substituted the name "*Adoxa*-type", since this was the first genus reported to have an eight-nucleate embryo sac arising from the megaspore mother cell by only three nuclear divisions. An exactly similar opinion has been expressed elsewhere by the present writer.

Maheshwari, P., "Review of D. C. Cooper", *Jour. Ind. Bot. Soc.*, June 1936.

P. MAHESHWARI.

"Fish-Pearls" from the Andamans.—A paper of unusual interest has recently been published in the *Proceedings of the National Institute of Sciences of India* (1936, **2**, No. 2, 93–100) in which Dr. H. Srinivasa Rao records the occurrence of pearl-like concretions (Calculi) found in the stomach of cartilaginous and bony fishes from the Andaman sea and gives a fairly detailed account of their physical and chemical properties. The author gives a resumé of the earlier records of "pearls" found in animals other than molluscs, such as fish, crustaceans, etc. and discusses the formation of chitin in the external and internal structures of various animals, in which "pearls" have been found. He concludes that "the chitinous 'pearls' from the Andamans may have been formed in the gall-bladder or in the connective tissue of the liver of the predatory fish or its prey".

Chimpanzee Births in Captivity.—We have no detailed chronological account of the procœstrous gestation and parturition phases of the sexual life of the Anthropoids and the paper by J. H. Elder and R. M. Yerkes (*Proc. Roy. Soc. Lond.*, (B), 1936, **819**, 409) considerably fills the large gap in our knowledge of the development of the apes. The authors describe that out of the 15 pregnancies only one chimpanzee happened to give birth to a twin. Impregnation occurs at about the "mid-point of 35-day sexual cycle". Conception ends menstruation and the average duration of gestation is 236 days. The mother is observed to be very docile both during pregnancy and after parturition.

The Spermatogenesis of *Ichthyophis Glutinosus*.—The history of the germ cells of no member of the Apoda is known and B. R. Seshachar in a recent paper (*Zeitschrift. Zell. u. mikr. Anat.*, June 1936, Bd. **24**, H. 5, 662) has described the spermatogonia of *Ichthyophis glutinosus*. The testes of the animal are in the form of a varying number of distinct lobes connected together by a longitudinal collecting duct. Each lobe is made up of a number of locules filled with a fatty matrix in which the cells undergoing spermatogenesis are seen scattered in groups. The primary spermatogonia are large cells occupying the mouth of the duct as well as the periphery of the locule. The nucleus, at first spherical, becomes gradually polymorphic as metabolic activities are initiated in the cell. The mitochondria exhibit a characteristic grouping around the archoplasmic area in the form of a concentric ring. The Golgi bodies invest the archoplasmic area, and are in the form of crescentic batonettes. There are 42 chromosomes. The secondary spermatogonia are smaller and occur in groups along the periphery of the locule.

SCIENCE NOTES.

Professor Lidio Cipriani of the Anthropological Institute of the Royal University of Florence left Italy alone in September 1934 on his seventh scientific expedition. He visited Ceylon and South India and concentrated particularly on the peoples of Coorg, Cochin and Travancore. He left India in June 1935 and returned to Italy by car through Baluchistan, Persia, Iraq, Syria, Turkey, etc. Some of his anthropometrical data for a few Coorg communities have now appeared (*Archivo per l'Antropologia e la Etnologia*, **65**, fasc. 1–4, 87–124, 19 figs.). There is a brief discussion of the importance of Coorg anthropologically, and the national dress is described. Maximum, minimum and mean data for height and for three somatic indices are given in one table for 846 individuals in nine different castes and tribes including those for 119 Todas. The samples are rather small for all but "True Coorg" males (287), and the figures for Kadir, Kanikkar and Urali are scarcely statistically significant. The other tables deal with the data for Coorgs, Kurubas and Yeravas only, and two separate communities of each of the latter are treated together. Skin colour shows marked differentiation between the Coorgs and the far darker low-caste people. Interesting graphs show the distribution of stature, skeletal cephalic, facial and nasal indices for males and females of these three castes. The Coorgs are strikingly taller, more brachycephalic and leptorhine. This study avoids the common tendency anthropologists have to concentrate on the rarer Hill Tribes to the neglect of the higher communities on the West Coast. Many Western students are under the impression that this region is inhabited almost entirely by short, dolichocephalic tribes. These data show that the Coorgs are quite tall and definitely brachycephalic with maxima at 79, 81 and 83 for males. Other tables show the correlations between stature, cephalic index and nasal index. The table in which the author compares his results with those of Holland published thirty-five years ago is illuminating because it demonstrates the reliability of the cephalic index and the unreliability of the nasal index for comparative purposes when different workers are involved. There are some excellent photographs.

