

Science Notes.

A Prehistoric Iron Implement from Malacca.—At the ordinary meeting of the Asiatic Society of Bengal, held on 6th April, Mr. Johan van Manen exhibited an iron implement, sent by Dr. P. V. van Stein Callenfels, the Dutch archaeologist, who wrote, "from time to time a peculiar iron implement is found in the Peninsula of Malacca concerning which no one knows the use or manner of application. The Malays call it *Tulang mawas* which means 'bone of orangutan'. They say that in olden times there lived large apes with iron bones and an iron spur at the elbow, and that this is what constitutes the implement.

"In connection with the find spots, I have always supposed that it may have been an old type of miner's instrument used by early tin miners. It is not, however, clear to me how that should have been.

"A short time ago, whilst investigating a few so-called 'slab graves', graves built up out of stone slabs, which are an offshoot of the megalithic culture occurring in the Malay Peninsula, in Southern Sumatra and in Java, we found an appreciable collection of such instruments which make it clear that they are connected with the slab grave builders, and have been probably introduced by them.

"These slab graves are found along the rivers running into the Strait of Malacca and are therefore evidently relics of immigrants who moved inland along these rivers, perhaps searching for tin. In my opinion, the mining hypothesis is therefore not without foundation. I believe to discern a certain Indian influence exercised at the end of the pleistocene, upon this part of Further Asia, but after this all Indian influence ceases and everything is here derived from south-west China, *via* Siam.

"These slab graves, which I feel inclined to date about the beginning of the Christian era, bring us for the first time again the Indian influence which soon expands widely and leads to Hinduisation of Sumatra, Bali, Indo-China, and so on.

"If this be the case, the iron instrument must have an Indian origin and there may be a possibility that India may bring a solution of the questions as to for what purpose and how it was used."

Other exhibits shown and commented upon at the meeting are: (1) Three small brass images from the Chittagong District—Dr. Ramaprasad Chanda. (2) *Kharidat al-Qasr*—M. Hidayat Hosain.

Dr. N. C. Sen Gupta gave a paper on "Putrikaputra or the appointed daughter's son in ancient law."

Mr. Everett H. Rankin and Mr. John Campbell White were balloted for as ordinary members of the Society.

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Indian Chemical Society.—At the ordinary meeting of the Society, held on the 24th March at Calcutta, Dr. B. C. Guha delivered a lecture on Vitamin C. Rev. Father J. van Neste, S.J., presided.

The following gentlemen were admitted and elected as Fellows:—

Admitted.—Mr. G. Narayan (Bangalore); Dr. Chittaranjan Barat (Calcutta); and Mr. Birendra Nath Maitra (Calcutta).

Elected.—Mr. Dilip Kumar Banerji (Calcutta); Mr. Santi Ranjan Palit (Calcutta); Mr. Dharendra Mohan Mukherjee (Barisal); Mr. Kanai Lal Roy (Calcutta); Mr. K. S. Venkat Raman (Benares); Mr. Dharendra Nath Majumdar (Benares); Dr. Surendra Nath Ray (Calcutta); Mr. Jagannath Gupta (Calcutta); Mr. Sachindranath Datta (Gwalior); Mr. G. P. Pendse (Gwalior); Mr. K. V. Giri (Bangalore); Prof. S. D. Arora (Jodhpur); Dr. Umapasanna Basu (Calcutta); and Prof. S. N. Bose (Dacca).

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Institution of Chemists (India).—The annual meeting of the Institution was held at the University College of Science, Calcutta, on the 29th February. The annual report which we have received gives an account of the activities during the year 1935. The Institution lost two members (Mr. H. Cooper, Ph.C., F.C.S. and Mr. J. N. Sinha, B.Sc., M.Sc., A.I.C.) by death, and one member by resignation; thirteen new members were elected. Seven ordinary meetings were held for reading and discussion of papers which have all been published in the *Proceedings of the Institution* (Quarterly).

