whom he persuaded to purchase a house in 1818 to provide a Herbarium and a Library for the Kew Gardens. The use of the house was, however, delayed by the death of both. George IV sold it to the nation in 1824 for £84,000 to clear his debts. William IV gave it away to the Duchess of Cumberland. It was not till 1837 that Victoria lent it to the Gardens and it was not discovered till 1876 that it had been already purchased from George IV.

Banks was fair to the core in his attitude towards foreign naturalists. Sometimes it was even proved embarrassing. For example, when the collections made by La Billardiere fell by fortune of war into the British hands, Banks managed to have them handed back to France, saying that he would not steal a single botanic idea from those who had gone in peril of their lives to get them. Ten times were parcels addressed to the Royal Garden at Paris, captured by English cruisers and each time they were returned.

Banks died at Spring Grove, 19 June 1820.

Seed, Miles Ainscough (1843—1913)

MILES AINSCOUGH SEED, the inventor of the dry plate, was born in Preston, 24 February 1843. He became vitally interested in photography, then in its infancy and began experimenting with different processes for making and developing photographic plates. Finding the conditions in his native land unfavourable, he migrated to the United States in 1865. After several years of persistent effort, he succeeded in hitting upon the idea of the dry plate and established in 1882 the M. A. Seed Dry Plate Co., in St. Louis. By reason of his tenacity and personal visits and propaganda he overcame the prejudice of photographers against his new invention. Eventually it turned out that his dry plate was the first one sensitive enough to be used for X-ray purposes and for astronomical photography.

Seed died at Pelham, 4 December 1913.

Madras University Library,
February 4, 1943. S. R. RANGANATHAN.

SCIENCE NOTES AND NEWS

Germination of Ergot.—In his letter dated December 16, 1942, Mr. A. B. Bose, Botany Laboratory, Carmichael Medical College, Calcutta, writes:—"It has been brought to my notice by Prof. H. P. Chaudhuri of the Punjab University, that after the publication of Dr. Pushkar Nath's note in *Current Science* (1941, p. 488), Prof. Chaudhuri got a new collection from Simla and it was from this collection that he kindly sent me some material. The material was not, therefore, obtained from Dr. Pushkar Nath as stated by me previously (*Curr. Sci.*, 1942, p. 439) due to misapprehension."

Manufacture of Newsprint, Cheap Papers and Boards in India.—The possibility of utilising indigenous raw materials for the manufacture of cheap newsprint has received attention from a long time past. But, till recently the Indian demand for newsprint was so limited that it was hardly economic to put up a plant even if other conditions permitted such a step. But this market has steadily expanded and quite apart from this, war conditions have compelled a thorough review of the feasibility of Indian manufacture of these imported commodities. Such a review is contained in an interim report by Messrs. M. P. Bhargava and S. Kartar Singh (*Indian Forest Bulletin*, No. 108, 1942. Price As. 9 or 10*d*.) whose conclusions are not very encouraging. After experimenting with various Indian species, three of conifers, seven of broad-leaved species and three bamboos, these authors find fir and spruce (available in fair quantities in certain parts of India), quite suitable for newsprint production while three of the broad-leaved species were considered promising. Unfortunately, however, the two conifers abound in areas where cheap power is not available so that the prospects for a thriving Indian newsprint industry are none too favourable just at present. The bulletin contains sixteen samples of paper with their composition of mechanical pulp and chemical pulp indicated. The sober conclusions recorded in this bulletin should be helpful in dispelling facile optimism about ambitious but ill-conceived schemes for newsprint production in the country.

Factors Governing the Adhesion of Tin-Base Bearing Metals.—The Tin Research Institute's publication No. III records a comprehensive study of the factors governing the adhesion of tin-base bearing alloys to various backing metals, including steel, bronze, copper, brass and cast iron, by W. T. Pell-Walpole, J. C. Prytherch, and B. Chalmers. The conditions for obtaining efficient bonds are considered, and the many factors affecting these conditions in manufacturing operations are examined. A large number of tests are described which indicate the most suitable methods of preparing and tinning the bearing shell, and of casting and cooling the lining. The results of thousands of individual tests show the effects of variations in alloy composition, mould design, temperature of metal and mould, and rate and direction of cooling, in relation to both hand-pouring and die-casting and also to centrifugal methods of production. The part played by shrinkage cavities at or near the bond is also examined, and methods of operation are suggested by which this trouble may be avoided. Copies of this paper may be obtained free of charge from the Tin Research Institute, Fraser Road, Greenford, Middlesex.

Plywood Tyres. — According to *Indian Forester*, a note in *Timber Trade Journal* of July 1942 mentions a plywood tyre taking the

place of solid rubber tyres and of trials having been very successful. Three rings of 1¾" plywood were fastened together and put on the rear wheel. The wear was slight and even, and traction on wet boards better than with rubber tyres and on dry boards about equal with the rubber variety. It is reported that drivers cannot tell the difference in driving the vehicle with the odd tyre on one wheel.