On this same expedition Professor Cipriani measured 2323 persons, including 737 females. The data were obtained from thirty-seven different castes and tribes; fifty or more of one sex were measured only in the case of Brahmins, true Coorgs, Lingayats, Kombattis, Kurubas, Todas and Yeravas. He was assisted in this work by Dewan Bahadur L. K. Ananthakrishna Iyer, the veteran Anthropologist of India. Prof. Cipriani is now engaged in writing a book on India.

* * *

Royal Asiatic Society of Bengal.—At a meeting of the Royal Asiatic Society, held on 3rd August, Prof. J. N. Mukherjee exhibited a brass utensil pierced by hailstones.

"On the 24th Falgun, 1312 B. S. (8th March

1936), there was a gust of wind accompanied with slight rain which lasted about 10 minutes in the vicinity of Mondalgram, P. S. Satgachia, Dt. Burdwan. It took place at about 7–30 P.M. Next day at 6–30 P.M. there was a severe hailstorm (Nor'wester) in the locality; the unusual feature was the large size of the stones and the velocity with which they came down. Mr. Rabindranath Bhattacharya of the above village, who was returning from a neighbouring village, was caught in the storm and rendered unconscious. On regaining consciousness he attempted to reach the village but swooned again. He was later rescued in time by some men. Gour Bagdi, of village Koshigram, P. O. Nashigram, P. S. Bhatar, Dt. Burdwan, and another person are reported to have died near the same spot. Mr. Bhattacharya states that the stones were about a pound in weight. He tried to protect himself with his umbrella but he fell down and felt as if he had been struck by a log of wood. He was attended to by a medical man of the village, Dr. Anil Mukherjee. He was in a state of stuper till 2 A.M. and had a temperature of 102°. The fever persisted for eight days and he was confined to bed for twelve days. It was reported that brass utensils lying on the shaded verandah of houses in the village were pierced by the hailstones leaving holes as if they were struck by bullets. Raneegunge tile roofs have also been broken through, stones passing into the interior of the house. Palm trees have been denuded of their leaves and barks torn off on the sides on which the stones struck. Corrugated iron roofs of a house were bodily removed. Some of these corrugated iron sheets have been flattened by the impact."

At the same meeting, the following papers were read:—(1) Col. I. Froilano De Mello: "*Further contributions to the study of the blood parasites of the Indian birds together with a list of the Hemoparasites hitherto recorded.*" (2) A. Banerji-Sastri: "*The Nāgas in the 3rd and 4th centuries A.D.*" (3) Sasanka Sekhar Sarkar: "*The Social institutions of the Mālpāhāriās*, (4) Sayyid Wajahat Husain: "*Āzād Bilgrāmi.*"

The following candidates were balloted for as ordinary members:—(1) Mr. H. C. Mandhata, M.A., (2) Mr. Phanindra Lal Gangooly, M.A., and (3) Dr. Bihali Behari Sarkar, M.Sc. (Cal.), D.Sc. (Edin.), F.R.S.E.

* * *

Early Man in North America.—A joint expedition of the National Geographic Society and the Smithsonian Institution has commenced the search for the remains of the earliest human beings in North America, believed to be Mongoloid ancestors of the American Indian, who migrated across Bering Strait from Asia.

The expedition will also excavate old village sites of prehistoric Eskimos who came to North America from Asia much later than the original arrivals and who were forerunners of the Eskimos of to-day. Buried villages and refuse heaps left by these ancient Eskimos, preserved for centuries in the perpetually frozen soil, are widespread in Northern Alaska.

Many scientists are of the opinion that North and South America must have been populated originally by Asiatics who crossed Bering Strait to Alaska, many centuries before Christ; but so far no relics nor remains of these ancient immigrants have been found.

The project is known as the National Geographic Society—Smithsonian Institution Archæological Expedition to the Bering Sea. Its leader is Henry B. Collins, Jr., of the Smithsonian Institution, who had previously four seasons doing archæological work in the Bering Sea region, and who is an authority on the history and culture of the Eskimo.