In the course of his Presidential Address, Prof. H. K. Sen dealt with some aspects of industrial research and industrial development. After discussing certain vital questions, such as industrial co-ordination, standard of living, survey of natural resources, etc., he proposed that under the auspices of the Institution a 'machinery composed of representatives, financiers, experts, engineers and such others to study and organise methods of industrial development, be created without loss of time, as the first instalment towards the solution of the unemployment problem. This body with the advantage of its experience, should be able to give a unique impetus to India's industrial regeneration. I make bold to propose, further, that our Institution should take upon itself the task of a bureau of industrial information and be in active co-operation with bodies, private or government, with similar aims. In fact, such a new orientation of our activities would constitute a distinct step in the right direction." Prof. Sen indicated an immediate solution of the unemployment problem of the educated classes. He said, "if a group of villages, five, ten or twenty, according to population and produce, would take it into its head to employ half a dozen educated young men to look after its sanitation, education, drinking water, milk and other food products, road-making, mosquito-killing, etc., out of no other sense than to increase its efficiency, I have no doubt the present unemployment would disappear in no time."

The following members have been elected to the Council:—*President*: Dr. H. K. Sen, M.A. D.Sc., D.J.C.; *Vice-Presidents*: Mr. N. Brodie, Dr. E. Spencer, Dr. T. S. Wheeler, Mr. N. N. Sen Gupta, Rao Sahib M. N. Ghose, Mr. J. R. H. Bartlett; *Hon. Secretaries*: Mr. S. N. Sinha and Dr. M. N. Goswami; *Treasurer*: Mr. K. B. Sen; *Members*: Mr. J. K. Adhya, Mr. T. S. T. Chari, Mr. D. S. Naidu, Dr. S. G. Chowdhuri, Mr. Ronald

Alcock, Mr. Satya Prosanna Sen, Dr. Haridas Sen, Mr. P. K. Das Gupta.

Indian Institute of International Affairs.—For the purpose of scientific study of international affairs, an organisation called the Indian Institute of International Affairs was inaugurated by H. E. Lord Willingdon on March 3rd. This is the Indian branch of the Royal Institute in London, which was started 16 years ago. The parent body has a valuable collection of books, and collects, examines and distributes international information. Commander Stephen King Hall, Official Representative of the Royal Institute, came to India to assist in the formation of the Indian branch. The Institute is strictly non-political in character.

In the course of his speech, H. E. The Viceroy said, "The growing interest of India in international quarters is the justification for the step that we are now about to take. Accurate information is most necessary on various issues which now dominate the international situation and by which India is affected, and this is one of the services which the proposed Institute will provide."

H. E. The Viceroy of India is the Hon. President of the Institute.

The Madras Science Club.—The first annual report of this interesting institution, recently started in Madras, states, that it owes its existence to the initiative of Mr. K. S. Varadachar, who, it should be acknowledged, was actively associated with the foundation of *Current Science*. The Club was founded mainly to promote social amenities among the scientific workers in Madras and the report records a session of useful work. Prominent scientists in Madras are associated with the Club which, we hope, will continue to fulfil the purpose, for which it has been organised, in an increasing measure.

The Roerich Central Asiatic Expedition for Drought-Resisting Plants.—The United States Department of Agriculture has sent an expedition to scour Central Asia in search of drought-resisting pasture grasses, for use in reclaiming drought-made desert land in the United States. On the edge of the Gobi desert in Central Asia, are great pasture lands where the summer temperatures often go above 100° and the winter temperature more than 40° below zero. The rainfall in the area is less than 16 inches annually, but apparently there are certain pasture grasses which, through thousands of years of natural selection, have adopted themselves to severe environmental conditions. Besides drought-resisting pasture grasses, the explorers hope to discover grasses and shrubs with root stocks of a type suitable for preventing arid and water erosion in dry land areas.

