

CENTENARIES

An account of Sir Isaac Newton is given elsewhere in this issue.

Scheele, Carl Wilhelm (1742-1786)

CARL WILHELM SCHEELLE, a Swedish chemist, was born at Stralaund, 19 December 1742. He was sent to college, but showing no talent for languages, was pronounced a dunce and was apprenticed to an apothecary. Here he studied the then known works in chemistry in spare moments and experimented secretly in the night-time. He served successively in some of the private pharmacies at Malmö, Stockholm, and Upsala. His employer at the latter place was curious to know why saltpetre, after being heated to a certain temperature and allowed to cool, gives off red fumes on being mixed with vinegar and asked a student studying chemistry about it; but he could not explain nor could Bergmann his professor. But later, Scheele told his employer that it was due to two acids, nitrous and nitric being there, the latter of which was expelled in the form of red fumes. This incident secured for Scheele the friendship of the professor and through it the patronage of the court and the public.

Scheele's record as a discoverer is probably unequalled, in spite of his poverty and poor laboratory facilities. He discovered the tartaric, fluosilicic, arsenic, uric, lactic, oxalic, gallic and several other acids. He discovered chlorine. He was the first to distinguish silica from alumina. He ascertained the nature of graphite. He found the composition of prus-

sic acid and obtained glycerine. His only book *Aire and fire* recorded the observation made in 1773 that the atmosphere is composed of two gases—oxygen and nitrogen. As the book was published only in 1777, the priority of discovery went to Priestly, who announced his discovery earlier in 1774.

Scheele received from many quarters evidence of the high esteem in which he was held. He was offered professorships in several countries. But he preferred to work in his own private laboratory. When he got one, "Oh, how happy I am!", he wrote to a friend, "No care for eating or drinking or dwelling, no care for my pharmaceutical business, for this is mere play to me. But to watch new phenomena this is all my care, and glad is the enquirer whose discovery rewards his diligence; then his heart rejoices." His discovery of the means of producing Prussian Blue immortalised his name in the words "Scheele's green".

Scheele died 26 May 1786.

S. R. RANGANATHAN.

University Library,
Madras.

"Nature and nature's laws lay hid in the night,
God said, 'Let Newton be' and all was light."

ALEXANDER POPE.

"It did not last; the Devil howling 'Ho
Let Einstein be' and restored the *status quo*."

J. C. SQUIRE.

SCIENCE NOTES AND NEWS

Electrical Properties of Beidellite Membranes.—Investigations on the electrochemical properties of clay membranes by Marshall and Krinbill (*J. Amer. Chem. Soc.*, 1942, 64, 1814) have resulted in the preparation of an improved type of clay membrane (Beidellite membrane) which has got several advantages over the Montmorillonite membrane which was being used on previous occasions. The beidellite membranes attain equilibrium with fresh solutions much more quickly, the initial asymmetry potentials disappear more rapidly on soaking and the individual differences between membranes are very much smaller. Added to this the new membrane can be used in the potentiometric estimations of both mono and bivalent cations while the montmorillonite membrane can be used only in the estimation of monovalent ions. The effect of temperature of baking on the nature of the membrane is also investigated, using different sodium salts. When the beidellite membranes are employed in the potentiometric determination of sodium

in different sodium salts, excellent reproducibility is noticed. The potentials obtained with solutions less concentrated than 0.03 N are within 1 millivolt of those calculated using the Nernst equation. Sodium chloride, sulphate and ferrocyanide give practically the theoretical potentials while the citrate gives low values probably due to complex formation. The experimental determination of the mobility of different cations within the clay membranes can enable one to predict the theoretical potentials for mixtures of cations. M. R. A.

