Science Notes.

A New Species of *Indobatrachus* from the Frog beds of Worli Hill, Bombay.—In a recent communication sent to us, Mr. G. W. Chiplonker (of the Geology Department, Benares Hindu University) records the occurrence of a new species of *Indobatrachus* from the Eocene fresh water beds of Bombay island. The author points out that this new species differs from *I. pusillus* (Owen) in several respects such as the ratio of the length of the vertebral column to that of the pelvis, the ratio of the femur to that of the tibia, the ratio of the length of the hind limbs to that of the body, etc. The new species is proposed to be called *Indobatrachus trivialis*.

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A Portable Electroscope for ascertaining the Radio-activity of Spring Waters, natural gases and minerals.—An ordinary monthly meeting of the Asiatic Society of Bengal was held on Monday the 3rd December 1934, when several interesting papers were read and discussed. Mr. Cyril S. Fox described and exhibited a field Electroscope which he employed for the examination of several mineral and thermal springs in Abyssinia. "The normal procedure is to take a definite quantity of the spring water and after strong agitation in a special vessel the gas evolved is passed into a suitable chamber in the electroscope. The natural leakage of the apparatus having been previously determined the rate of fall of the leaf due to the introduction of the radon forced out of the water is next taken. The difference is due to the radon and this compared with a standard gives the radio-activity of the water in terms of radium.

"There are naturally a number of corrections and other calculations to be made before the final estimate is obtained, but for this field apparatus these are reduced to a minimum by the design of the vessels and electroscope employed. The investigation so far as the author knows is the first of its kind outside Europe and no instrument of this type is available in England or India at the present time.

"It may be mentioned in passing that very hot springs are not likely to contain radon as the gas is not retained by the water if the temperature exceeds 150° F. On the other hand, true radium carrying waters are very rare because radium salts are relatively insoluble and are precipitated as the water cools."

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Textile Research at Calcutta.— Dr. S. G. Barker, who recently resigned his post as Director of Research to the British Wool Industries Research Association, has been invited to organise a branch of textile research at Calcutta. Dr. Barker is one of the best known amongst those who have harnessed scientific research for the improvement of industrial processes and his investigations at Torridon have proved to be of the greatest benefit to the British Wool Textile trade.

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The British Industries Fair, 1935.—The next British Industries Fair will open in London at Olympia and the White City on Monday, the 18th February 1935, and will close on Friday, the 1st March 1935.

The Indian Trade Commissioner in London has decided to participate in this Fair and intends to display a representative collection of Indian produce and manufactures of commercial importance and possibilities.

Firms wishing to exhibit their products at this Fair should communicate with the Indian Trade Commissioner, "India House", Aldwych, London, W.C.2, who will be pleased to make arrangements for their display on the Indian Stand.

As the Fair is attended in large numbers by buyers from most parts of the world, the exhibits are likely to receive wide-spread notice which may lead to satisfactory business connections. Book lets and show-cards relating to the Fair have been received from His Majesty's Trade Commissioner in India, Calcutta and may be seen in the Commercial Library and Reading Room at 1, Council House Street, Calcutta. (*The Indian Trade Journal*, 1934, **115**, 787.)

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Third International Congress of Soil Science, Oxford, England, July 30th—August 7th, 1935. The Congress will be held by the International Society of Soil Science, under the general patronage of the International Institute of Agriculture, Rome, and is open to all interested in Soil Science, Agriculture, Forestry and allied Sciences. It will be followed by an excursion through Great Britain, in which all who attend the Congress are invited to take part.

Meetings of the General Committee of International Society of Soil Science will be held on the afternoon of Monday, July 29th, 1935, and on the morning of Tuesday, July 30th. The Inaugural Session of the Congress will be held and the Presidential Address will be given on the afternoon of Tuesday, July 30th. The Closing Session will take place on the afternoon of Wednesday, August 7th.

The Congress will meet as a whole at plenary sessions, and in sections at separate or joint sessions of the different Commissions through which the work of the Society is conducted. The subjects which will be dealt with by the Commission are: (1) Soil Physics, (2) Soil Chemistry, (3) Soil Microbiology, (4) Soil Fertility, (5) Soil Genesis, Morphology and Cartography, (5*a*) Alkali soils, (5*b*) Forest soils, (6) Application of Soil Science to land amelioration, (6*a*) Peat soils.

Plenary Sessions will be held on the mornings of July 31st and August 1st, 2nd, 5th, 6th and 7th. One Plenary Session will be conducted by each of the six main Commissions of the Society; at each Plenary Session, recent advances in that branch of Soil Science covered by the work of the Commission concerned will be reviewed in relation to Soil Science as a whole. A number of excursions of both scientific and general interest will take place on Saturday, August 3rd, and Sunday, August 4th.

