

million on 'Problems of Population'. The foundation also spent \$7.8 million on university development, \$3.3 million on 'cultural development' and \$4.9 million on 'equal opportunity for all'.

Mr Harrar points out in his review that all efforts to provide food and other material requirements will fail unless the rate of world population increase can be significantly reduced. The Rockefeller Foundation adopted the 'Conquest of Hunger' as one of its principal objectives in 1963. Important grants in this area during 1966 included one of \$533,000 for five years to the University of Nebraska Foundation for research on the physiology of sorghum yield and sorghum management, and another of \$100,000 for a three year period to the US National Academy of Sciences, for a multidisciplinary research and training programme, administered by the Africa Science Board's Subcommittee on the Development of Water Resources.

Much of the foundation's effort in the problems of population has gone into demography. Among the grants awarded were \$350,000 for a two year period to the Population Council, New York, for an international study of the effectiveness of family planning measures undertaken in the postpartum period, and \$400,000 for a three year period to the University of North Carolina for the preparation of educational material on population and the development of a computerized information retrieval service.

Teaching Abroad

AN exhibition to introduce teachers in developing countries to recent advances in British science teaching has been organized by the British Council under the title of "New Approaches to Science Teaching". The emphasis of the exhibition is on teaching pupils to discover for themselves and thus to learn by understanding. With such an emphasis it is hardly surprising that the displays lean heavily on the Nuffield Science Teaching Project and the Scottish Education Department for their material. The exhibition covers the teaching of science in junior and secondary schools, and includes records and films. The organizers hope that the exhibition will encourage teachers in developing countries to evolve their own projects using local materials; from this point of view it may be a handicap that the contents of many of the displays are so western in character, from the examination question about tube trains to the projects on English insects. Nevertheless this exhibition, which goes first to Nigeria, will doubtless do a lot to advance science teaching in underdeveloped countries.

Museum for Stargazers

THE £84,000 spent by the Ministry of Public Building and Works on the restoration of the Meridian Building at the Old Royal Observatory, Greenwich, is money well spent. The building has been restored to all its former glory, with the rooms and instruments reinstated, as far as possible, as they were used. The building, part of the National Maritime Museum, was opened to the public last Wednesday (July 19) by Sir Richard Woolley, the Astronomer Royal. Its history of nearly 300 years in the forefront of astronomical and navigational discovery is well presented for all types of visitor, from the package-tour rusher to the

serious student. It contains Airy's transit circle room from which the Prime Meridian is defined. Some visitors will be a little startled to find that there are, in fact, three meridians: Flamsteed's of 1681, Bradley's of 1750 and Airy's of 1850. Most of the instruments shown are the original ones used by the various Astronomers Royal. They include Bradley's 8 ft. Mural Quadrants, Airy's Transit Circle, Halley's Transit and many others, all tributes to the design and workmanship which made accurate observations possible.

Progress in Welding

THE annual report of the British Welding Research Association for 1966 makes confident reading. The past year, as well as showing a significant growth in membership and research facilities, has brought better grant conditions from the Ministry of Technology. The ministry is now prepared to contribute 150 per cent on subscription income instead of the standard 100 per cent, up to a maximum of £350,000. Income last year was £644,487, an increase of nearly £80,000 over 1965. Expenditure increased by £105,000, to £614,363, and BWRA employs about 150 technical staff, almost half of them graduates.

A large part of the association's income is spent on advisory and liaison services. This includes visits by members of staff to member firms to advise on problems, and the information service run by the association. The most interesting problem studied by the information service during the year was the brittle failure of a pressure vessel while still under test at the manufacturer's works. Another investigation was one carried out for Samuel Fox and Co., Ltd., which showed that a new series of austenitic stainless steels (Hi-proof 316) developed by the company are suitable for pressure vessels, and offer considerable savings in cost and weight.

Much of the work was naturally concerned with welding processes. One of the largest friction welding machines in the world was designed and built during the year. In friction welding, a rotating piece is brought into contact with a stationary piece under pressure. The heat generated causes the two to bond, and the association reports that the technique is now being used industrially for welding turbine wheels to shafts and valve heads to shafts. In the metallurgical laboratories, work has gone on on burning and hot tearing in structural steels, and the avoidance of embrittlement and stress corrosion in welds in high strength aluminium alloys. A considerable amount of work on brittle failure seems to have been carried out, chiefly because brittle fractures are almost invariably initiated from weld defects.

Preservation by Co-operation

IN an effort to educate gamekeepers and anyone else who goes to the country to shoot predatory animals the Council for Nature, in association with the British Field Sports Society, the Fauna Preservation Society and the Game Research Association, has produced a booklet *Predatory Mammals in Britain*, a code of practice for their management (The Council for Nature, price 5s.). The booklet was prepared by a working party—set up at a conference on mammalian predators in Britain in 1965—whose members represented con-