tion of rock phosphate with soda ash; a further forty tons of the silicophosphate obtained have been prepared in the pilot rotary kiln for field experiments. The ceramics branch has developed a new technique for building bricks by bonding non-plastic quarry waste with the minimum of highly plastic clay and firing in a kiln to give a building block cheaper than dressed natural stone. Advice has been given to the commercial pottery branch of the Industrial Management Board, and the production of alternative low-cost building materials has received attention, particularly murram, a natural formation consisting of coarse materials, rotten rock or concretionary iron ironstone bonded with clay. Promising results have been obtained in the extraction of pyrethrins from fresh flowers by a three-stage counter-current process, and a hæmoglobin digestion method has been developed for the assay of papain. Further work has been carried out in connexion with the manufacture of totaquina, including improved methods of analysis and study of the conditions for the maximum recovery of quinine and cinchonidine. A method of testing samples of diatomites as filter aids was standardized, and the amelioration of the pollution of streams by effluents from coffee and sisal factories was studied intensively; small-scale plant trials indicate that at least 90 per cent purification of the coffee effluents can be effected by biological filtration. Work was completed on the tannin content of different varieties of mangrove bark.

World Supplies of Oils and Fats

THE address "Rebuilding Europe's Fat Supplies the Problem and How to Meet It", delivered by the chairman of Lever Brothers and Unilever, Ltd., at the annual general meeting of that company on September 8, has been reprinted, with a graph and a series of statistical appendixes (Pp. 24. Lever Bros. and Unilever, Ltd., London). The survey of pre-war, war-time and post-war supplies leads Mr. G. Heyworth to the conclusion that there is at present an annual world shortage of some four million tons of oils and fats, and although supplies can be increased, the process will be slow. The tendency for producing countries to consume a greater part of their own products, as well as the tendency towards a heavier consumption of milk, particularly in the United States and Great Britain, and the serious decline in the production of oils and fats in Western Europe, are new contributing factors; and it is estimated that the world production for 1947 will have been about two and a half million tons below the pre-war figure. Allowing for the increase in world population, the gap between supply and demand is too big to permit abandonment of Government controls in either Great Britain or Holland at present; but the control system in Western Europe can be operated so as to improve the terms of trade by more effective combination in the purchase of raw materials and by the removal of subsidies on the finished products.

Mr. Heyworth is emphatically of the opinion that the earliest abolition of the subsidies on food in Britain is essential. Home production in the countries of Western Europe can be increased and production in overseas territories, which were exporters before the War, must be restored to the full, and high priority given to the re-establishment of conditions which make this possible. Additional production must be found by bringing into cultivation unused tracts of land, as typified by the East African Groundnut Scheme, and additional amounts of detergents should be manufactured from materials derived from mineral oil. He even suggested the temporary suspension of the present international limitation on the catching of whales. Finally, he urged better utilization of existing production facilities generally, and the forgoing of expenditure on activities which do not immediately contribute to the alleviation of essential shortages.

Control of Atomic Energy

THE Society of Calvinist Lawyers and the Christian Society of Scientists and Physicians in the Netherlands held a meeting at Amersfoort, Netherlands, during November 15–17, 1947, to discuss the problem of atomic energy. Addresses were delivered by Dr. D. J. Lock on "The Military Aspect", Dr. C. C. Jonker on "The Economic Aspect", Dr. Gezina H. J. van der Molen on "The International Aspect", and Dr. R. Schippers on "The Ethical Aspect". The meeting was presided over by the presidents of the two societies, Prof. P. S. Gerbrandy and Prof. G. J. Sizoo. A number of resolutions were adopted, some dealing with spiritual aspects of the problem, and others with the material side. Among the latter, it was noted that the atomic weapon itself does not bring about an essential change in warfare, although the extent of its destructive power is so great that it is not possible to restrict the force of arms to purely military objects. On account of this exceptional character, international control and inspection of the atomic weapon is imperative. Prohibition of the atomic weapon without international control must be rejected as absolutely inefficient in view of former experience with similar prohibitions. Since the application of atomic energy for peaceful purposes leads inevitably to the possibility of preparing for military applications, the production and use of atomic energy for peaceful purposes come within the sphere of international law, and should be put under the supervision and inspection of an international organisation. It was resolved that national sovereignty is not a legal ground for rejecting international control of atomic energy. All nations, it was concluded, should, in view of the far-reaching effects of atomic energy problems, make the utmost effort to find peaceful solutions of international differences.

Horace Wells and Anæsthesia

A CENTURY ago, on January 24, 1848, one of the principal actors in the drama of anæsthesia died in prison by his own hand at the age of thirty-three. Born at Hartford, Vermont, on January 21, 1815, Horace Wells studied dentistry at Boston, and practised at Hartford, Connecticut. The idea of inhalation anæsthesia occurred to him on December 10, 1844, during an exhibition of 'laughing gas' by a New York showman, Gardner Quincy Colton, when a young man, Sam Cooley by name, under the influence of the gas severely bruised his leg without apparently feeling any pain. The following day Wells had a troublesome wisdom tooth painlessly removed under nitrous oxide. In January 1845 he went to Boston to demonstrate his discovery at the Harvard Medical School. The experiment went wrong, and the young dentist left the theatre with the words 'charlatan' and 'humbug' ringing in his ears. His physical and mental health now began to decline. The last chapter of his life is steeped in obscurity. On January 24, 1848, in Tombs Prison, New York, he committed suicide under chloroform anæsthesia—slashing his

femoral artery with a razor. In 1864 the American Dental Association, and in 1870 the American Medical Association, declared Wells to be the real discoverer of anæsthesia.

