

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,