 100 per month to the University, has been endowed by Messrs. Das & Co., Bombay, for one year in the first instance, for the purpose of investigating certain industrial problems in which they are interested". Such schemes of industrial fellowships at once prove the worth of this progressive department and also its potentialities for the future industrial progress of India.

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Detection of Carbon Monoxide.—The Department of Scientific and Industrial Research has issued a further leaflet in the series "Methods for the Detection of Toxic Gases in Industry" dealing with carbon monoxide. (Leaflet No. 7, published by H. M. Stationery Office, price 1s,

6d. net.) Among the industrial situations in which this gas may be encountered in dangerous concentrations are blast furnaces, brick kilns, chemical works, foundries, gas works, coke ovens and lime kilns. Carbon monoxide is colourless and odourless and is, therefore, most insidious in its action. The first symptoms of poisoning are, shortness of breath and palpitation on exertion, accompanied by headache which increases in severity. With increasing intoxication the judgment becomes disturbed and the affected person may not realise his danger. An atmosphere in which a concentration as low as 1 part in 2,000 is present, may prove fatal in about one hour to a person engaged in an active occupation. On the other hand concentrations below 1 in 10,000 may be regarded as relatively harmless for all practical purposes.

The standard method developed for the detection of carbon monoxide in industry consists in drawing samples of the atmosphere under test through a known area of test paper, treated with palladium chloride, at a slow and constant rate, by means of a 5-litre aspirator. This method enables interfering gases to be removed by allowing the sample first to pass through a tube of activated charcoal. Sampling is continued until a stain is obtained on the test paper which compares with the standard colour chart; the concentration present is then determined by comparing the time required to reach the necessary colour, with the times given on the chart. In this way concentrations of 1 part in 500 can be detected in less than two minutes, and of 1 part in 10,000 in half-an-hour. Full instructions for carrying out the test, and the colour chart, are contained in the leaflet.

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Nature announces that Mr. H. G. Champion, I.F.S., has been appointed Professor of Forestry, University of Oxford, in succession to the late Prof. R. S. Troup. Mr. Champion who joined the Indian Forest Service in 1915, has made several notable contributions to silvicultural research in India. His "Silvicultural Research Manual for India" which appeared in two parts—the experimental manual and the statistical code—is perhaps the best known among his works.

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Under the joint auspices of the Association of Technologists, Bangalore, The Indian Academy of Sciences, The Indian Chemical Society (Madras Branch), The Institute of Chemistry of Great Britain & Ireland, The Society of Biological Chemists, India, The South Indian Science Association, Bangalore and The Technical Association, Bhadravati, a session of scientific meetings was organised during the Easter Week, March 22nd to 26th. In his Presidential Address, Sir C. V. Raman dealt with the results of a new series of investigations on the diffraction of X-rays by crystals, carried out at the Indian Institute of Science by himself and Dr. P. Nilakantan. A new type of X-ray reflection has been observed, the discovery of which opens out a fresh approach to the problems of the solid state. A symposium

on "Technique of High Temperatures in Industries" was held when Dr. J. C. Ghosh described some successful attempts at improving the calorific value of water gas. Mr. B. Visvanath (Managing Director, The Iron and Steel Works, Bhadravati) talked on the manufacture of refractories and heat insulators, Dr. M. A. Govinda Rau on the economics of high temperature production, Mr. Junnarkar on the potentialities for using electric power for high temperature furnaces, and Messrs. G. B. Shankar and K. S. G. Doss on methods of control and measurement of temperatures. Mr. G. P. Ogale of the Mysore Glass and Enamel Works raised interesting questions regarding the economics of furnaces used in glass industry, and Mr. H. N. Ramachandra Rao of the Government Porcelain Factory discussed the features of an electric tunnel kiln for firing hard porcelain, under construction. Several other papers were presented on different aspects of high temperature work in connection with the manufacture of cement, steel and paper.

A number of original papers were presented on physical and biological sciences. Dr. H. J. Bhaba had an important contribution on the fundamental effect of the spin of an electron on the electro-magnetic radiation. A group of papers on fossil algæ by Prof. Rama Rao and students were highly commended by Prof. B. Sahni who presided on the occasion.

There were three public lectures, one by Dr. Bhaba on "Stellar Chemistry," another by Mr. B. Visvanath on "The Iron and Steel Industry in Mysore" and the third by Sir C. V. Raman on "Glass".

There was a special meeting of the Technologists Associations and an exhibition was organised to bring out the potentialities in the way of manufacture of scientific instruments and industrial plants in the State.