Prof. Nicholas de Roerich, the eminent Russian Archæologist, painter and leader of culture, is in charge of the expedition to the Hingan Mountains and the plains adjoining the Gobi. Prof. Roerich is a recognised authority on Central Asia, having made expeditions into Sikkim, Kashmir, Tibet, Chinese Turkestan, Mongolia, the Gobi Desert and the Altai Mountains. He is ably assisted by his son, Dr. Georges de Roerich, who possesses expert knowledge of the Central Asiatic tongues.

Numerous species suitable for transplantation in America have already been collected. More than 350 lots of seeds have been despatched to the United States Department of Agriculture for trial; while in Mongolia, a number of samples of soil have also been collected and despatched. According to a report appearing in the *Penang Gazette* (8th Oct. 1935), Prof. Roerich alluded to a recent project to re-afforest the mid-western plains of America, or as an alternative to plant a thick belt of trees running in a straight line north and south, so as to keep the fertile plains of the east, free from sand blowing over from the west.

Expedition to Japan to Observe the Total Solar Eclipse.—The Government of India have sanctioned the deputation of Dr. Royds, Director of the Kodaikanal Observatory, to Japan to observe the total eclipse of the sun on June 19th, 1936. Dr. Royds is taking with him from Kodaikanal what is probably the most powerful spectrograph ever used at an eclipse. In Japan he will join up with the expedition under Prof. F. J. M. Stratton organised by the Royal Society and the Royal Astronomical Society.

The totally eclipsed sun exhibits certain appendages, which cannot be seen at any other time, and these afford clues to the constitution not only of the sun but also of those stars which are known to resemble the sun. Two different atmospheres of the sun become visible to the naked eye, viz., the olive green corona with its streamers and the rosy red chromosphere with its prominences, while with special instruments a still lower atmosphere can be studied.

The Kodaikanal Observatory Expedition is especially to study how the wavelength in different parts of the sun's disc is affected by the scattered light from other parts of the disc. Another problem with which the expedition is concerned is the more exact determination of the wavelengths of the chromospheric lines; it is hoped to reach an exactness never before achieved. The expedition is also interested in the appearance of the oxygen lines in an eclipse, since the successful observations of these lines without an eclipse has recently been made at the Kodaikanal Observatory (*cf.* Communication by Drs. A. L. Narayan and T. Royds, published under *Letters to the Editor* section in this number).

About a ton of instruments will be carried. Mr. Marsden, a science teacher in a Missionary College at Nagercoil, is making his own way to Japan, primarily for sight-seeing, and will help the expedition in the management of the arc-lamp.

Drug Control in India.—Mr. B. D. Amin, Managing Agent and Director, The Alembic Chemical Works Co., Ltd., Bombay and Baroda, has recently issued a pamphlet which draws pointed attention to the urgency of enacting a Drug and Pharmacy Act, not only for protecting public health, but also for safeguarding the indigenous pharmaceutical industry. In an editorial note appearing in a recent number of this *Journal* (*Current Science*, 1935, 4, 368-369) we have referred to the menace of drug adulteration and of traffic in spurious drugs. The proposals made by the Drug Enquiry Committee are admittedly adequate, but so far no effective legislation appears to exist for bringing about

a uniformity of control throughout India. Lt.-Col. R. N. Chopra's learned contribution on "Drug Adulteration and Spurious Drugs in India", which has been reproduced from the *Calcutta Medical Journal* and appended to the pamphlet, covers in a short compass, the salient points of the question and makes an eloquent plea for the enactment of adequate legislative measures.