Nutritive Value of Yeast Protein. Most of the protein requirement of man is obtained through cereals. But the proteins of the cereals, as a class are not nutritionally of the highest quality, since many do not contain a sufficient proportion of certain of the dietetically essential amino-acids. For a healthy diet, the ordinary cereal diet should be supplemented by other protein-containing foodstuffs. T. F. Macrae, M. M. El-Sadr and K. C. Sellers have published (*Bio. J.*, 1942, 36, 460) some very

interesting results on the value of yeast proteins as a supplement to a maize diet. Pigs do not thrive either on mere maize diet or even when supplemented with lysine or tryptophane, unlike the case of rats. Since the vitaminic extracts of yeast could not supplement the maize diet, the inadequacy of the maize proteins is obvious. The addition of 5 per cent. yeast (2.5 per cent. crude protein) to the maize diet change it from one unsuited for the rearing of pigs to one which yields fine animals. Yeast protein is not inferior to casein for this purpose. It is suggested that since high quality proteins and vitamins of the B-complex are the principal nutrient factors lacking in many poor diets, yeast which contains about 50 per cent. of high quality proteins and quantities of B-complex vitamins unsurpassed by any natural product, would correct the deficiencies of such diets more effectively than other foodstuffs. V. S. G.

Inflation of Shellac Prices.—As there has been a tendency for marked increase in prices of shellac in these two years, the Indian Lac Research Institute, in a press note, has drawn attention to the need for keeping the prices of shellac at a moderate level so that it may not lose its export market in the long run by the development of cheaper synthetic resins abroad. The dealers in shellac are advised to maintain the price of T.N. shellac between Rs. 50 and Rs. 60 per maund to prevent such a catastrophe. If a boom in prices is necessitated by supplies falling short of demand, the Indian Lac Research Institute, it is stated, would assist in augmenting the yield by demonstration and advice regarding improved methods of cultivation. It is hoped that those interested in the lac industry would avail themselves of the help offered by the Lac Research Institute and see to it that the demand for shellac in the foreign market, which is its mainstay, is not jeopardised by an undue inflation in prices. A. V. S.

Flora of the Bailadila Range.—Since the publication of "A Sketch of the Flora of the Bailadila Range in Bastar State" (Mooney, H. F., *Indian Forest Records*, N.S., 3, No. 7, 1942), the concerned region has become a place of much interest, especially from the point of view of Plant Geography. Bailadila Range forms an isolated unit by itself topographically as well as floristically; it is situated midway between the vast forest regions of the Northern and Southern India, at the same time being separated from them by wide gaps devoid of any important hill ranges; it mingles in its floristic wealth a number of species that show a Northerly affinity of distribution, those that show an Easterly affinity, those with Southerly affinity and those with Westerly affinity. The ecological formation of plant-associations have been dealt with at considerable length. Finally the author postulates the different possible modes of the transmigration of the plants from the southern and northern forest belts to this particular Range. B. G. L. S.

Antagonism between Strains of Mosaic.—Cases of definite antagonism between different strains of the peach-mosaic virus have been recorded in Colorado, U.S.A. (Bodine, E. W., *Phytopathology*, 1942). Elberta peach, affected by the "slight strain" of the virus, when re-inoculated with the "severe strain" showed only symptoms of the former. That the mosaic of the "severe strain" was introduced into the plant tissue was insured in the control inoculations. The buds of the re-inoculated tree were removed and inserted to healthy trees. The healthy trees thus inoculated developed symptoms of only the "slight strain" and indicated the complete inhibition of the "severe strain". M. J. T.

Factors affecting the Longevity of Cotton Seeds.—How long and under what conditions can cotton seeds be kept in storage without detriment to the germinating capacity? This question interesting to the farmer and trader alike is answered in a series of studies which have been going on for over ten years and the results of which are now published (D. M. Simson, *Jour. of Agri. Res.*, 64, No. 7). The studies were made with the seeds of American Upland and Sea-Island varieties. The moisture content of the seed has been found to be the factor of the greatest importance. Seeds stored in ordinary gunny bags soon attain an equilibrium with the moisture content of the environment, approximately 11 per cent. In two years such seeds deteriorated rapidly and in three years were all dead. In contrast, sun-dried seeds with approximately 8 per cent. moisture when stored in ordinary containers retain their viability for quite seven years and a few of them were still able to germinate even after ten years. If the moisture content does not go above 8 per cent. seeds can be kept even in air-tight containers; aeration does not seem to be necessary. Temperature is the second important factor, and three levels were compared, viz., 90°, 70° and 33°, with moisture levels varying from 7 to 14 per cent. With the higher moisture content storage at 90° killed all the seeds in 4 months, and after 36 months only those with 7 per cent. moisture were unimpaired. In contrast, at 33° even the seeds with 14 per cent. moisture retained their vitality for 36 months. The 70° storage was intermediate with respect to moisture tolerance. Analysis showed that the deterioration is accompanied by an increase in the percentage of free fatty acids in the oil. A. K. Y.