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It is understood that the *Fourth British Empire Forestry Conference* which was to have been held in 1933 but which was not held owing to depressing economic conditions will be held next year in South Africa, provided there is a reasonable prospect of the various parts of the Empire being well represented. The previous three Conferences

were held in London in 1920, in Canada in 1923 and in New Zealand in 1928. The fifth Conference, which is held once in a quinquennium, is to come off in 1940 and will be presumably invited to India, announcement to which effect was made by the Indian Delegate Sir Peter Clutterbuck, at the last Conference in Australia.

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Royal Institute of Science, Bombay.—A Scientific Exhibition in aid of the Special Appeal Fund for Bombay Hospitals was opened in this Institute on the 13th of December, under the patronage of His Excellency the Governor of Bombay and continued for 5 days.

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We are in receipt of the third issue of the *Royal Institute of Science Magazine*, Bombay, and we welcome it. Started "to seek out the causes of things" the *Journal* abounds in interesting articles on subjects like Heavy Water, Heavy Hydrogen, Wireless, etc. The editorial chat begins with an account of the part that the staff members of the Institute played during the Science Congress held in Bombay in January 1934 and ends with a list of original publications from the Institute. Judging by the numbers of papers, the Chemistry Department is very active while its sister departments like Physics, Botany and Zoology are also active. We wish the *Journal* a life of active useful service for the cause with which it was started.

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Meteors and Meteoric Iron in India.—Mr. Mohd. A. R. Khan, A.R.C.S., B.Sc., F.R.A.S., Principal, Osmania University College, Hyderabad, in the course of the Presidential Address delivered before the meeting of the Hyderabad Science Association, on 14th July, gave a brief account of the main facts concerning meteors and meteorites with special reference to meteoric iron in India. An abridged text of the address has recently been published in the form of a pamphlet, which makes a very interesting reading. As a member of the Society for research on meteorites and a modest collector of the interesting objects himself, his address bears a stamp of authority and we feel sure that the pamphlet would be widely read and appreciated.

The account of the iron meteorite that fell in the reign of Jehangir (described on pages 12-14) may perhaps induce some enthusiastic readers to inquire about the two swords that were made from it, in responsible quarters.

Needless to say that any authentic information bearing on the subject either of unrecorded meteorite falls, or of the two swords above referred to, or in fact, of any other article manufactured from an iron meteorite in India, will be most gratefully acknowledged by the author.

* * *

Lanolin Rust Preventers.—Engineering Research Special Report No. 12, (2nd Edition). His Majesty's Stationery Office. The original edition of this report being nearly exhausted a second edition has been prepared. A considerable amount of further information is now available. In particular, 'life' tests extending over a period of five years on articles coated with recommended lanolin mixtures have been completed, and have given full proof of the protective value of the material. The new edition gives a complete account of the investigations undertaken together with the confirmatory tests carried out and the opportunity has been taken to include certain further recommendations which are considered desirable.

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We are happy to felicitate Dr. Bawa Kartar Singh, I.E.S., on his being appointed Principal, Ravenshaw College, Cuttack. Prof. Singh was born in 1886 at Vairoval, Amritsar. He graduated in 1906 and after four years of post-graduate research work at London and Cambridge, he returned to India and was appointed Professor of Chemistry at Dacca College where he served till 1918. Since then, he held the Professorships at Government College, Lahore and Patna College. He was appointed Senior Professor of Chemistry, Ravenshaw College, Cuttack, in 1921, which post he has been holding ever since. He was President of the Indian Chemical Society, 1931–33 and President of the Chemistry Section, Indian Science Congress, 1920. Dr. Singh has built a school of research in Chemistry at Cuttack and is well known for his keen interest in educational affairs.

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J. N. Das Memorial Medal.—Applications are invited for the award of a Gold Medal of the value of Rs. 70 (Rs. 100 for 1934) in memory of late Mr. J. M Das Gupta. The medal will be awarded every alternate year to the best candidate for investigation on a subject relating to any branch of chemistry on the following conditions:

(1) Only unpublished researches or those published in the *Journal of the Indian Chemical Society* during the period shall be taken into consideration.

(2) The Society shall have the right to publish in its *Journal*, the whole, a part, or a modified form of thesis for which the medal is awarded.

(3) The medal shall not be awarded more than once to the same candidate.

(4) No paper on the presentation of which any other prize or degree other than M.A. or M.Sc. has been obtained, will be accepted. Further information can be obtained from the Hony. Secretary, Indian Chemical Society, 92, Upper Circular Road, Calcutta.

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We acknowledge with thanks the receipt of the following:—

"The Journal of Agricultural Research," Vol. 49, Nos. 4 and 5.

"Indian Journal of Agricultural Science," Vol. 4, Pts. 4 and 5.

"Contributions from Boyce Thomson Institute," Vol. 6, No. 3.

"The Journal of the Indian Botanical Society," Vol. 13, No. 3.

"The Journal of the Institute of Brewing," Vol. 40, Nos. 10 and 11.

"Canadian Journal of Research," Vol. 2, No. 4.

"The Chemical Age," Vol. 31, Nos. 799 to 803.

"Berichte der Deutschen Chemischen Gesellschaft," Vol. 67, No. 11.