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Problems of the Jute Industry.—Far-reaching recommendations for the development of the Jute Industry are contained in a report by Dr. S. G. Barker, who recently came to India to examine the scientific and technical development of the Jute Industry on behalf of the Indian Jute Mills Association. A comprehensive research scheme, estimated between £25,000 and £30,000 a year, has been proposed for research, covering experimental work, intelligence service and the provision of an information department. According to Dr. Barker, these activities must be entirely controlled by the industry and be an integral part of its structure. The complete autonomy of the Indian Jute Mills Association in this matter is essential. The Central Laboratories should be situated as near as possible to Calcutta, as most of the research will have to be developed under mill conditions. Dr. Barker's plan is designed to maintain the present market, recapture lost markets and gain new ones. According to an account appearing in *Statesman* (March 3, 1936), the report points out that "competitive materials have adopted scientific methods of cultivation, extraction and control in manufacture. The advance of science in other industries, both competitive and consuming, will accentuate the jute-marketing problem. The competitive commodities by their scientific origin are capable of modification to suit specific uses. Jute must also be able to do this by the establishment of an organisation to study ways and means of conferring upon either fibre or fabric characteristics which they do not possess in the ordinary natural condition." The function of science, therefore, will be to permeate throughout the jute industry a new and additional vista of its technique and scope, thus extending its uses and augmenting its rates of production per man-power. The report comprises a masterly survey of the problem and sets out a scheme of research commensurate with the needs of a growing industry.

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A tiny wanderer of the sky, which might be considered either a comet or a minor planet, has been re-sighted by telescopes (*Science*, Feb. 21, 1936, *Supp.*, 6). It is the Delporte object first seen in 1932. It has the distinction of making the second closest approach to the earth of any such comet or planet. Its magnitude is 13, according to the Harvard College Observatory reports, which means that it is possible to see it only with large telescopes. It is located somewhat west of the constellation of *Leo*. The Delporte object is also known by the name of *Amor* and its number among the minor planets is 1221.

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New Magnetic Alloy.—Research on the part of Canadian General Electric has resulted in a new, very powerful, permanent magnet alloy which will enable small motors and various control devices to use permanent magnet fields at a

much lower cost and with greater simplicity of design (*Canadian Chemistry and Metallurgy*, Feb. 1936, 50). The new alloy, which is named *Alnico*, is usually a cast material finished to shape by grinding and was first developed to resist scalding and deterioration at high temperatures. A heat-treating process has now been perfected by which its magnetic qualities are fully developed.

Only a few years ago an alloy of iron, aluminium and nickel was found to possess suitable permanent magnetic qualities. This alloy contains no carbon and belongs to the precipitation-hardening class alloys, quite distinct from the steel. The addition of cobalt was the step that produced the new *Alnico*, which has a specific gravity of 6.9, and is non-corrosive but brittle. It is said to have a higher coercive force and a lower residual induction than any other. The maximum available energy is higher and occurs at a lower flux density and a higher demagnetising force. Magnets of the alloy therefore require a higher force to completely magnetise them, and are less subject to demagnetisation by stray fields, high temperatures and mechanical vibration.

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A New Skin Germicide.—It is reported (*J. Soc. of Dyers and Colourists*, Feb. 1936, 61) that a new skin disinfectant, possessing 350 times the power of alcohol and thrice that of tincture of iodine, has been introduced in the United States. It is stated that the product contains 50% of ethyl alcohol, and varying amounts of acetone, mercuric chloride, hydrochloric acid, chrysoidine Y, and distilled water. The dye used, besides having antiseptic properties, is said to fade out in 24 hours. The alcohol assists in the penetration of the mercuric chloride, the acetone removes fat from the skin, and the acid increases the germicidal activity of the mercuric salt.

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New Provinces in India.—The inauguration on the 1st April of two new Governor's Provinces, Orissa in the south-east and Sind in the north-west, marks an event of momentous significance to India. The two Provinces make well-defined linguistic areas and are clearly geographical units. The Nehru Report gave prominence to the desirability of amalgamating the Oriya-speaking tracts of Madras, Central Provinces, Bihar and Bengal into a separate province under a Governor, as this unification will be conducive to the cultural and industrial development of the Oriyas. The geographical isolation of Sind from Bombay, the linguistic differences between the inhabitants of Sind and of Bombay and the persistence with which the Sindhis urged for a separate province, make out a clear case for the separation of Sind from Bombay. Sir John Hubback and Sir Lancelot Graham have the unique distinction of being the first Governors of Orissa and Sind respectively.