Department of Chemical Technology, Bombay.—According to the Annual Report for 1941-42, the Department has been enriched by an endowment of Rs. 2 lakhs from the Sir Dorabji Tata Trust for the creation of a Readership to be named after Sir Dorabji Tata for the Pharmaceutical and Fine Chemicals Section. It is probable that admission to this course will be made in June 1943. It is satisfactory to note that the research activities of the Department have continued to expand and several new schemes have been undertaken on behalf of industry and subsidised by industrialists, industrial organisations, and

Government Departments. Particular attention may be drawn to the important series of investigations on chemicals and dyes needed in textile processing. It is interesting to note also that during the year, owing to the shortage or non-availability of standard proprietary products due to the war, numerous substitutes offered in their place were received for tests and that several of the wetting agents, desizing agents, textile antiseptics and mildewed fabrics were tested by methods evolved or standardised by the research workers of the Department.

Administration Report of the Government Mineralogist for 1941, Ceylon, Part II—Revenue (1).—This report which covers ten pages, describes the nature of the routine activities as well as of the special studies during the period. Regular geological survey work has provided additional information on the geological history of the island.

Two investigations of economic importance deserve special mention. These relate to the utilisation of (1) a fairly large peat deposit and (2) the vanadium content of ilmenite segregation bodies occurring in some parts of the island.

K. R. K.

Illustrating the Technical Lecture.—According to H. E. Dance (*Engineering*, July 3, 1942, page 15), good lantern slides can be made from typescript, if the imprint has been made with ordinary thin black carbon paper, instead of a ribbon. Notes and sketches can also be typed directly on cellophane, by placing the cellophane in a folded carbon paper so that the working surface of the carbon is applied to both faces of the cellophane. The matter is then typed without using the carbon. Cellophane slides need not be bound. The lettering does not rub off, and they are much more convenient to store when they are without glass covers. For projection they may be placed between two cover-glasses which have a tape or paper hinge down one edge, forming a temporary slide from which the cellophane slip is removed as soon as projection is finished. Half-a-dozen of such open "glass sandwiches" will meet the needs of most lectures. On page 54 (July 17, 1942) of same Journal, R. Fairthorne points out that cellophane can be sensitised with blue print solutions in much the same way as paper, and will give good results with half-tone negatives as well as line. For slides of more pleasing colour and greater permanence, any of the "ferri-to-ferro" processes can be used.

Timber for Aircraft.—Wood of the aircraft quality needs to have a high strength to weight ratio. The proper selection, conversion and seasoning of the timber is a matter of high technique. Experiments have proved the suitability of Himalayan fir and spruce and operations for extracting these woods on a commercial scale have already started. Possibilities of extracting champ and bonsum from the Assam woods are now under investigation. The Kulu Division in the Punjab, the Teri-Garhwal State and the forests of Assam are three locations from where it is expected to obtain these

special quality woods. In regard to various other supplies for Defence purposes, the timber resources of India last year met demands through the Department of Supply to the total of 396,000 tons and demands placed on the Department in the current year are expected to reach a total of over one million tons. India's sawmill equipment will be enriched by additional machinery which she will receive under Lease-Lend from America.

Industrial Research Institute.—According to *Science* (1942, 95, 571), the Industrial Research Institute, which is an affiliate of the National Research Council, undertakes to promote improvement of methods and more economical and effective management of industrial research through the co-operative efforts of its members. The membership is composed of 45 industrial concerns maintaining research laboratories. Their chief executives in charge of research represent them in the activities of the Institute which has its headquarters in Chicago.