Chemotherapy and Tuberculosis.—It is possible that the long-wished-for remedy for tuberculosis may eventually come through chemotherapy. Recently, 'Promin', the didextrose sulphonate of diaminodiphenyl sulphone, a member of the suplhonamide group, has been found by Feldman and Hinshaw at Rochester, U.S.A., to be active against the tubercle bacillus both *in vitro* and *in vivo*. Prof. W. H. Tytler, of the Welsh National School of Medicine, Cardiff, has made some experimental studies with 'Promin'' (*Thirtieth Annual Report* for the year ended 31st March 1942, of the King Edward VII Welsh National Memorial Association. *Report of the Director of Research*, p. 46). His results so far show that it is the most effective chemotherapeutic agent for the tuberculous guinea-pig yet tested. Unfortunately, the toxicity of the drug in the high continued dosage necessary has hitherto prevented its full therapeutic application to human beings, although in local application to superficial tuberculous lesions it is efficacious. This objection may eventually be overcome, possibly by combining the administration of the drug with that of an antigenic serum or by other modifications of its toxic properties. At all events the discovery of this drug represents an important advance and may be the prelude to greater things.—*Nature* (1942, 150, 517).

Laxminarayan Institute of Technology, Nagpur.—In the presence of a distinguished gathering, His Excellency Sir Henry Twynam, Governor of the Central Provinces and Berar, opened the Laxminarayan Institute of Technology, Nagpur, on January 9. The Governor also unveiled a bronze statue of the late Rao Bahadur D. Laxminarayan, who bequeathed his whole estate worth about Rs. 35,00,000 for the study of applied science and chemistry in the Nagpur University. Mrs. D. Laxminarayan was present.

Requesting His Excellency to perform the opening ceremony of the Institute, Lt.-Col. T. J. Kedar, Vice-Chancellor, said that they all realised that for a Province like theirs, rich in its raw materials like oil seeds, manganese and untapped forest produce, the starting of a Technical Institute was a step in the right direction. "We have also taken care to see that training given to the students is not merely of an academic nature without any idea of actual industrial requirements, by having amongst the staff men who have had several years' experience of erection and working of factories in India, all of which augurs well for the future".

Declaring the Institute open, Sir Henry Twynam observed that at long last, the dream of the princely donor of teaching applied chemistry to the students of the Province had been realised and complimented Lt.-Col. T. J. Kedar, Vice-Chancellor, for the manner in which he successfully overcame the various obstacles in the way of establishing the Institute. He also paid a warm tribute to the munificence of the late Rao Bahadur. His Excellency regretted that the Hon'ble Mr. N. R. Sarker, Commerce Member of the Government of India, could not be amongst them to deliver the inaugural address on the occasion. The inaugural address of the Hon'ble Mr. Sarker was read in his absence by Major N. Ganguli. A. N. K.

Indian Central Jute Committee.—Mr. I. G. Kennedy was elected Vice-President of the Indian Central Jute Committee for 1943-44 at its meeting held to-day under the presidency of Mr. P. M. Kharegat, C.I.E., I.C.S., President of the Committee and Vice-Chairman of the Imperial Council of Agricultural Research.

The proceedings opened with a short speech by the President condoling, on behalf of the Committee, the death of Sir Bryce Burt, the first President of the Committee, recently in England, and offering felicitations to Lala Padampet Singhania on the recent conferment of Knighthood and to Mr. H. M. Jhunjhunwalla on the conferment of the title of Rai Saheb, both members of the Committee.

Vacancies having arisen in the Standing Technical Sub-Committees due to the expiry of the terms of certain members, in addition to the sitting members, the following were appointed to the Sub-Committees noted against their names:—

Local Sub-Committee: Mr. S. N. Biswas, Mr. M. A. H. Ispahani and Mr. M. P. Birla; *Agricultural Research Sub-Committee*: Mr. A. M. A. Zaman, Mr. A. L. Mondal and Mr. S. N. Biswas; *Technological Research Sub-Committee*: Mr. M. A. H. Ispahani, Mr. M. P. Birla and Mr. C. L. Bajoria; *Marketing Sub-Committee*: Mr. A. L. Mondal, Mr. S. N. Biswas and Mr. A. M. A. Zaman; *Economic Research and Publicity Sub-Committee*: Mr. M. A. H. Ispahani, Mr. M. P. Birla and Mr. S. N. Biswas.

Textile Essay Competitions: Award of Prizes and Medals.—These competitions are open to all from all parts of India, and no entry fee will be charged. The competitors need not be members of the Textile Association. [Members of the Managing Committee of the Textile Association (*India*) are not eligible.]