The expedition left Washington on May 20. Its headquarters will be at Cape Prince of Wales, westernmost point of North America, only 55 miles across Bering Strait from the mainland of Asia. The party will excavate both along the Bering Sea coast and on one of the Diomedes Islands in Bering Strait, 30 miles from the Asiatic coast, which is under American sovereignty. The other of the Diomedes, 23 miles from Asia, belongs to the U. S. S. R. The International Date Line passes between the American and Russian Diomedes.

Mr. Collins and other archæologists have reconstructed roughly the whole story of the Eskimo's development in North America and the Bering Sea region, pushing back the time of his beginnings to about 1,000 years before Christ.

* * *

Central Poultry Institute.—The Government of India have approved of the scheme for the establishment of a Central Poultry Institute at Izatnagar under the administrative control of the Director of the Imperial Institute of Veterinary Research and have sanctioned a non-recurring expenditure of nearly Rs. 2,75,000, for the construction of buildings and roads and for certain other capital expenditure and an average recurring expenditure of nearly Rs. 56,000 annually, from 1937–38 onwards for the salaries of staff, etc., of the Institute.

The Institute will carry on research on disease, nutrition and genetics of poultry and act as a bureau for the dissemination of the results of research in this and other institutions. It will also carry on investigations on processing and disposal of poultry and egg products and make arrangements for courses of training if there be any demand for them.

* * *

Industrial Research Bureau.—The following statement gives particulars of papers for which the Government of India has awarded prizes.

	Rs.
1. Manufacture of Photographic Plates in India.—N. Kasinathan, M.A., M.Sc., Calcutta	1,000
2. Process for the Preparation of pure Al_2O_3 and SO_2 gas from Bauxite-Gypsum Mixture.—(*a*) Dr. V. S. Dubey, M.Sc., Ph.D., Benares; (*b*) Professor M. B. Rane, M.A., Benares; and (*c*) M. Kanakaratnam, M.Sc., Benares	500
3. Utilisation of Nepheline Syenite Rock.—(*a*) Dr. V. S. Dubey, M.Sc., Ph.D., Benares; (*b*) P. N. Agrawala, M.Sc., Benares	250

	Rs.
4. Losses on Electrical Machinery due to Open Slots.—Kenneth Aston, B.Sc., Tech. M.I.E.E., Bangalore ..	250
5. Aromatic Resources of India.—Sadgopal, M.Sc., Benares	150
6. Saponification of Mahwa Oil.— R. K. Gobhil, B.Sc., A.H.B.T.I., Cawnpore.	150
7. A New Process for the Solvent Extraction of Castor Seed with Rectified Spirits. —Dr. N. G. Chatterji, Cawnpore ..	150
8. The Preparation of New Wetting Agents.—(*a*) K. Venkataraman, M.A., Ph.D., Bombay; (*b*) D. R. Dhingra; and (*c*) I. S. Uppal, Bombay.	150
9. Cashew Nut Shell Oil and its Utilisation.—N. M. Patel, Bombay.	150

* * *

Improved Varieties of Cotton.—The Indian Central Cotton Committee sanctioned a scheme in 1930, for carrying out work at the Experimental Farm at Ganganagar, Bikaner State, for (1) The isolation by means of selection and hybridisation of an improved type of Indian cotton; (2) the production, maintenance and supply of pure seed of the improved type to the neighbouring seed farm for distribution in the Colony; (3) The improvement of the production of raw cotton including cultivation, manuring and the correct adjustment of irrigation water; and (4) The discovery of the best rotation for the cotton including the precise effect on yield and staple of periodical monsoon fallow. A sum of Rs. 52,700 spread over a period of 5 years, was allotted for the scheme. The work was started in January 1931, under the charge of the Director of the Institute of Plant Industry, Indore, and Agricultural Adviser to the States of Central India and Rajputana.

The results so far obtained definitely indicate that *Mollisoni* and *Cawnpore* 520—both deshi varieties of cotton, one from the Punjab and the other from the United Provinces—combine a higher yield per acre with hardiness. *Mollisoni* gives satisfactory yields with even three irrigations when sown in the middle of May or early June, while *Cawnpore* 520 gives the highest yield when it is sown in June.

A seed farm has been established at Sriganganagar for the benefit of agriculturists in the Colony so that these two improved varieties may be perpetuated, and seed will be sold to cultivators by the Bikaner State Department of Agriculture through Tehsil headquarters and cooperative societies, beginning with the 1936 Kharif season.

