

at the same time of converting atmospheric nitrogen into protein, which probably exist in several of the foregoing groups.

(7) Preliminary essays in this direction, the production of food yeast and of *Chlorella* have been discouraged by two factors: first, because insufficient attention has been directed to the preparation of sufficiently attractive materials from the crude micro-organism; secondly, and more important, by the demonstration that such products do not yet compete economically with orthodox

foods. But, with increasing demands on orthodox food supplies, this situation may soon change.

(8) The world shortage seems likely to become acute in the next ten or twenty years, which is not a long period for developmental research of the nature likely to be required, especially as many of the relevant micro-organisms have been little studied hitherto. To permit application of such research in time, it is recommended that Governments encourage it now, even though it be uneconomic at present.

THE CARNEGIE UNITED KINGDOM TRUST

THE forty-ninth annual report of the Carnegie United Kingdom Trust*, covering the year 1962, in which grant payments fell to £74,870 from £152,533 in 1961, deals largely with the working out of settled policies in the second year of a quinquennium. A start was made with the distribution of a quinquennial allocation of £100,000 for the social requirements of new communities in offers of up to £10,000 to the Borough Council of Thetford, one-third of the possible cost of developing a central site for this purpose, and £1,000 to the Basildon Youth Association. A launching grant of £3,000 was made towards the establishment of the headquarters of a National Bureau for Co-operation in Child Care. The quinquennial allocation of £100,000 for the youth service has now been committed to the extent of one-quarter in the form of improvement grants for 160 youth clubs, but there is still a dearth of new ideas which are pioneer in the national sense and not supported from other sources.

In the Arts, the Trust is maintaining its annual subvention of £1,000 to the Museums Association until the end of March 1964, and a special grant of £1,000 was awarded for up-to-date office equipment and appointments in the Association's new headquarters. Sixteen expert reports were commissioned at the request of museums throughout Britain, and arising out of these or earlier reports nine grants, totalling £5,350, were recommended for immediate improvements in existing displays, and expenditure of £6,000 on museums reorganization included expenditure on schemes of improvement at twelve museums completed during the year and payments to account for expenditure on six similar projects.

Under education, besides the grants for youth service already noted, a small grant of £270 was made to the

Young Men's Christian Association at Norwich to provide equipment for use in day camps for young people with which the Association is experimenting. The Trust is also contributing up to £20,000 towards the cost of a centre in the Brecon Beacons National Park, on a site adjacent to Mynydd Illtyd Common, as a mountain rendezvous and shelter on the understanding that the remaining capital cost and maintenance will be provided by Government grant or local authorities. Bursaries were paid to 44 people attending courses at field-study centres in England and Wales and 24 to others attending courses in Scotland, and over the six years of this policy more than 500 people have received bursaries. Grants totalling £915 were made to archaeological societies towards the cost of 14 practical projects in which amateurs could be trained under skilled direction, and it is estimated that about 300 people participated, but only two applications were received for grants under a similar scheme for the benefit of natural history societies associated with the Council for Nature. A further grant of £3,000 went to the Council for Nature for the expenses of the Conservation Corps, which should become independent of the Trust's subvention by the end of 1963. Grant aid continued to the British Astronomical Association for promoting astronomy as a worth-while amateur activity, but only four events were carried through—three being well-attended open meetings, for which grants will not in future be available. Assistance is also being given to the Royal Meteorological Society to meet a growing interest in meteorology as an educational and cultural pursuit for amateurs and, for the four years 1962-65, £2,000 has been allocated at the rate of £500 a year. In 1962 this was spent mainly on eight courses, five at field studies centres, one at Falmouth Sailing Centre on weather and sailing, and two on meteorology and gliding at Lasham Aerodrome, near Alton, and at Portmoak, Kinross-shire.

* The Carnegie United Kingdom Trust. 49th Annual Report, 1962. Pp. viii + 66. (Dunfermline, Fife: Carnegie United Kingdom Trust: 1963).

TEXAS INSTRUMENTS INC.

THE 1962 annual report of Texas Instruments Inc., Dallas, Texas*, states that the Company continues to be the world's leading producer of semi-conductors, although they constituted less than half the Company's sales volume. Texas Instruments is one of few manufacturers the semi-conductor operations of which remained profitable in the face of continued severe price competition. It attributes this success to the emphasis placed on the mechanization of manufacturing processes. More than a hundred different types of transistors were introduced during 1962.

The report highlights the increasing demand for the Company's 'Solid Circuit' semi-conductor networks. These integrated circuit devices are to be used in the improved

version of the *Minuteman* intercontinental ballistic missile, and initial production—quantity orders totalling more than a million dollars have been received. In addition, contracts for networks to be used in an improved airborne radar computer indicator for the naval *W2F-1* early-warning aircraft and for use in an important airborne electronic countermeasures system have been obtained. The production of new metallurgical, electrical and thermostatic devices reached a high level, as also nuclear core fabrication for which new contracts in excess of twenty-one million dollars were received during the year.

Dealing with geophysical activities, the report mentions that a number of significant new seismic signal enhancement methods which reached the production stage aided considerably the petroleum exploration services of the Company. The three marine exploration vessels

* Texas Instruments Inc. 1962 Annual Report. Pp. 8. (Dallas: Texas Instruments Inc., 1963.)