There will be five separate competitions as follows: (1) Improvements in Textile Machinery—Original. (2) Improvements in Textile Manufacturing Technique—Original. (3) Latest Developments in Textile Machinery or Processes—Survey or Original. (4) Labour and Welfare, pertaining to Textile Industries. (5) Indian Textile Fibres, their Production and Utilization.

A competitor may, if he so desires, submit papers on more subjects than one. Each paper shall be treated alternatively; but a competitor will not be eligible to receive more than one prize.

All papers shall be in English. The length of the paper shall not exceed fifteen foolscap size sheets (30-32 lines to a sheet) with a margin of about two inches, typed on one side only. Inclusion of illustrations, graphs or tables, hand-drawn, is permitted.

The paper must be enclosed in a sealed cover, on which the competitor should write particulars as under:—

Prize Competition Paper, *Nom-de-plume*, Subject or Subjects.

Subjects requiring originality must be original and vouchsafed as such. Reference from other papers is allowed if duly acknowledged with such details as (1) Name of source, (2) Date of publication, (3) Name of author, (4) Page and (5) Year.

The competitor's name should not appear anywhere, in the paper or on the envelope in which the paper is enclosed. In another sealed cover of a smaller size with details as above, the competitor should enclose a separate paper giving the following particulars:—

Full Name, Postal Address, Name of Employer if employed, and capacity in which employed, Age, Technical Qualification if any, and duration of practical experience in Textile line.

On the outside of the small cover, the competitor should write his *Nom-de-jlume* only.

Both the sealed covers should be enclosed in a large cover and delivered to the Hon. Secretary of the Association, in person, per bearer or through post, under a registered cover, so as to reach him on or before the end of 30th April 1943. Unstamped or insufficiently stamped envelopes are liable to be returned.

The judges of the competitions will be appointed as follows:—

Two independent persons of position from the public and one nominated by the donor, for each of the five competitions.

Majority opinion of the judges will be final as regards the prize in each subject. The final declaration of the prizes will be made by the Managing Committee of the Textile Association (*India*).

Prizes will be awarded as follows: (1) Improvements in Textile Machinery—*The Textile Association* (India) *Gold Medal* of the value of Rs. 150. (2) Improvements in Textile Manufacturing Technique—*The Delhi Cloth Mills' Prize* of the value of Rs. 200. (3) Latest Developments in Textile Machinery or Processes—*The Khatau Gold Medal* of the value of Rs. 100 and Rs. 201 cash prize to the same person. (4) Labour and Welfare pertaining to Textile Industries—*'The Indian Textile Journal' Prize* of the value of Rs. 150. (5) Indian Textile Fibres, Their Production and Utilization—*E. D. Sassoon Mills' Prize* of the value of Rs. 300.

The result of these competitions will be declared by the 15th June 1943, or earlier if possible.

If, in the opinion of the Examiners, a competitor's essay falls below the standard expected, in such a competition, they may not award any Prize and/or Medal to him, even though it may be the best amongst the essays submitted on that subject. The Examiners may, at their absolute discretion, recommend to the Managing Committee, the award of a prize of smaller value in such a case.

The award of Prizes or Medals will be confirmed by Certificate of Merit issued by the Textile Association (*India*).

The closing date of the Competition is 30th April 1943.

Further particulars may be had from:—Narain V. Ullal, Hon. Secretary, The Textile Association (*India*), "Ganesh Bhavan," Parel P.O., Bombay.

Archives of Biochemistry, a new journal on biochemistry, has been announced by the publishers, The Academic Press, Inc., 125 East, 23rd Street, New Yerk City. The first issue will appear about the middle of October. The purpose of the new journal is to provide a medium of publication for scientific papers in the widening scope of biochemistry. The fields to be represented are: Proteins, hormones, vitamins, viruses, enzymology, biochemical and biophysical research in chromosomes, metabolism, nutrition, photosynthesis, plant chemistry, organic chemistry as far as related to living organisms, colloid science in its biological applications and chemotherapy. The Editorial Board is composed of Professors M. L. Crossley, American Cyanamid Company, Bound Brook, N.J.; R. A. Gortner, University of Minnesota; F. C. Koch, Research Department of Armour and Company, Chicago; C. M. McCay, Cornell University; F. W. Nord, Fordham University; F. W. Went, California Institute of Technology, and C. H. Werkman, Iowa State College. Manuscripts may be sent to any of the editors or to the editorial office at 125 East, 23rd Street, New York City. Two volumes per year are planned, the cost of each volume being $5.50.

—*Science*, 1942, 96, 269.

Bruhl Medal.—Rao Bahadur G. N. Rangaswami Ayyangar, B.A., F.N.I., I.A.S. (Retired), of Coimbatore, has been awarded the BRUHL MEDAL by the Royal Asiatic Society of Bengal, for his meritorious research work in Botany. Our hearty felicitations to the distinguished recipient.