At the fourth annual meeting held at Cleveland on May 22 and 23, round-table discussions were held which dealt chiefly with the adjustment of research programmes and personnel to meet war conditions.

According to *Nature* (September 19, 1942) among a number of Soviet scientific films exhibited at the Imperial Institute Cinema, London, on September 12, the one on "Experiments on the Revival of Organisms" was undoubtedly the most impressive. After a brief and exceptionally clear pictorial explanation of the function of the heart and lungs the film lead up from the artificial setting in motion of an individual organ, the heart, to the revival of a dog's severed head and finally to the revival of animal itself, from which the blood had been completely drained off and the heart-beats and respiration of which had ceased for ten minutes. The blood was recirculated by means of an artificial circulatory system, the "autojector", the deceased animal heaved its first sigh, heart-beat and respiration began to register, and, after a short time, the autojector was disconnected and life proceeded. Within a few days the dog was its normal self again and, as the film showed, "lived happily ever after". The producers are to be congratulated on the skill and beauty of this film, which, while maintaining full scientific clarity throughout, nowhere offended the aesthetic senses, opened up an unlimited perspective of scientific advance and could not fail to instil into the most unimaginative minds a profound respect for scientific effort and achievement. The commentary to the films was prepared by Prof. J. B. S. Haldane.

Wartime Sources of Vegetable Rubber in India.—In the Indian Forest Leaflet No. 22 (Silviculture), Mr. T. V. Dent considers the formation of emergency plantations for wartime supplies as useless, since no plantation will yield an appreciable return of harvested rubber in less than four years from its establishment. Under conditions of forced cultivation only the para (*Hevea brasiliensis*,

Euphorbiaceae) or Ceara (*Manihot glaziovii* Euphorbiaceae) might be able to give a worthwhile return in about four years.

Attention can, therefore, be paid to wild rubber-yielding plants. About 17 of them are reviewed and it is surmised that, if the collection is subsidised, wild *Ficus elastica* from Assam, Bengal, Sikkim and Bhuthan may yield several hundred tons of raw rubber annually.

In addition to the immediate application of intensive methods of management to existing rubber plantations in South India, re-exploitation of the existing old and abandoned plantations of *Ficus elastica* from Assam and Bengal alone, may be expected to contribute additional 30 to 40 tons annually.

Detection of Cracks in Engineering Materials.—Fluorescent light has been effectively pressed into service for the detection of flaws or cracks in engineering materials by The Colloidal Research Laboratories, London, in their "Glo-Crack" system. The articles to be examined are first immersed for a short period in a hot bath of fluorescent material. They are then transferred to a second bath containing a solution which removes all the fluorescent material except that which is entrapped in any flaws or cracks. After this, each article is examined under ultra-violet light and every small flaw or crack glows with the characteristic colour while the remainder of the specimen remains dark. In this way a crack, no matter how fine, can scarcely escape detection, and this is attained without severe eye-strain or mental fatigue on the operator. Other advantages are its applicability, without staining or the necessity for after-treatment, to all metals and to many other materials, its simplicity and cheapness of operation, and the quickness with which the process can be carried out, even on mass-produced articles (*Nature*, September 19, 1942, p. 343).

Industrial Research Fund.—The Government of India have decided that a Fund, *viz.*, Indian Research Fund, should be constituted by grants from the Central Revenue to which additions are to be made from time to time from other sources. A provision has been made in the Central Budget for an annual grant of 10 lakhs of rupees to this fund for a period of 5 years and, the other sources will comprise grants, if any, by Provincial Governments, by industrialists for special or general purposes, contributions from Universities and Local bodies, donations, benefactions, royalties, etc. The Council of Scientific and Industrial Research which has now been established on a permanent basis, with the Member of the Council of His Excellency the Governor-General in charge of the portfolio of Commerce as *ex-officio* President, will exercise full powers in regard to expenditures towards (a) the promotion, guidance and co-ordination of scientific and industrial research in India including the institution and the financing of specific researches; (b) the establishment or development and assistance to special institutions or departments of existing institutions for scientific study of problems affecting particular industries and