* * *

Conference on Rural Hygiene.—As a result of the demand of the Indian Delegation to the League of Nations in 1932, a Rural Hygiene Conference will be held in August 1937 in Java, and will deal not only with problems of Public Health but with all the activities covering rural life which tend to raise the standard of living of the rural population. It would consequently, deal with the activities of the agricultural, cooperative and educational departments. The League of Nations appointed a commission with Mr. A. S. Haynes as Chairman and Dr. E. J. Pampana and Professor De Langen as members, to draw up a programme for the Conference. The commission have toured in India, Burma, Malaya, Siam, Indo-China, Philippine Islands, Java and Ceylon and have collected data which will be of value in drawing up the programme.

* * *

German Himalayan Expedition.—Herr Paul Bauer, who led the German Expedition to Mount Kanchengunga in 1929 and 1931, with three companions, Dr. Wien, Herr Hepp and Herr Goettner, have started on a mountaineering trip in Sikkim. The expeditionists intend reconnoitering round about the two peaks, Mount Simu and Mount Sinilchu and part of the Zemu glacier on the eastern side of the Kanchengunga. The party may also attempt to climb some of the unconquered peaks in that region.

* * *

A Natural Cure for Syphilis.—Prof. Dr. Franz Jahnel of the Kaiser Wilhelm Institute, Munich, reports (*Forschungen und Fortschritte*, 1936, **18**, 132), some exceedingly interesting results of his work on the cure of syphilis. Besides the usual laboratory experimental animals, some wild animals are susceptible to the disease as for example *Myoxis glis* (German name, Siebenschlæfer). The Syphilis-causing Spirochæta can penetrate even to the brain of this rodent. Prof. Jahnel's experiments bring out the extraordinary fact that a syphilitic *Myoxis glis* is completely cured after its winter-sleep. Prof. Jahnel has established that the cure is not due to any medicament but is a natural phenomenon. He also found that other winter-sleeping rodents were cured of the disease in the same way. The Siebenschlæfer is so named in German because its winter-sleep extends to about seven months in the year. (Sieben = seven and schlæfer = sleeper). It is, of course, well known that the usual "sleep" of the animal is fundamentally different from its "winter-sleep"—a condition of deep consciouslessness from which the animal cannot be momentarily "awakened". The normal body-temperature of *Myoxis glis*, 36°, sinks during its winter-sleep to about 4° and sometimes to fractions of a degree above 0°. During this period the animal breathes only in intervals which are of not less than 15 minutes' duration. It takes, needless to say, no food during these seven months. It can however be awakened from its winter-sleep by being kept in a warm room for about 1–2 hours when it resumes its normal physiological functions. Prof. Jahnel's experiments proved conclusively that Syphilis-infected animals which completed their winter-sleep normally were found to be free from the spirochæta while in infected animals which were artificially prevented — by being kept in a warm room — from having their winter-sleep, no cure was effected.

Further work is in progress at the Munich Institute to elucidate the exact mechanism of this phenomenon. It is still an open question whether the low body-temperature over a long period and the minimisation of the assimilation processes have any curative effect. It is, however, noteworthy that a "hunger-cure" for Syphilis was often prescribed in the Middle Ages. Prof. Jahnel's work opens a new and hopeful chapter in the grim fight against the disease and reveals a vista full of possibilities.

Microchemistry in Czechoslovakia.—A Czechoslovakian Microchemical Society was founded on April 25, in Prague at a gathering of about two hundred chemists, from both Czech and German scientific and industrial circles. Professor J. Heyrovsky, Professor of Physical Chemistry at the Charles University, known for his microchemical polarographic studies, has been elected president. The Society's activities were inaugurated by a lecture by Dr. C. J. Van Nieuwenburg, Professor of Analytical Chemistry in the Delft Technical High School, on "Why and Where Microchemistry"? Austrian microchemists were represented by Professor Fritz Feigl, Professor of Chemistry in the University of Vienna. The new Society intends to cooperate with microchemical societies and clubs of England, America, Holland and Austria with the view of establishing an International Microchemical Society. The official title of the Society is "Societas microchemica C. S. R.," and its address, Prague, II, Albertov 2030.—(*Chemical Age*, 1936, **35**, 39).