Animal and Human Sex Behaviour

ANIMAL and human sex behaviour are the subjects of five papers published in the *Annals of the New York Academy of Sciences* (**47**, Art. 5, 603–664; May 1947). These papers were given at a conference on physiological and psychological factors in sex behaviour held by the Sections of Biology and Psychology of the Academy in March 1946. Prof. S. B. Wortis, in his introduction, says that the conference revealed new material and indicated correlations which emphasize the need to change our attitudes to human sexual behaviour, and he hopes that this material may help to modify the law relating to these matters. He was speaking to Americans, but progressive opinion in Britain has more than once expressed a similar point of view. American and British cultures are not so different that they cannot, in matters like this, be regarded as one. Many of the opinions expressed at this conference will therefore interest British readers of them. There are two papers on animal sex behaviour by W. C. Young, who discusses animal endocrines, and W. E. Galt, whose subject is primate sex behaviour. A. C. Kinsey spoke briefly upon sex behaviour in the human animal, Morris Herman gave a paper on aberrant sex behaviour, and Gregory Bateson gave one on sex and culture.

Historical and Philosophical Society of Jerusalem

IT has often been said that the academic discipline provides a foundation on which international collaboration can be built. The Jerusalem Historical and Philosophical Society, formed in March 1946, with the object of promoting the study of history, philosophy and literature among the Arab, British and Jewish communities of Palestine, is good evidence of such collaboration. The Society meets once a month, when papers are read by members or guest lecturers, and the three subjects, history, philosophy and literature are taken in rotation, four papers a year being devoted to each subject. Membership is limited and is by invitation only, the sole qualification being an academic interest in one of the three subjects. At present, several of the Arab members belong to the Government Arab College, British members are drawn from the staff of the British Council in Palestine, and Jewish members from the staff of the Hebrew University; the Department of Education is also represented. So far it has not been possible to print papers in full; but Dr. W. Yourgrau has produced short summaries of seven papers presented during the Society's first year. The president is Sir William FitzGerald, chief justice of Palestine, and the honorary secretary and treasurer is Miss E. Cunnington, Jerusalem, P.O. Box 2.

Calcutta Statistical Association Bulletin

THE publication of *Sankhyā*, one of the leading statistical journals, and the work of Prof. P. C. Mahalanobis, Dr. P. V. Sukhatme and others for national and international statistics, establish India's claim to be considered in the front rank of nations contributing to the theory and application of statistical science. The Calcutta Statistical Association, a new society, has produced a *Bulletin*, the modest aim of which is to publish popular expositions of statistics; if the journal has the support of the Calcutta school, a high standard should be assured. The first number (No. 1. August 1947. Pp. 1–48. Calcutta, 3*s*.) contains an interesting brief history of crop-sampling in India from the time of Akbar to the present day, a criticism of the recent report of the Indian Central Pay Commission, simple accounts of statistical aspects of public opinion surveying and mental testing, and several shorter notes. The problem of making modern statistical techniques intelligible to readers who lack formal training in the subject has been courageously, though not always successfully, tackled. A more critical approach and increased care in the choice of words should make this *Bulletin* of considerable interest and value outside, as well as inside, India.

Modern Apparatus for Visual Aids

A RECENT publication offers a priced catalogue of representative items in the range of equipment for visual aids in education (Visual Aids: Notes on some Modern Apparatus. By Wilfred J. Garnett. Pp. 36. Manchester: Flatters and Garnett, Ltd., 1947). Each instrument is concisely described, and the pros and cons of each corresponding method of visual presentation are outlined with admirable fairness and objectivity. The most spectacular of the items listed are probably the microprojector and the patent demonstration mirror; the former as an example of functional efficiency, the latter in view of its comparatively recent development as a visual aid. As a guide to the purchaser of equipment who seeks the best possible results in the way of visual reproduction the author is thoroughly dependable. (The section on "Types of Screen" is particularly helpful, and the actual specimen of 'beaded' screen material does all that is claimed for it.) Technical perfection, however, is not always the last criterion. The technical limitations of film strip sometimes make slides preferable. Yet the growing popularity of film strip among teachers cannot be questioned. The advantages of lightness, compactness and, above all, cheapness are overwhelming. Film strip has come to stay; can science now produce the non-scratch film?

Danish Institution of Civil Engineers

IN response to an invitation received from the Danish Institution of Civil Engineers (Dansk Ingeniørforening) Sir Stanley Angwin is representing the presidents of the Institution of Civil Engineers, the Institution of Mechanical Engineers and the Institution of Electrical Engineers in Copenhagen on January 21 and 22 in the celebrations organised by the Danish Institution to mark the opening of their rebuilt headquarters building "Engineering House". The new headquarters replace the Institution's building totally destroyed by the R.A.F. in the spring of 1945, together with the next-door building which the Germans were using as Gestapo headquarters.

International Union of Crystallography

AT the invitation of the American Society for X-ray and Electron Diffraction and of the Crystallographic Society of America, the first General Assembly and International Congress of the Union will be held at Harvard University, Cambridge, Mass., U.S.A., during July 28–August 3, 1948. Delegates to the General Assembly will be nominated by the national academies of countries adhering to the Union; but all crystallographers are cordially