trade; (c) the establishment and award of research studentships and fellowships; (d) the utilisation of the results of the researches conducted under the auspices of the Council towards the development of industries in the country and the payment of a share of royalties arising out of the development of the results of researches to those who are considered as having contributed towards the pursuit of such researches; (e) the establishment, maintenance and management of laboratories, workshops, institutes, and organisations to further scientific and industrial research and to utilize and exploit for purposes of experiment or otherwise any discovery or invention likely to be of use to Indian industries; (f) the collection and dissemination of information in regard not only to research but to industrial matters generally; and (g) publication of scientific papers and a Journal of industrial research and development. The Council will co-ordinate and generally exercise administrative control over the work of the Board of Scientific and Industrial Research and Industrial Research Utilisation Committee.

The Application of Nitrogenous Manures to Cotton.—Remarkably high yields of cotton have been reported as the result of applying sulphate of ammonia as manure for the cotton crop according to a special method (R. J. Kalankar in *Nagpur Agr. Coll. Mag.*, 16, No. 4). The method consists in coating the cotton seed prior to sowing with dry sulphate of ammonia powder, the seed itself being moist with the wet paste of earth and cowdung which is usually rubbed over it to paste down the fuzz and make the seed run freely through the drill. This method was compared with (1) applying the same dose of sulphate of ammonia as a top-dressing three weeks after sowing and (2) applying one half the dose by drilling it with the seed at sowing time and the other half as a top-dressing three weeks after sowing and (3) control. The seed rate per acre was 20 lb. and the sulphate of ammonia used was at the rate of 10 lb. of nitrogen or the equivalent 50 lb. of ammonium sulphate per acre. The trials were conducted at the Government Seed and Demonstration Farm at Khandwa and the variety of cotton was V. 434. The experimental plots were laid out in a randomised block with five replications. The results show that a very high and significant increase in yield was obtained by the method of coating the seed with the fertiliser and that this increase in yield amounted to 66 per cent. over the control. The other two methods also gave increased yields of 14 to 18 per cent., but these increases were not statistically significant.
A. K. V.

Suitability of Indian Woods for Battery Separators.—The essential characteristics of a wood for battery separators are good permeability, freedom for volatile acids, a low percentage of resinous matter, sufficient mechanical strength, good machining qualities, and resistance to the action of the electrolyte. The quantity of tannins and other colouring matter should also be reasonably small, so that they can be removed by a short-period chemical

treatment. The finished separator should be straight-grained and free of seasoning defects such as cracks and shakes. The Forest Research Institute, Dehra Dun, as a result of the detailed investigation into the matter, considered the following woods as possibilities for the purpose of manufacturing battery separators from the standpoint of their anatomical structure and physical properties: (1) *Adina cordifolia* (haldu), (2) *Cupressus torulosa* (cypress), (3) *Michelia champaca* (champak) and (4) *Talauma phellocarpa*.

The timber is converted into planks, which are air-seasoned before manufacture into battery separators. The separators, after manufacture, are given a chemical treatment to remove all the volatile acids, and to get rid of tannins and resinous matter. (See also the Indian Forest Leaflet No. 14, 1942. Price As. 4 or 6d.)

The results so far obtained show that there is practically no difference in the behaviour of cells fitted with the above Indian woods and Port Orford cedar (*Chamaecyparis lawsoniana*), an American wood, which till recently was the most commonly used wood for this purpose.