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Institute for the Study of Animal Behaviour.—With the object of promoting and encouraging research into animal behaviour, the British Institute has recently been inaugurated. It is hoped to issue to members a quarterly Bulletin in which will be provided summaries of papers of the general work being done in the various branches of the subject. Meetings for the transactions of scientific business will also be held at intervals. Prof. Julian S. Huxley has been elected as the President. Further information can be had from the Hon. Secretary, R. C. Oldfied, The Psychological Laboratory, Cambridge.

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National Institute of Sciences of India.—At the Ordinary General Meeting of the Institute, held at Simla on Sunday the 19th July, with Brigadier H. J. Couchman in the chair, the Secretary announced the following donations :—

Tata Iron and Steel Co., Ltd.	..	5000
H. H. Maharaja Holkar of Indore	..	2000
Dr. S. C. Law	..	2000

* * *

The National Academy of Sciences, India.—The following has been elected Members of the National Academy of Sciences, India :—(1) Mr. A. T. Dharma Dass, Allahabad; (2) Mr. G. P. Pendse, M.Sc., Gwalior.

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The Mining and Geological Institute of India.—The annual meeting of the Mining and Geological Institute of India was held in the buildings of the Asiatic Society of Bengal on 3rd February 1936. After transacting the usual formal business, the new president Dr. C. S. Fox (*Transactions of the Mining and Geological Institute of India*, 31, Pt. 1) delivered a very interesting address on the growth and development of the Geological Survey of India. The annual dinner was attended by many members and the Hon. Sir F. Noyce was the chief guest. During the year under report several excursions were held for members to such interesting places as Raniganj and Jharia coal fields.

* * *

Sir Henry Wellcome.—Death occurred of Sir Henry Wellcome, Doctor, Scientist and Explorer on July 25.

He was the Governing Director of the Wellcome Foundation and Director of the Wellcome Historical Medical Museum, London. Sir Henry led an Expedition to the Upper Nile regions of the Anglo-Egyption Sudan in 1901 for archæological and ethnological explorations which he resumed and continued in and after 1910 discovering a number of ancient Ethiopian archæological sites. He was a pioneer in aerial photography which he employed in his exploration work. During the Great War he placed the services of the Wellcome Bureau of Scientific Research and its staff at the disposal of the Government and instituted a special commission to secure improvements in design and construction of field ambulances in 1914 and constructed, equipped and supplied for the British Army Medical Service a chemical and bacteriological motor field research laboratory which was in Palestine during the War.

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Dr. L. C. Verman has been appointed Research Officer, Industrial Research Bureau.

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Prof. Dr. Max Born, has been appointed Professor of Natural Philosophy, University of Edinburgh, as successor to Prof. C. G. Darwin. Prof. Born will be taking charge of his duties at the University from the 1st October.

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Dr. W. Burns, Director of Agriculture, Bombay Presidency, has been appointed Officiating Agricultural Expert, Imperial Council of Agricultural Research.

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International Geological Congress, Moscow, 1937.—Mr. D. N. Wadia of the Geological Survey of India, has been invited by the Organising Committee of the XVII International Geological Congress to be held in Moscow in 1937 to give a report to the Congress on "The Tectonics of North India".

* * *

Dr. Frederick George Novy, former Professor of Bacteriology and Dean of the Medical School of the University of Michigan, was awarded the 250,000th microscope produced by Bausch & Lomb at a luncheon tendered to members of the American Association for the Advancement of Science during its summer sessions at Rochester, New York.

Dr. Novy was selected for this honour by the Executive Committee of the A.A.A.S. for outstanding research in the field of bacteriology and immunology. He discovered and isolated the *Bacillus* Novyi, the agent of gas gangrene; was the first to culture *Trypanosoma* Lewisi, and is the discoverer and isolator of *Spirochæta* Novyi, the cause of American relapsing fever. He has also made notable contributions to the study of filterable viruses, the respiratory processes of bacteria, and the causes of diphtheria, yellow fever, and bubonic plague. A student of both

Koch and Pasteur, Dr. Novy has the distinction of being the only person in America to-day who studied under Pasteur. France has paid him homage by making him a Chevalier of the Legion of Honour; Czechoslovakia created him a member of the Order of the White Lion, and Sinclair Lewis has romanticized him in his book, *Arrowsmith*. For nearly fifty years, Dr. Novy was a member of the Medical Faculty of the University of Michigan, and is almost the last of the distinguished group gathered by the late Dean Victor C. Vaughan.

