

phosphorus. The chemical nature of catalase has been reviewed by Summer and the functional character of the low molecular weight prosthetic groups—coenzymes which include vitamins, heavy metals, etc., is discussed by Green whose share in the development of this field has been large and spectacular. Other contributions include reviews on photosynthesis, Bacterial photosynthesis, Enzymatic processes in living plants and the Digestion in lower vertebrates. It will thus be seen that the volume covers a wide and comprehensive field of Enzymology and related subjects. Scientific workers will feel particularly grateful to Professor Nord and his collaborators for inaugurating this series and we wish to take this opportunity of wishing their venture an uninterrupted career of service in promoting the advancement of Enzymology.

**Modern Pottery Manufacture.** By H. N. Bose. (Ceramic Publishing House, 1, Church Road, Bhagalpur), 1942. Pp. vi + 481. Price Rs. 6-8-0.

This book has been written mainly as a text-book for undergraduate students of ceramics in India, but it will also be found useful to many practical workers in the field, particularly for the assortment of practical formulas using Indian raw materials which have been tried out by the author in the laboratories and ceramic plants of the Benares Hindu University. Considered purely from the didactic point of view, there is scope for improvement in the presentation: expressions such as "graphite is a peculiar form of carbon" on page 320, and elementary portions such as the "mathematical calculations" on page 437, can be eliminated, and some of the diagrams such as Figs. 6, 23, 25 and 51 can be corrected and improved. An index will add considerably to the value of the book as a reference volume, particularly as it embraces all the different branches of the subject such as porcelain, stoneware, refractories, fuels, furnace and kilns, in one handy volume. We do hope that in the future editions to come, this essentially practical volume will grow to a higher standard of usefulness to all ceramists in India.

The book is rightly dedicated to "Reverend Pandit Madan Mohan Malaviya, the great Indian Educationist, who had the keen insight to recognise the importance of Ceramics to India, and first started the scientific training in the subject in the Benares Hindu University. S. J.

**Pheretima (An Indian Earthworm).** By Karm Narayan Bahl. (*The Indian Zoological Memoirs*, Lucknow), January 1943. Price Rs. 1-12-0.

The series of Zoological monographs entitled "Indian Zoological Memoirs" is so well known to all zoologists in this country that it should not need any further introduction for the readers of *Current Science*. It may, however, be noted that the series was started in 1926 under the editorship of Dr. Karm Narayan Bahl, Professor of Zoology, Lucknow University, and eight memoirs have already been published. The memoir under review is the third edition of the first memoir of the series, the editor's *opus magnum*, on *Pheretima* (an Indian earthworm). The first edition was published in 1926, the second in 1936, while a new and entirely revised edition has been issued in January 1943. The usefulness of the work can be gauged from the fact that within less than two decades two new editions have been issued.

The work, as it stands, is probably the most complete account available of any of the commoner Invertebrates of India. The author has spared no pains in bringing the text up-to-date by incorporating the results of all recent work, by thoroughly revising the descriptive account, and by the incorporation of additional illustrations. He has also indicated where our knowledge about this worm is deficient and where further research is desirable. The memoir is excellently printed and is remarkably free from misprints. The author deserves the best thanks of the zoologists in India for this excellent memoir, and it is hoped that further volumes in the series will be published as and when ready so as to provide students of Indian Zoology with authoritative accounts of various Indian types. B. P.

## INDIAN STATISTICAL CONFERENCE

A LAST minute change in the venue of the Conference, the inability of the Governor of the Province to open the Session in person and with customary ceremony, a demonstration at the gates timed to synchronise with the arrival of the Vice-Chancellor of the University and the Chairman of the Reception Committee, and above all, the threat of air raids and the sight of enemy aircraft actually brought down in wreck and fire in the area, are not occurrences expected by any known statistical law or hypothesis and yet the goodness of fit between the Sixth Session of the Indian Statistical Conference at Calcutta in January last and the previous five annual meetings is both high and helpful. There was a Message from His Excellency the Governor which reminded that when peace comes, when

commerce, future of industry and of the economic life of the peoples have to be planned, it is statistical science that would largely help in fashioning them. The Hon'ble Mr. N. R. Sarkar stressed the same thought in his presidential address. "It is well nigh impossible", said the President who is also the Commerce Member in the Viceroy's Executive Council, "to prosecute a totalitarian war without the aid of the statistician at every turn. Problems of price control, rationing, production and distribution of food and clothing, maintenance of real wages and regulation of dearness allowance, all these required careful collection of data and the scientific study of relevant statistics."