The Ripening Coconut.—Studies on the growth of the ripening coconut and principally with reference to the changes undergone by the fibre throw interesting light on the formation and the progressive changes in composition of the other important and really the main coconut product, the kernal itself (S. R. K. Menon, *Ind. Jour. of Agr. Sci.*, 12, Part III). The method of study consisted in selecting one particular bunch on a tree and following the changes from the very infancy of the fruit to its ripe stage, three such trees being selected for the purpose of confirmatory results. The results confirm the correctness and the wisdom of the present practice of gathering only coconuts which are not fully ripe when fibre production is an important objective. Where oil is the important consideration the nuts have to be gathered at a much later stage, so that the interests of the oil and coir industries are opposed to each other. Taking the particular points studied, it is seen that as regards the volume of the fruit and the weight, the increases are equal during the first six months and then the rate for the volume becomes slow and later begins to diminish. On the other hand, weight begins to drop sharply after the same period until it is only one half of the maximum reached. The water in the nut increases rapidly and reaches a maximum in about three months, after which it declines steadily and sharply until it is only about a seventh part of the maximum, in the tenth month. As regards the kernal it begins to form only after the first three or four months but once begun the growth is very quick, reaching a maximum in the ninth or tenth month, after which the change consists only in an increase of density, when the formation of fat becomes vigorous. Ultimately the moisture content falls and the gross weight also registers a decline; the fat content is said to go on increasing to the last days of the growth of the fruit. The fibre as it matures increases in lignin and loses both colour and gloss practically until

the very last stages of growth; the non-lignin content increased up to the sixth month steadily, but became more or less stationary thereafter. The picking of the nut when not fully ripe therefore results in a fibre of high non-lignin content and a low-lignin content.

A. K. Y.

Wood Disc Dowel Joints in Timber Framed Structures. In framed structures, properly designed joints are just as important as properly designed members, because the transmission of stress from one member to another depends upon the efficiency of the joints. In timber structures, it is difficult to make a satisfactory joint with bolts and rivets. A great variety of joint details are, therefore, in use. These usually require too much steel and labour, and are very costly.

The wood disc dowel joint requires very little steel; it is simple to make; it is very efficient and allows the use of planks instead of thick solid scantlings. A disc dowel is a circular wood disc, generally tapered each way from the middle so as to form a double conical frustrum. It is fitted into prebored holes half in one member, and half in the other. A bolt is used through the centre of the disc to keep the jointed wood members from spreading apart. The dowel can be made of any hard wood that seasons easily and keeps its shape well. *Babul*, *sissou* and rosewood are suitable for making disc dowels. Other hard species can also be used, but many hard woods are difficult to season and liable to warp and split. Structural joints in timber frames, if made with wood disc dowels, reduce the cost of timber structures very substantially as has already been demonstrated. V. D. Limay's leaflet on Wood Disc Dowel Joints in Timber Framed Structures (*Indian Forest Leaflet No. 31*), explains the function of the disc dowel, and shows how to make these typical structural joints in timber.

Post-War Indian Trade. Addressing the All-India Manufacturers' Organisation in Bombay, Sir M. Visvesvaraya stressed the need to safeguard Indian trade and Indian interests in the post-war period. Proceeding he said that as soon as the war was over, India might again be exposed to the fury of an international economic war. To give the country adequate protection, it was necessary to appoint at once a representative central council of business men, experts and leaders in science and politics, to watch the trends and make preparations to meet all possible obstacles and opposition. It might be called a Development Board or an Economic Council, and might take the place of the Consultative Committee of Economists on Post-War Reconstruction, appointed by the former Commerce Member.

Explaining the objects of the Manufacturers' Organisation, the steps taken by the various belligerent countries in regard to post-war reconstruction, and conditions in India, Sir M. Visvesvaraya stated that there were now a number of Indians on Viceroy's Executive Council. Post-war reconstruction and industries were each of them important enough to require the whole-time services of a Member to itself. Nevertheless, both of them were left

with the Commerce Member, whose time was fully taken up with matters connected with the war emergency.

"The people are now faced", he said, "with a great struggle immediately the war ends, to render secure the future food supply and income of the nation. They can neglect this duty only at their peril. It has been said there will be war after war; economic war may follow military war, and expose the industries and trade of this country to severe international competition."

Referring to India's industrial development, he said that the developments recorded in Canada and Australia showed that this country had missed a great opportunity to build up its industries in the present war. "This was", he continued, "through lack of any policy in the Government of the country and lack of co-operation and interest on its part to benefit the Indian population".