Dr. Novy's address at the luncheon on "Some Results of Microscopic Research of Specific Significance for Human Welfare," was preceded by brief addresses by Dr. Edwin G. Conklin, President of the A. A. A. S., Herbert Eisenhart, President of Bausch & Lomb, and Dr. Edward Bausch who presented the 250,000th microscope of the Company. It was Dr. Bausch's fifty-ninth year as a member of the A. A. A. S. and the first time the Association had met in Rochester since 1892.

* * *

Applications are invited for the posts of:—(1) Professor of Physics, Murari Chand College, Sylhet; salary Rs. 250–50–300 (on confirmation) 40/2–500–50/2–800. Apply to R. C. Ray Ghatak, Esq., Personal Assistant to the Director of Public Instruction, Assam; (2) Circle Inspector of Schools in the United Provinces: pay Rs. 300–25–500–50–600–30–900–50–1,000. Apply to Director of Public Instruction, U.P., Allahabad. Last date for application, September 7.

Applications have been called for admission to the Jamshedpur Technical Institute from Indians who wish to take up a career at the Company's Works at Jamshedpur and who possess a degree or diploma in Mechanical or Electrical Engineering or Metallurgy (Class B), or an Honours or First Class Degree or diploma in the same subjects (Class A-1) preferably accompanied by works experience abroad, or an honours or first class degree or diploma in these subjects accompanied by not less than six months conspicuous practical experience after graduation in an Iron and Steel Works abroad. The age of any candidate on 31st December 1936 must not exceed 27 years in the case of graduates from foreign Universities and 24 years in the case of graduates from Indian Universities.

A combined theoretical and practical training of two years' duration is given at the Institute and in the Works of the Company. Apprentices of Class A (2) will be paid Rs. 200 per month throughout 2 years. Laboratory work will not be counted as Works experience. Other apprentices will receive Rs. 75 per month during the period of their apprenticeship in Class A (1) or Rs. 50 per month in Class B. Intending candidates should apply to the Superintendent of Training, The Technical Institute, Jamshedpur, *via* Tatanagar, B. N. Railway, for the necessary forms, which must be completed and returned to him by September 15, 1936.

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Announcements.

The 11th International Congress of Psychology will be held at Madrid on September 6–12 under the presidency of Prof. E. Mira of Barcelona. Further information can be had from the General Secretary, Dr. José German, Instituto Nacional di Psicotecnica, Alberto Aquilera 25, Madrid.

Conference on Educational Broadcasting.—The first Conference on Educational Broadcasting will be held in December 1936, from Thursday 10th to Saturday 12th, at Washington D. C., in co-operation with the Federal Communications Commission and the United States Office of Education. A group of organisations representing every phase of American education, has arranged the Conference.

The purpose of the Conference is to enable the large number of persons who are interested in educational broadcasting to discuss means by which radio may become a more effective instrument for education, both formal and informal; to serve as a clearing house for information on the latest technical and professional developments in educational broadcasting; and to enable persons representing all phases of the subject to become acquainted and to exchange ideas and experience.

All organisations and all persons interested in radio as a social and educational force are invited to attend and participate.

Further information regarding the Conference can be obtained from Mr. C. S. Marsh, Executive Secretary, 744, Jackson Place, Washington D.C., U.S.A.

Scientific Studies in Germany.—The Consul-General for Germany advises Indians to give timely warnings of their proposed visits to scientific research institutions in Germany so as to avoid disappointment. The Consul-General writes: "A great number of foreigners interested in scientific research work have of late applied directly and also on very short notice to the heads of Government Colleges and Research Institutes in Germany for permission to visit their institutions. Although there are no objections against such visits my Government would much appreciate if an intimation of such contemplated visits would reach them in time by way of the usual diplomatic channels. Following that procedure applicants will avoid the risk of being disappointed in case the institutions under reference are closed on account of rebuilding, personnel changes or other reasons."

Uses for Glue.—The "Epidos" Association has set aside a certain sum for the purpose of encouraging research by those who will put forward interesting ideas for the use of glue, and also recompensing those with proposals already ripe for development.

The General Secretariat of the International Association, at 10, Rue du Colisée, Paris, is prepared to furnish all information on this matter to any person desirous of submitting a proposition for a new use or the improvement of an existing use for bone-glue.

A competition was held some time ago by the "Epidos" International Association of Bone-Glue Manufacturers with the object of stimulating and rewarding research for the increase and improvement of outlets for bone-glue. This competition aroused considerable interest among all kinds of research workers, and several promising ideas were put before the Association. A total sum of 30,000 Swiss francs was distributed to the winners of this competition.—(*Chemistry and Industry*, 1936, **55**, 548).