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INDUSTRIAL NOTES

Linseed Fibre Industry in India.—Dr. R. H. Richharia of the *Agricultural Research Institute*, Nagpur, has drawn attention to the possibility of recovering fibre as a by-product from the straw of the linseed plant grown for seed. Experiments conducted in this direction at the *Oil-Seeds Research Laboratory*, Nagpur, financed by the *Imperial Council of Agricultural Research*, have established, beyond doubt, that the Indian linseed plant is capable of yielding a high quality fibre which may provide a basic raw material for the establishment of a number of industries, such as the textile, paper-making, artificial silk and gun-cotton, etc. These efforts have, therefore, opened up a new field of industrial development in this country and it is hoped that the linseed will become more popular, as the fibre will substantially add to the profits from its cultivation. It has been estimated that Central Provinces and Berar alone will produce nearly 10,00,000 bales of 250 lbs. each annually.

"Slops" of the Mandya Distillery.—The "Slops" on analysis gave the following figures

TABLE I

Particulars	Sample A	Sample B	Sample C
Specific gravity	1.032/26.5° C.	1.035/26° C.	1.03/27° C.
Acidity (as sulphuric) ..	0.76 gms./litre	0.80 gms./litre	1.00 gms./litre
Potash	0.588 gms. %	0.62 gms. %	0.65 gms. %
Phosphate	0.113 ..	0.13 ..	0.12 ..
Nitrogen	1.01 ..	1.12 ..	1.05 ..
Unfermented sugar	0.04 ..	0.06 ..	0.05 ..
Ethyl alcohol	0.004 ..	0.005 ..	0.004 ..
Residue on evaporation ..	6.0 ..	6.7 ..	6.5 ..

(Table I) which indicate that they serve as a source of fertiliser for the Irwin Canal area. The Distillery produces about 24,000 gallons of slops in a day. Hence the amount of potash, phosphate and nitrogen available are 2,700 lbs., 523 lbs. and 4,617 lbs. respectively. The acidity of the wash does not matter if the soil is alkaline which is the case in the Irwin Canal area. Hence the Distillery slops could be very well used as a source of fertilizer for the sugarcane area.

G. NARASIMHA IYENGAR.

Agricultural Alcohol for Motor Fuel.—A nine-page mimeographed publication (No. 886) issued by the *National Research Council* at Ottawa under the title "Agricultural Alcohol for Power Production", deals with the important aspects of alcohol as a source of power. The publication presents data on the quantities of alcohol used for power production in a number of European countries. It outlines the advantages that would accrue to Canada and sets out the economic arguments for and against the encouragement of the use of alcohol as a component of motor fuels. A short discussion of the methods of manufacture and distribution is followed by an account of the progress in other countries in the utilization of alcohol as a motor fuel. This account shows that large sales of alcohol for power purposes have occurred *only* where there is some legal compulsion. In European countries there are heavy import duties on gasoline and home-produced alcohol is exempted from taxation to allow it to compete with gasoline as part at least of the motor fuel supply.

Tin and Its Uses.—The fourth issue of "Tin and Its Uses" announces a new "white-bronze" plating which out-rivals chromium in its resistance to tarnish and is almost identical in colour and reflecting power to perfectly polished silver. Photographs are reproduced which illustrate the brilliance and other attractive qualities of

this new finish on spoons, taps, metal tea-sets and car fittings, and it is suggested that it will also find extensive applications in reflectors for optical instruments, headlamps, etc., unbreakable shaving mirrors; shop fittings, and many other ornamental metal wares.

Thick and adherent tin linings can now be applied to large pieces of apparatus used in the food industry, the Review states, as a result of recent improvements in electroplating technique. These thick linings are far more serviceable than the old hot-dipped coatings. Still another application of electro-deposited tin is as a coating on metal surfaces in rubbing contact, such as pistons and piston-rings and bearing surfaces. The tin not only improves lubrication but also eliminates abrasion during running-in processes.

Cotton-Jute Fabric.—Preliminary trials under actual service conditions with Cotton-Jute Union fabric, which is intended to replace flax, have already indicated its suitability for defence and civil purposes. The threatened shortage of flax, 70 per cent. of which comes from Russia and the rest from the Baltic countries, led to a search for substitutes and thanks to the developmental work of the Department of Supply and the Master-General of the Ordnance of the Government of India, the cotton-jute fabric was evolved.