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It is understood that the Government of India have under consideration the question of establishment of additional seismological laboratories in the country.

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The Imperial Council of Agricultural Research has constituted two Standing Committees on Rice and Wheat which will consider all matters

pertaining to "the production, marketing and general improvement of the two crops".

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Lt.-Col. G. Covell will officiate as Director of Malaria Survey, India, *vice* Lt.-Col. J. A. Sinton, granted eight months' leave.

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Mr. L. M. Statham has been appointed Director of Public Instruction, Madras, in the place of Mr. H. F. Saunders, proceeding on leave.

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Sir C. V. Raman, Kt., F.R.S., N.L., has been elected Honorary Member of the Royal Irish Academy in the Department of Science.

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Khan Bahadur Mian M. Afzal Hussain, Principal, Punjab Agricultural College, Lyallpur, and Entomologist to the Punjab Government, is representing India at the International Locust Conference which is being held at Cairo this month. The Khan Bahadur intends to tour in Europe after the Conference to visit the various agricultural colleges and research institutes.

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Mr. Har Dayal Srivastava, M.Sc., Helminthologist, Imperial Institute of Veterinary Research, Muktesar (Kumaun), was elected an Ordinary Member of the National Academy of Sciences, India.

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Spolia Zeylanica (Ceylon Journal of Science).—Part 3, Vol. 19 of the *Ceylon Journal of Science*, contains, besides other articles, a series of interesting papers on some fishes, reptiles and mammals of Ceylon. Mr. Deraniyagala has contributed papers on fishes from Ceylon, the post-natal changes in the leathery turtle, *Dermochelys*, comparative study of *Caretta* and on a new crocodile. Affinities of Lorisoids and a survey of the distribution of mammals are contributed by Osman Hill and W. W. A. Phillips, respectively. With regard to the new crocodile, Deraniyagala notes that according to Boulenger, the Indian crocodile has the dorsal scutes arranged in four longitudinal series, the median ones being the biggest. In the Ceylon form, six longitudinal rows are present and the scutes are sub-equal. Moreover, the Ceylonese form is noticed to infest fresh-water while the Indian ones is "usually, if not always, above the limits of salt water". The extra peninsular form is named *Crocodylus palustris kimbula*, sub. sp. nov.

Osman Hill, in dealing with the affinities of the Lorisoids, reviews briefly the anatomical characters of all the systems of the Indian slender Loris and compares them with those of Lemur, an inhabitant of Madagascar. He concludes after a careful discussion that the Lorisoids are more closely allied to Tarsioids. The common characters, however, between Loris and Lemurs, are probably due to the retention of primitive mammalian features or to a parallel evolution. Following this line of thought, Hill introduces a new classification where the Haplorhine sub-orders, Anthropoidea, Pithecoidea and Tarsioida, are treated as equal to the sub-orders of Strepsirrhæ, *viz.*, Lorisoida, Lemuroidea, Chiromioidea and Cæciliolemuroidea.

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Spectrographic Outfits for Metallurgical and General Chemical Analyses.—Seventh edition. January 1936. Adam Hilger, Ltd., 98 King's Road,

London, N. W. 1. 60 pages. Illustrated. Post free.

This catalogue describes a new range of models of the well-known Hilger Quartz Spectrographs. These include the three instruments which are known all over the world as the small, medium and large models. All of them have been re-designed and take the Hilger Accessory Bar for the correct alignment of accessories. The large instrument is now offered in a fully automatic model, which is of great advantage in the industrial control of metals and alloys. A new size spectrograph has been introduced, intermediate in size between the small and medium, and therefore known as the Intermediate. An exceptionally complete range of accessories is described for both qualitative and quantitative analysis, including outfits for the Stepped Sector and the Lundegardh Flame methods.