J. M. Das Gupta Memorial Medal.—Applications are invited for the above Gold Medal for 1936 from Research Chemists of any age. The award will be made on unpublished researches and on independent papers published in the *Journal of the Indian Chemical Society* by the candidates during the years 1935 and 1936. Application together with four copies of reprints or typewritten papers should reach the Hon. Secretary, Indian Chemical Society, 92, Upper Circular Road, Calcutta, *not later than 30th September* 1936 from whom also relevant rules guiding the award can be had.

University of Bombay.—The Department of Chemical Technology is offering three prizes of Rs. 250, 125 and 75 for the best textile designs. The designs containing not more than three colours suitable for roller printing on textile fabrics should be submitted before November 30, 1936. A special 'Endeavour' prize of Rs. 150 will be awarded for the most original and practical design. Full particulars and entrance forms may be had from Dr. R. B. Forster, A.R.C.S.I., Ph.D., D.Sc., F.I.C., Head of the Department.

We acknowledge with thanks, receipt of the following :—

"Nagpur Agricultural College Magazine," Vol. X, No. 4, May 1936.

"The Agricultural Gazette of New South Wales," Vol. XLVII, Part 7, July 1936.

"Journal of Agricultural Research," Vol. 52, Nos. 8–11.

"Indian Journal of Agricultural Science," Vol. IV. Index.

"Monthly Bulletin of Agricultural Science and Practice," Vol. 27, Nos. 5 and 6.

Department of Agriculture, Dominion of Canada :—Technical Bull. No. 4, "Taxation in Rural Ontario". Circular No. 93. "Take-all-A Root-rot of Cereal Crops". Bulletin No. 4., "Medicinal Plants and Their Cultivation in Canada".

"Journal of Agriculture and Livestock in India," Vol. VI, Part III, May 1936; and Index to Vol. IV, 1934.

"The Philippine Agriculturist," Vol. XXV, No. 2, July 1936.

"Journal of the Royal Society of Arts," Vol. LXXXIV, Nos. 4361–4364.

"Biological Reviews," Vol. II, No. 3, July 1936.

'Communications from the Boyce-Thomson Institute," Vol. 8, No. 1, Jan.—March—1936.

"The Calcutta Review," Vol. 60, Nos. 1 and 2, July and Aug. 1936.

"Chemical Age," Vol. XXXIV, Nos. 886–889.

"Journal of Chemical Physics," Vol. 4, Nos. 6 and 7, June and July 1936.

"Journal of the Indian Chemical Society," Vol. 13, No. 5, May 1936.

"Berichte der Deutschen Chemischen Gesellschaft," Vol. 69, No. 7.

"Russian Journal of General Chemistry," Vol. VI, Nos. 5 and 6.

"Journal de Chemie Physique," Vol. 33, Nos. 6 and 7.

"Journal of Entomology and Zoology," Vol. 28, No. 2.

"Experiment Station Record," Vol. 74, No. 6, June 1936.

"Transactions of the Faraday Society," Vol. XXXII, No. 7, July 1936.

"Indian Forester," Vol. LXII, Nos. 7 and 8, July and August 1936.

"Indian Forest Records," Vol. II, Part 6. Entomology: Zwei Neue Callirrhipis mit ihren Larven *Saudalidæ*, wt.) by Fritz Van Emden, Dresden.

'Forschungen und Fortschritte," Vol. 12, Nos. 18–21.

'Genetics," Vol. 21, No. 4, July 1936.

"Indian Trade Journal," Vol. CXXII, Nos. 1568–1572.

"Journal of the Indian Mathematical Society," Vol. II, No. 2, 1936.

"The Calcutta Medical Journal," Vol. 31, No. 1, July 1936.

"Medico-Surgical Suggestions," Vol. 5, No. 6, June 1936.

"Review of Applied Mycology," Vol. 15, No. 6, June 1936.

"Indian Science Abstracts," 1935, Part I, (National Institute of Sciences, India, July 1936).

"Indian Association for Mental Hygiene" (Calcutta, Quarterly Bulletin No. 31, July 1936).

London Shellac Research Bureau: "Plasticising Lac Films," Part I.

"Journal of the Osmania University," Vol. II, 1934.

"Journal of the American Museum of Natural History," Vol. 37, No. 6, June 1936.