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SEISMOLOGICAL NOTES

March 1940.—During the month of March 1940, three slight and two moderate shocks were recorded by the Colaba seismographs as against seven slight, one moderate and one great shock recorded during the same month in 1939. Details for March 1940 are given in the following table:—

Date	Intensity of the shock	Time of origin I.S.T.		Epicentral distance from Bombay	Co-ordinates of the epicentre (tentative)	Depth of focus
1940		h.	m.	miles		miles
March 19	Slight	10	05.9	1170	Hindukush mountains	..
.. 21	Slight	19	23.2	3010
.. 27	Moderate	18	01.3	5890
.. 28	Slight	00	45.8	1610
.. 28	Moderate	21	18.8	3230	10° N., 120° E. (Sulu Sea, off the Philippine Islands)	150 (appr.)

ASTRONOMICAL NOTES

Planets during May 1940.—The only planet favourably placed for observation during the month is Venus which continues to be a brilliant object, conspicuously visible in the evening sky. It is slowly approaching the Sun and at the same time its brightness is increasing. On May 20, the planet will be at its greatest brilliancy when its stellar magnitude is -4.2 . At about this time, it can be seen with the naked eye even during the day, if the observer knows beforehand its approximate position in the sky. Mars is moving eastward in the constellations Taurus and Gemini and, although decreasing in brightness, will be visible in the evening sky as a ruddy star of the second magnitude. It will set about three hours after the Sun. Jupiter and Saturn will be morning stars and, being close to the Sun, are not well situated for observation.

Nova Monocerotis.—This nova which was mentioned in last month's report, appears to be very slowly fading; an observation of April 8 indicates its magnitude to be 10.1. Some details of the star are given in U.A.I. Circular 808. From an examination of the photographs of the region taken at Sonneberg prior to the outburst, Dr. Hoffmeister concludes the nova to have been a star of the 16th magnitude, subject to some small fluctuations in brightness.

Distance of the Centre of the Galaxy.—There are certain regions close to the plane of the Milky Way where a large number of external galaxies are found. These have been called galactic "windows"—regions where very little space absorption can exist. A study of the cepheid variables in these fields is useful in obtaining reliable estimates of galactic dimensions. The variables in one of such areas have been investigated by Prof. Shapley (H.R. 158) and a new determination of the distance of the galactic centre has been obtained. The computed distance is 9,700 parsecs which appears to agree fairly well with the estimates derived by methods based on different considerations.

T. P. B.

MAGNETIC NOTES

March 1940.—Magnetic conditions during the month were much more disturbed than those in the previous month. There were 2 days each of *very great* and *great* disturbances, 6 of *moderate* disturbance and 12 of *small* disturbance as against 1 of great disturbance, 2 of moderate and 24 of slight disturbance during March 1939. The number of quiet days during March 1940 were 9 as against 4 during the same period of 1939.

The most disturbed day during the month was the 24th, while the quietest was the 15th. The distribution of dates of different characters, is shown in table below.

Quiet days	Disturbed days			
	Slight	Moderate	Great	Very great
4-7, 10, 11, 15, 17, 22	1-3, 8, 9, 13, 14, 16, 18, 21, 27, 28	12, 19, 20, 23, 26, 30	29, 31	24, 25

There were three magnetic storms during the month of which 2 were of great intensity and one of very great intensity, as against two storms, one of great intensity and the other of moderate intensity which occurred during the month of March 1939. The storm of very great intensity occurred on March 24, 1940, and caused considerable interruption to telegraphic traffic all over the world. A detailed description of this storm appears elsewhere in this issue.

The mean character figure for the month is 1.03 as against 0.97 for March of last year.

M. R. RANGASWAMI.

ANNOUNCEMENTS

A limited number of copies of the photogravure reproduction of the portrait of Sir Frederick Gowland Hopkins, O.M., painted for the *Royal Society* by Mr. Meredith Frampton, A.R.A., is available and the *Royal Society* believe that many friends and admirers of Sir Frederick Gowland Hopkins will welcome the opportunity of acquiring these at a price barely covering the cost of the extra printing and delivery. Those requiring a copy should apply to the Assistant Secretary, The Royal Society, Burlington House, London W. 1., with a cheque or Postal Order for 2 *Shillings*. Not more than one copy will be supplied to one applicant.

It is proposed to hold the *Seventh International Congress of Agricultural Industries* in Rome in 1942. Further information regarding the Congress will be published in due course.