Sound advice is given on the choice of apparatus for specific applications.

The six pages of names of users of Hilger Spectrographs are an interesting indication of the widespread use of spectro-analytical methods.

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New Jena Glassware.—Laboratory workers and admirers of Jena glassware will be glad to learn that a new Jena glassware has been introduced under the title "*Duran Glass*" which combine the chemical characteristics of the Jena glassware with the resistance properties generally associated with Pyrex and similar class. The physical properties are:—

Coeff. of expansion, 3.6×10^{-6} ; annealing temperature, 539°C .; Tenacity per gramme, 774°C . whilst the chemical properties are summarised by—loss of weight in mg. per decimetre square is 0.008 in water in 3 hours, 0.37 in 20% HCl and 1.47 in normal NaOH plus normal Na_2CO_3 at 100°C . This glass epitomises all the requirements of the laboratory. Stocks are being held by the agents—Messrs. Adair, Dutt & Co., Ltd.

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Announcements:—

The Fifteenth International Congress of Medical Hydrology, Climatology and Geology will be held at Belgrade in October. Further information can be obtained from Prof. Milontine Neskovitch, 3 rue Takowska, Belgrade.

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The Second International Congress of the Scientific and Social Campaign against Cancer will be held in Brussels on September 20-26, under the patronage of their Majesties the King and Queen of the Belgians. Further particulars can be had from the General Secretary, 13 rue de la Presse, Brussels.

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Nature announces that the Third International Congress for Investigation of Light will be held at Wiesbaden on September 1-7, under the presidency of Prof. W. Friedrich, when discussions will be held on the biology and physics of light and treatment of light. Further information can be obtained from Dr. H. Schreiber, Robert Koch Platz 1, Berlin, N. W. 7.

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At the invitation of the Society of Glass Technology, an International Congress on Glass will take place from July 2 to July 11, 1936. The meetings will be held for the most part in

London, while a few will be held also in Sheffield. The arrangements for the technical programme have been made by the International Commission on glass which was set up at Milan three years ago. Further information can be obtained from Prof. W. E. S. Turner, Society of Glass Technology, Darnall Road, Sheffield 9.

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CORRECTIONS.

(1) In the letter: Roonwal, M. L., 1935. 'Fate of the Embryonic Membranes in Insects.'—*Current Science*, Vol. IV, No. 5, pp. 317-18, the insect, the fate of whose embryonic membrane has been described, is *not* the European Migratory Locust, *Locusta migratoria* L., but the African Migratory Locust, *Locusta migratoria migratoriodes* R. & F. Since definite physiological differences have been found between the two sub-species, it is obviously necessary to indicate one's material as exactly as possible.

I am indebted to Mr. B. P. Uvarov of the Imperial Institute of Entomology, London, for this correction.

M. L. ROONWAL.

(2) *Current Science*, 1936, 4, 656-657.—The contribution "A Modification of Dixon's Constant Pressure Respirometer" should have appeared under the joint authorship of B. N. Singh and P. B. Mathur. Only Dr. B. N. Singh's name has been mentioned. We regret the error.

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We acknowledge with thanks the receipt of the following:—

"Bulletin of the U. P. Academy of Sciences," Vol. 6, Part I, February 1936.

"Actualites Scientifiques et Industrielles," Nos. 219, 249, 250-253, 256-259, 260-263, 265, 292-294.

"The Agricultural Gazette of New South Wales," Vol. XLVII, Part 3, March 1936.

"Journal of Agricultural Research," Vol. 51, Parts 10-11, Nov.-Dec. 1935.

Department of Agriculture, Dominion of Canada, Bull. 2.—"Improved Market Type in Poultry Breeding Stock"; Bull. 3.—"Farmers' Business Organization in Canada," 1935.

"The Philippine Agriculturist," Vol. XXIV, No. 10, March 1936.

"The Allahabad Farmer," Vol. X, No. 2, March 1936.