Lucknow University.—The following candidates have been declared eligible to receive the degree of PH.D. in the Faculty of Science, Lucknow University:—

(1) Mr. Rajendra Varma Sitholey, M.SC., on a thesis comprising a series of papers on "Fossil Plants from India, Ceylon and Afghan-Turkistan". (2) Miss Mary Chandy, M.A., on "The Anatomy of the Sting-Ray (*Trygon*)". (3) Mr. Bijan Bihari Lal, M.SC., on "The Photochemical Reactions in Solution: The Photochemical After-Effect".

Mr. Vidya Bhaskar Shukla, M.SC., has been declared eligible to receive the Ruchi Ram Sahni Research Prize in Botany on the basis of a dissertation comprising original papers on fossil plants from the Deccan Inter-trappean Series.

SEISMOLOGICAL NOTES

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

Date	Intensity of shock	Time of origin I. S. T.	Epicentral distance from Bombay	Co-ordinates of the epicentre (tentative)	Depth of focus	Remarks
		H. M.	(Miles)		(Miles)	
3	Slight	01 05	2490	..		..
4	Slight	21 55	5520	..	..	..
5	Slight	20 58	6420	..	..	..
10	Slight	04 49	6150	..	..	..
11	Moderate	00 09	2760	..	..	Epicentral region located in Anatolia. Several houses collapsed and many were damaged in Northern Anatolia. The shocks were especially severe in Tchorum District.
19	Slight	15 51	1270	..	..	
20	Moderate	20 33	2490	..	..	Epicentral region located in Central Anatolia. Over 1,000 persons killed and more than 3,000 wounded in the region of Tokat in Central Anatolia. One township was completely destroyed.
22	Slight	03 51	1670	..	140	..
23	Slight	11 40	1590	..	..	..
23	Slight	20 29	5530	..	..	..
27	Slight	23 10	4410	..	..	..
29	Slight	10 12	3630	..	..	..

MAGNETIC NOTES

Magnetic conditions during December 1942 were slightly more disturbed than in the previous month. There were 16 *quiet* days, 13 *slightly disturbed* days and 2 days of *moderate* disturbance during December 1942 as against 13 quiet days, 16 days of slight disturbance, 1 of moderate disturbance and 1 of great disturbance during the same month in 1941.

The quietest day during December 1942 was the 30th, while the 23rd was the day of largest disturbance.

The individual days were classified as shown below:—

Quiet days	Disturbed days	
	Slight	Moderate
1, 2, 5, 6, 13, 15–19, 25, 27–31.	3, 4, 7–12, 14, 20, 22, 24, 26.	21, 23.

No magnetic storms occurred during December 1942, while one storm of great intensity was recorded during December 1941.

The mean character figure for the month of December 1942 was 0·55 as against 0·65 for December 1941.

M. V. SIVARAMAKRISHNAN.

Dr. K. N. Menon, Professor of Chemistry, Maharaja's College, Ernakulam, writes:—"Kindly allow me to associate with the feelings you have expressed in the obituary notice (*Curr. Sci.*, 1943, p. 12) announcing the death of Richard Willstatter. It may be a very long time before we will have the opportunity to read a memorial lecture but may I be permitted to suggest to all who are interested in getting a short but lucid exposition of the contributions to the various branches of organic chemistry and biochemistry made by Willstatter and his collaborators, to read the issue of *Naturwissenschaften*, published on 12th August 1932 to commemorate Willstatter's sixtieth birthday?"

We acknowledge with thanks receipt of the following:—

"Journal of the Royal Society of Arts," Vol. 90, Nos. 4623 and 4625.

"Indian Journal of Agricultural Science," Vol. 12, No. 5.

"Journal of Agricultural Research," Vol. 65, Nos. 5 and 6.

"Agricultural Gazette of New South Wales," Vol. 53, Pts. 11 and 12.

"Journal of Chemical Physics," Vol. 10. No. 10.

"Indian Forester," Vol. 69, No. 2.

"Bulletin of the Indian Central Jute Committee," Vol. 50, No. 10.

"Journal of the Indian Mathematical Society," Vol. 6, No. 3.

"The Mathematics Student," Vol. 10, No. 2.

"Indian Medical Gazette," Vol. 78, No. 1.

"Review of Applied Mycology," Vol. 21, Pt. 10.

"Nature," Vol. 150, Nos. 3804, 3805, 3809 and 3810.

"Science," Vol. 96, Nos. 2491-2494.

"Sankhya," Vol. 6, Pt. 2.

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

"Sky," Vol. 1, No. 12.

"Indian Trade Journal," Vol. 148, 1907-1911.