"Nature," Vol. 137, Nos. 3477–3480; Vol. 138, No. 3481 and Index to Vol. CXXXVII, Jan. 1936–June 1936.

"Journal of Nutrition," Vol. 11, No. 6, and Vol. 12, No. 1.

"Science and Culture," Vol. II, Nos. 1 and 2.

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ACADEMIES AND SOCIETIES.

National Institute of Sciences of India:

July 19, 1936.—P. B. SARKAR: *On the Constitution of Fluoroform, Chloroform, Bromoform and Idoform and the Part Played by Prototropic Changes in the Reactions of These Substances.* J. B. LAL: *On the Colouring Matter of* Nyctanthes arbortristis, (commonly known as *Harsinghar* in Hindusthani and *Shieuli* in Bengali).—The flowers give a beautiful but fleeting yellow dye which still finds limited application for dyeing silk in Northern India. The name Nyctanthin was given by Hill to this colouring matter. A. G. Perkin identified it with the colouring matter from Indian Mahogany. Kuhn suggested on the basis of his observations that a-quercetin is identical with Nyctanthin. This suggestion is confirmed by further experiments. N. CHOWDHURY: *Notes on Some Indian Species of* Lycopodium *with Remarks on the Distribution of the Genus in India.*—An account of the genus *Lycopodium* from the points of view of its distribution, anatomy, modes of vegetative propagation and epidermal structure. J. N. MUKHERJEE and M. C. CARBERY reported that clay pans which impede drainage and prevent the penetration of root systems of such cultivated plants, *e.g.*, sugarcane, have been observed in the Barisal Farm in the Bakerganj District of Bengal. They occur about 7″–9″ below the surface and appear to be extensive and to arise out of the special properties of the clay. Work is being carried out at the Bengal Government Farm at Dacca and some associated colloidal studies will be made in the physical chemistry laboratory of the Calcutta University. J. N. MUKHERJEE presented a summarised account of investigations in his laboratory carried out by Messrs. S. P. Roy Chowdhury, R. P. Mitra, S. Mukherjee, B. Chatterjee and H. K. Sen, during the last six years on the electro-chemical properties of acids in a colloidal state. Pure substances as well as hydrogen clays separated from soils have been examined. The results show definitely that the total acidity of such systems depend on a number of factors of which a regular and a specific or irregular cation effect discovered as a result of these investigations are of great theoretical and practical interest both from the point of view of colloidal science and of its applications, *e.g.*, to soil science. The determinations of exchangeable bases, of the base saturation capacity, of the degree of saturation of the soil and of the soil absorbing complex are carried out on a more or less empirical basis. The investigations carried out with the help of a grant from the Imperial Council of Agricultural Research and of the University of Calcutta provide a basis for a theoretically satisfactory treatment of these subjects. The electrical double layer and the absorption of ions play a very important rôle which is responsible for their properties which render the classical concepts of electro-chemistry inadequate for their theoretical treatment. P. N. GHOSH: *The Distribution of Ultra-Violet Intensity in the Sunlight at Calcutta during the Year* 1931–32.—The subject has great practical value in connection with that branch of applied science known as illumination engineering. Data of the type are unavailable in India. L. A. RAMDAS and R. K. DAVID: *Soil Temperatures.*—Results of experiments carried out at the Central Agricultural Meteorological Observatory at Poona during the last two years to measure the various factors which determine the thermal balance at the earth's surface were presented. Experiments have also been made on the effect of covering the local soil with thin layers of chalk and of typical Indian soils on soil temperatures. The effect of wetting the soil surface and that of a layer of vegetation on soil temperatures have also been investigated. These show that soil temperature can be controlled to a large extent by suitably altering the nature of the surface. Soil temperature in blocks of typical Indian soils when exposed to identical weather factors at Poona show very interesting variations from those in the local soil. These carefully planned experiments are being continued as they are of fundamental interest both to the meteorological and to the agricultural worker. D. L. SEN and DR. NAZIR AHMED in a joint paper described the results of an investigation carried out to find the effect of fertilisers, on the yield, physical properties, chemical constitution and spinning quality of Cambodia cotton. The cotton was grown in adjacent blocks on two types of soil, one naturally fertile which gave a high yield, without any fertilisers, the other rather poor which gave a low yield when no fertilisers were applied. On naturally fertile soil there was no marked difference with regard to the yield and the spinning quality of the cotton with or without any fertilisers. But on