"Journal of the Royal Society of Arts," Vol. LXXXIV, Nos. 4344-4348.

"Biochemical Journal," Vol. 30, Nos. 1 and 2, Jan.-Feb. 1936.

"Journal of the Indian Botanical Society," Vol. 15, No. 2.

"Communications from the Boyce-Thomson Institute," Vol. VII, No. 4.

"Journal of the Institute of Brewing," Vol. XLII, No. 3, March 1936.

"Chemical Age," Vol. XXXIV, Nos. 869-873.

"Journal of Chemical Physics," Vol. 4, No. 3, March 1936.

"Berichte der Deutschen Chemischen Gesellschaft," Vol. 69, No. 3.

"Russian Journal of General Chemistry," Vol. V (LXVII), No. 12.

"Journal de Chimie Physique," Vol. 33, No. 2.

"Experiment Station Record," Vol. 74, No. 2, February 1936.

"Transactions of the Faraday Society," Vol. XXXII, No. 3, March 1936.

"Indian Forester," Vol. LXII, No. 4, April 1936.

"Indian Forest Records—Vol. I, No. 12.—"Entomological Investigations on the Spike Disease of Sandal (26) Coccidæ (Homopt.)"

"Indian Forest Records—Vol. II, No. 1.—Shrinkage studies in Indian Woods I. Effect of high temperature on the shrinkage and moisture equilibrium of wood."

"Forschungen und Fortschritte," Vol. 12, Nos. 7-9.

"The Quarterly Journal of the Geological, Mining and Metallurgical Society of India," Vol. VII, Nos. 3 and 4.

Government of India Publications—"Monthly Statistics of Production of certain Selected Industries of India, Department of Commercial Intelligence and Statistics," Nos. 8 and 9.

Government of India Publications—Indian Meteorological Department, Vol. 6, No. 67.—"Measurement of Vertical Currents in the Atmosphere mainly of Thermal Origin with Pilot Balloons."

"Indian Trade Journal," Vol. CXX, Nos. 1551-1553; Vol. CXXI, No. 1554.

"Marriage Hygiene," Vol. II, No. 3, February 1936.

"The Calcutta Medical Journal," Vol. 30, No. 9, March 1936.

"Medico-Surgical Suggestions," Vol. 5, Nos. 2 and 3.

"Journal of the Annamalai University," Vol. V, No. 2.

"Annual Report of the Calcutta School of Tropical Medicine and the Carmichael Hospital for Tropical Diseases," 1934.

"The Calcutta Review," Vol. 59, No. 1, April 1936.

"The Presidency College Zoology Magazine," Madras, Vol. 3, No. 5, 1936.

"Review of Applied Mycology," Vol. 15, Nos. 2 and 3.

"Journal of the American Museum of Natural History," Vol. 37, Nos. 2 and 3.

"Nature," Vol. 137, Nos. 3460-3464.

"Journal of Nutrition," Vol. 11, No. 2.

"Canadian Journal of Research," Vol. 14, Nos. 1 and 2 and Index to Vol. 13.

"Journal of Research," National Bureau of Standards, Vol. 15, Nos. 5 and 6.

"Ceylon Journal of Science," Section B.—Zoology and Geology, Vol. XIX, Part 3.

"Science and Culture," Vol. I, Nos. 10 and 11.

"Lingnan Science Journal," Vol. 15, No. 1, Jan. 1936.

"Scientific American," Vol. 154, Nos. 3 and 4.

CATALOGUES.

"Bell's Miscellany," Spring 1936 (G. Bell & Sons, Ltd.)

"New Books in General Literature," Spring 1936 (Edward Arnold & Co., Ltd.)

"Monthly List of Books on Natural History and Science," March 1936 (Wheldon and Wesley, Ltd.)

"Mitteilungen über Neuerscheinungen und Fortsetzungen, Nos. 1 and 2" (Verlag von Gustav Fischer in Jena).