"The Cambridge Bulletin," No. 75, Nov. 1934.

"The Experimental Station Record," Vol. 71, Nos. 3 and 4.

"Educational India," Vol. 1, No. 5.

"Indian Forester," Vol. 60, No. 12.

"Forschungen und Fortschritte," Jahrgang 10, Nos. 30 and 32.

"The Journal of the Geological, Mining and Metallurgical Society of India," Vol. 6, No. 3.

"The Indian Trade Review," Vol. 12, No. 70.

"Research Publications of the Punjab Irrigation Research Institute".—

Vol. 1, No. 4. April 1933. An Investigation of the rise of water table in the Chenab Canal area, Punjab.

Vol. 2, No. 6, February 1934. An Investigation of the flow of water in Khanki Weir and the pressures on the floor.

Vol. 3. No. 1. An Analysis of the Utilization of Irrigation Water in Typical Punjab Canals.

Vol. 4, No. 1, February 1934. A gravimetrical survey of the Sub-Alluvium of the Jhelum-Chenab-Ravi-Doabs and its application to problems of waterlogging.

Vol. 4, No. 6, A simple method for determining the reaction and titration curves of soils.

Vol. 5, No. 2, January 1934. The Transmission coefficients of water in natural silts.

"Monthly Statistics of the Production of certain selected Industries of India," August 1934 (Government of India Publication).

"Communications from the Kamerlingh Onnes Laboratory of the University of Leiden," 224-228; Vol. 20, Supplements Nos. 70-75. November 1931 to September 1933, Nos. 217-228.

"The Association of Special Libraries and Information Bureaux; Report of the Proceedings of the 11th Conference."

"Advance Proceedings of the Asiatic Society of Bengal," Vol. 1, No. 2, November 1934.

"Report of the Forest Research Board for the year ending 31st March 1934 with Report of the Director of Forest Research," published by His Majesty's Stationery Office, 1934.

"Mathematics Student," Vol. 1, 1933.

"Memoirs of the Indian Meteorological Department," Vol. 26, Pt. 4, Discussion of Results of Sounding Balloon Ascents at Poona and Hyderabad during the period October 1928 to December 1931.

"Scripta Mathematica," No. 4, August 1934.

"Nature," Vol. 134, Nos 3390—3394.

"Natural History," November 1934.

"The Journal of Nutrition," Vol. 8, No. 4.

"The Journal of Chemical Physics," Vol. 2, No. 11.

"Journal de Chimie Physique," Tome 31, No. 8.

"Indian Journal of Physics," Vol. 9, Pt. 1, Proceedings of the Indian Association for the Cultivation of Science." Vol. 18, Pt. I.

"The R.I.S. Magazine," Vol. 1, No. 3, September 1934.

"Records of the Indian Museum," Vol. 36, Pt. 3.

"The Review of Scientific Instruments," Vol. 5, No. 10.

"The Indian Trade Journal," Vol. 115, Nos. 1481-1485.

Reviews.

ACTUALITIES SCIENTIFIQUES ET INDUSTRIELLES. No. 123. Les Surfaces Algebriques non Rationelles de Genres Arithmetique et Geometrique Nuls. By Lucien Godeaux. Pp 33. Price 10 Frs.

The conditions given by Enriques and Castelnuovo for a given algebraic surface of order n to be rational are (1) The surfaces of order $(n-3)$ passing $(i-1)$ times through every multiple curve of order i on the surface and $(j-2)$ times through every multiple point of order j should pass through all the adjoint curves of the sections of the surface on every plane of space; and (2) Surfaces of order $(2n-8)$ passing $(2i-2)$ times through every multiple curve of order i, and $(2j-4)$ times through every multiple point of order i do not exist. Now the condition (2) obviously includes the following condition, *viz.*, (3) The surfaces of order $(n-4)$ passing $(i-1)$ times through every multiple curve of order i and $(j-2)$ times through every multiple point of order j do not exist.

This monograph deals with the general construction and properties of surfaces for which the conditions (1) and (3) are satisfied and (2) is not satisfied; or in other words surfaces whose arithmetical and geometrical deficiencies are zero. The first example of such a surface given by the authors mentioned earlier is the quartic surface having the sides of a tetrahedron as double lines. The first few pages of the book are devoted to a sketch of the elementary theory of algebraic surfaces and the reader is referred to the standard works of Severi and Picard-Simart for details and further development. Next the determination of the deficiencies of higher orders of the various special surfaces in view is treated. It is shewn that the bigenre or the deficiency of the second order of the previously-mentioned surfaces is one. It is interesting to note that Enriques has proved that all surfaces whose arithmetical and geometrical deficiencies are zero and whose bigenre is unity is birationally equivalent to this surface. Next we find the proofs of the existence and some properties of Castelnuovo's surface, *viz.*, a seventh degree surface having a triple line R and a double conic r which does not intersect R and which has three tacnodes A, B, C, whose tacnodal planes pass through R. This surface also belongs to the species of surfaces in view. The monograph ends with