The stage thus set was a valuable lead to the scientific meetings of the Conference. In

the discussion on Applied Statistics, Professor Benoy Kumar Sircar explained the use of statistics in economic planning with special reference to Russia. Census figures of Bengal, enquiry on behalf of "Capital" into the budgets of Anglo-Indian and European families in Calcutta, the Labour Office inquiries in Nagpur, the defects of Laspeyer Index and the method of sample surveys were brought into the scope of the discussions. In the course of the development of each bit of scientific knowledge there comes a time when the experimental technique must be questioned. Are they adequate to furnish the demanded precision of results? Is the most helpful point of attack in the laboratory methods or in the experimental material? Fortunately statistical methods supply answers in many cases with little or no extra labour in collecting data, provided only that slight but necessary modification be included in the plan of the experiment. This possibility has been brought to the foreground in a very clear manner in the analysis of agricultural statistics, and quite naturally that subject claimed a session for itself in the discussions. The Chairman, Mr. R. C. Bose, drew attention to the use of Finite Geometries in furnishing completely general solutions for all problems concerning Symmetrical Factorial Designs. The scope of the teaching of Statistics in Indian Universities, with equal emphasis on analytical and descriptive statistics, elicited good discussion in which Prof. F. W. Levi, Prof. P. C. Mahalanobis, and Mr. Tu Yun Sun of the National Tsing Hua University, took part. Earlier in the day, Dr. B. C. Roy, as Chairman of the Reception

Committee, had narrated the measures taken in that direction by the Calcutta University.

No account of the Statistical Conference can be complete without reference to the work of the Calcutta Statistical Laboratory and to the journal *Sankhya*, both of which, as His Excellency rightly acclaimed, are "monuments to the foresight and indefatigable labours of Professor Mahalanobis to whose devoted enthusiasm for statistics India is deeply indebted". The Statistical Laboratory has undertaken with great success a large number of inquiries on behalf of the Government of India as well as Provincial Governments and of States such as the production of important food crops like paddy and wheat, cash crops like jute and sugarcane. It has investigated problems of flood control and irrigation, anti-malaria measures, nutritional programmes, cinchona production, average lifetime of rupee notes in circulation and so on. The list of papers published and reports submitted during 1942 includes no fewer than thirty titles from ten different authors. The financial condition of such an Institute must undoubtedly be above anxiety, but in the words of the Honorary Secretary, "this year, for example, no less than two lakhs of rupees will have been spent, but in three months' time our income may literally drop to zero because we have no permanent grants or endowments. Though this very insecurity has developed our self-confidence, there is a point beyond which such insecurity begins to exert a harmful influence". It is to be hoped that the contingency last indicated may never arise.

K. B. M.

## CENTENARIES

### Banks, Joseph (1743-1820)

JOSEPH BANKS, British botanist and pioneer explorer, was born in London, 13 February 1743. He was immoderately playful till his fourteenth year when he suddenly became a botanist in a burst of schoolboy enthusiasm. One fine summer evening he had stayed bathing in the Thames so long, that he found that all his companions had gone. Walking back leisurely along a lane, he was struck by the beauty of the flowers on either side. He immediately decided to learn botany. He learned from a woman employed in collecting herbs for a druggist's shop paying her six pence per lesson. When he went home for the next holidays, he picked up Gerard's *Herball* in his mother's dressing room. This not only described his plants but also contained engravings of them. When he went to Oxford in 1760, botany was not taught there. But his enthusiasm for the subject made him go to Cambridge and bring a private tutor.

His father's death brought him an ample fortune and an estate. He, therefore, left Oxford in 1763. But his superior attainments in natural history secured for him Fellowship of the Royal Society as early as 1766.

The epic days of scientific exploration began

with Banks, who obtained permission to accompany Captain Cook in his *Endeavour* taking his own technical staff with him. The *Journal* which he kept was utilised in the relation of that famous voyage round the world (1768-1771). It was admirably kept and he never let a day pass without an observation. After changing several hands the *Journal* was finally deposited in the British Museum and was not printed till Hooker edited and published it in 1896.

Banks was elected President of the Royal Society in 1778 and his drive caused quite a stir in the Society and in spite of much revolt from some he kept that position till his death. Though his writings were very few and some of them still remain as manuscripts in the British Museum, he employed himself with extraordinary zeal and industry to collecting and observing. His contribution to the growth of science was even greater as a munificent and influential patron. His vast collections and his library, the biggest of its kind in the country, were freely accessible to all scientific men and his house in Soho Square was the focus of science. His library is still preserved by itself in a room of the British Museum and his collections, at South Kensington.

He was scientific adviser to George III,