The *Association of Surgeons of India* offers an annual prize of Rs. 100 to the best essay based on original work on a selected subject. The subject for 1940 is:—"BLOOD CHANGES IN SURGICAL INFLAMMATIONS." The competition is open to all qualified medical practitioners registered in India, who have been in practice for *not more than 10 years* after qualification.

The essay should reach the Secretary before the 1st December 1940.

Further details regarding the prize can be had from the Secretary, *Association of Surgeons of India*, Binfield, Kilpauk, Madras.

Those interested in cotton research will be glad to know that Dr. H. C. Harland is now in

Peru, S. America. His present address is Dr. H. C. Harland, Director, Institute of Cotton Genetics; *Sociedad Nacional Agraria*, Lima, Peru.

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We acknowledge with thanks the receipt of the following:—

"*Agricultural Gazette of New South Wales*," Vol. 51, Pt. 3.

"*Journal of the Royal Society of Arts*," Vol. 88, Nos. 4552-56.

"*The Philippine Agriculturist*," Vol. 28, No. 10.

"*Monthly Bulletin of Agricultural Science and Practice*," Vol. 31, No. 2.

"*Allahabad Farmer*," Vol. 14, No. 2.

"*Biochemical Journal*," Vol. 34, Nos. 1 and 2.

"*Biological Reviews*," Vol. 15, No. 1.

"*The Journal of Chemical Physics*," Vol. 8, No. 2.

"*Journal of the Indian Chemical Society*," Vol. 17, No. 1.

"*Chemical Products*," Vol. 3, Nos. 3 and 4.

"*Experiment Station Record*," Vol. 82, Nos. 1 and 2.

"*Indian Forester*," Vol. 46, Nos. 3 and 4.

"*Transactions of the Faraday Society*," Vol. 36, No. 227.

"*Indian Farming*," Vol. 1, No. 2.

"*The Review of Applied Mycology*," Vol. 19, No. 2.

"*The Bulletin of the American Meteorological Society*," Vol. 21, No. 1.

"*Indian Medical Gazette*," Vol. 75, No. 3.

"*Nature*," Vol. 145, Nos. 3667-72.

"*Occasional Notes*," No. 7 (Dec. 1939).

"*Sky*," Vol. 4, No. 4.

"*Science Forum*," Vol. 5, No. 1.

ACADEMIES AND SOCIETIES

Indian Association for the Cultivation of Science: (Proceedings)

December 1939.—S. M. MITRA: *Raman Effect in arsenates and heat of dissociation of AsO*. SACHINDRAMOHAN MITRA: *On the influence of foreign substances on the absorption of the dye-stuffs in solution*. RAJENDRALAL DE: *A weak Radio-active substance (preliminary note)*. N. S. PANDYA AND P. D. PATHAK: *A note on the maintenance of electron emission on Cossor Valves after the low Tension supply is disconnected*. G. P. DUBE AND H. K. DAS GUPTA: *On the London-van der Waals forces between two disc-like particles*. D. S. SUBRAHMANYAM: *Pressure waves and boundary surfaces in the free atmosphere*. (MISS) ASIMA MOOKERJEE AND JAGANNATH GUPTA: *Raman Spectra of Coumarins and chromones*. S. K. KULKARNI JATKAR: *Supersonic velocities in gases and vapours*. MD. SALARUDDIN AND B. G. NARAYAN: *Unusual Solar Activity*.

Indian Academy of Sciences:

March 1940. SECTION A.—M. AKRAM, R. D. DESAI AND A. KAMAL: *Studies in naphthalene series—Part I. Some properties of 2-acetyl-1-naphthol and the synthesis of 2-ethyl-1-naphthol*. N. A. CHOUDHRY, R. D. DESAI AND G. S. SAHARIYA: *Studies in naphthalene series—Part II. The synthesis of the trans-form of trans-decalin-2-carboxy-3-acetic acid*. M. AKRAM AND R. D. DESAI: *Studies in naphthalene series—Part III. Properties of 4-acetyl-1-naphthol and the preparation of 4-ethyl-1-naphthol*. Part IV. *The preparation and properties of 2:4 diacetyl-1-naphthol and 2-acetyl-4-propionyl-1-naphthol*. M. R. ASWATHANARAYANA RAO: *Investigations on the iodide of sulphur—Part I. Formation of sulphur mono-iodide*. Part II. *Rate of decomposition and spectroscopic studies*. Sulphur mono-iodide is formed in carbon tetrachloride solutions, when a dilute solution of sulphur chloride is treated with solid potassium iodide. The