National Institute of Sciences of India.—At a meeting of the Council's Committee of the National Institute of Sciences of India, held on the 11th December 1942, the following were duly elected as Ordinary Fellows of the Institute:—

Dr. J. C. Bardhan, B.Sc., Calcutta; Mr. R. C. Bose, M.A., Calcutta; Dr. N. C. Chatterjee, B.Sc., Dehra Dun; Mr. M. N. De, M.B., M.R.C.P., Calcutta; Dr. R. D. Desai, B.Sc., D.I.C., Bombay; Dr. B. N. Ghosh, B.Sc., Calcutta; Dr. C. S. Pichamuthu, Ph.D., Mysore; Mr. K. Ramiah, M.B.E., M.Sc., Dip. Agr., Indore; Prof. T. R. Seshadri, Ph.D., Guntur; Dr. S. C. Sirkar, B.Sc., Calcutta; Mr. V. V. Sohoni, M.Sc., New Delhi; Dr. N. R. Tawde, M.Sc., Ph.D., Bombay; Mr. E. T. Vachell, M.A., F.G.S., Digboi.

Nagpur University. Dr. A. Nagaraja Rao, Professor of Applied Chemistry and Chemical Engineering in the Lakshminarayan Institute of Technology, has been appointed Chief Chemist, Tata Chemicals, Mithapur. In the vacancy caused by the resignation of Dr. Nagaraja Rao, Dr. P. S. Menon, M.Sc., Ph.D. (Lond.), of the

C.P. Educational Service, has been appointed Reader in Applied Chemistry and Chemical Engineering.

MAGNETIC NOTES

Magnetic conditions during November 1942 were less disturbed than in the previous month. There were 17 quiet days and 13 days of slight disturbance as against 13 quiet days, 13 days of slight disturbance and 4 of moderate disturbance during the same month last year.

The quietest day during November 1942 was the 6th, while 24th was the day of the largest disturbance.

The individual days were classified as shown below:—

Quiet days	Disturbed days		
	Slight	Moderate	Great
3 7, 9, 11, 12, 14-19, 21, 22 30	1, 2, 8, 10, 13, 20, 23 29	Nil	Nil

There were no magnetic storms during the month of November 1942 while one moderate disturbance was recorded during November 1941.

The mean character figure for the month of November 1942 was 0.43 as against 0.70 for the same month last year.

A. S. CHAUDAL.

SEISMOLOGICAL NOTES

During the month of November 1942, seven slight, two moderate and one great earthquake shocks were recorded by the Colaba seismographs as against six slight, four moderate and three great ones during the same month in 1941. Details for November 1942 are given in the following table:—

Date	Intensity of shock	Time of origin L. S. T.	Epicentral distance from Bombay (Miles)	Co-ordinate of the epicentres (tentative)	Depth of focus (tentative) (Miles)	Remarks
7	Slight	11 02	3890	..	60	..
10	Great	18 11	5430	Lat. 48°S., Long. 27° E. near Maion Island.	..	..
15	Moderate	23 42	4250	..	..	..
17	Slight	03 56	1360	..	190	Epicentral region. In the Hindu Kush mountains. Reported felt at Peshawar and Lahore.
18	Slight	18 31	2230	..	..	..
20	Slight	10 48	1210	..	..	..
21	Slight	20 32	2720	..	..	..
25	Slight	09 26	1810	..	..	..
26	Slight	20 58	4530	..	..	..
28	Moderate	17 09	7150	..	..	Epicentral region. Off the west coast of Norway. Reported felt at Bergen and Sand (near Stavanger).

ANNOUNCEMENTS

Current Science and H. H. the Maharaja
of Mysore

Readers of *Current Science* will be interested to learn that on the occasion of his recent visit to the Indian Institute of Science, on Tuesday, the 15th December 1942, His Highness the Maharaja of Mysore was graciously pleased to accept a few numbers of the current volume of the Journal, placed in a case bound in morocco leather, which was inscribed as follows:

Respectfully submitted to His Highness the Maharaja of Mysore, by Prof. J. C. Ghosh, President, The Current Science Association, Bangalore.

Annamalai University—Endowment by H. H. the Maharaja of Travancore.—On the occasion of the Twelfth Convocation of the Annamalai University, held on the 9th December 1942, the Vice-Chancellor announced that H.H. the Maharaja of Travancore who was invited to address the graduates of the year, had endowed one lakh of rupees to the University. The purpose of the endowment will be revealed later.

Indian Statistical Conference.—The sixth session of the Indian Statistical Conference, 1943, originally intended to be held in Lucknow in January 1943, will not take place in Lucknow. In order however to avoid a break in the continuity of the Conference, the Council of the Indian Statistical Institute has decided that a short session should be held in Calcutta and arrangements are being made accordingly. It is expected that the Conference would be opened on or about the 2nd January 1943. The exact date and detailed programme would be circulated as soon as possible.

Blood Banks—Errata.—We wish to invite the special attention of our readers to the *Errata* pertaining to the article on Blood Banks, published elsewhere in this issue.

According to *Nature* (October 10, 1942), Sir Henry Dale, President of the Royal Society, has accepted the Directorship of the Laboratories of the Royal Institution, London, with the Fullerian Professorship, in succession to the late Sir William Bragg.

We acknowledge with thanks receipt of the following:—

"Journal of the Royal Society of Arts," Vol. 90, Nos. 4620 and 4621.

"Journal of Agricultural Research," Vol. 64, No. 11; Vol. 65, No. 2.

"Indian Journal of Agricultural Science," Vol. 12, Pt. 4.

"Agricultural Gazette of New South Wales," Vol. 53, Nos. 8 and 9.

"Biochemical Journal," Vol. 36, Nos. 5 and 6.

"Chemical Products," Vol. 5, Nos. 9-10.

"Experiment Station Record," Vol. 87, No. 1.

"Indian Forester," Vol. 68, No. 12.

"Transactions of the Faraday Society," Vol. 38, Pt. 9.

"Irdian Farming," Vol. 3, Nos. 10 and 11.

"Horticultural Abstracts," Vol. 12, No. 3.

"The Bulletin of the Indian Central Jute Committee," Vol. 5, No. 8.

"The Review of Applied Mycology," Vol. 21, No. 8.

"Nature," Vol. 150, Nos. 3801-3802.

"Journal of the Bombay Natural History Society," Vol. 43, No. 3.

"Canadian Journal of Research," Vol. 20, No. 8.

"Science and Culture," Vol. 8, No. 6.

"Journal of the Scientific and Industrial Research," Vol. 1, No. 1.

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Annual Review of Biochemistry, Vol. 11. Edited by James Murrey Luck. (Annual Reviews Inc., California), 1942. Pp. x + 736. Price \$5.00.

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Yantric Sodhanchya Naveenya Katha (in Marathi). By Kasinath Anantha Damle. (The Author, Kalabhavan, Baroda), 1940. Pp. 100. Price Rs. 1-8-0.

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ERRATA

Vol. 11, No. 11, November 1942

Page 423, para 3, line 8, for "useful References", read "Useful References". Para 5, line 14, for "Universal", read "universal". Para 6, line 4, for "semisolid", read "semi-solid". Para 8, line 2, for "Air Raids", read "air raids".

Page 424, para 1, line 3, for "into recipient", read "into a recipient"; line 8, for "nitrate", read "chloride". Para 9, for "fluid must", read "fluid must" (no italics). In the table, column 2, bottom, for "(= nothing small letter)", read "(= nothing, small letter)".

Page 425, in the List of Useful References, items (13) and (14), delete "(in press)", and add "1941".

Page 430, second column, line 1, for $K = (4.68 \pm 5)$ read $K = 4.68 \pm 0.5$.

Page 438, second column, regarding magnification of the photomicrographs, for $\times 60$ read $\times 60$, reduced to $\frac{1}{2}$.