

1957), which is well produced, with large print and generous margins, to show whether it is typical of what is to come. Its ninety pages consist solely of a thesis presented for a doctorate by D. G. Zachos to L'École de Hautes Études Agronomiques d'Athènes. The work described was done at the Station Centrale de Pathologie Végétale, Versailles, and falls into three parts: the first deals with the movement of tobacco mosaic and potato X-viruses in tomato plants, the second with interactions between the two viruses which together cause streak of tomatoes, and the third with the effects of infection on certain oxidizing systems. The most striking phenomenon reported is that, in plants simultaneously infected with tobacco mosaic virus, potato virus X may reach more than three times the concentration it reaches in plants infected with it alone, but considerable evidence is also presented indicating a correlation between virus multiplication and the activity of three oxidases, with catalase activity varying inversely with that of the oxidases.

#### Microrecording in Libraries

THE Library Association has recently published as Pamphlet No. 17, entitled "Microrecording in Libraries", by J. Burkett (Pp. 55. London: Library Association, 1957. 8s. 6d.), a review of present practice which provides a most useful and concise account of the various types of microrecord and ancillary apparatus with a discussion of their advantages as well as their limitations. Publishing facilities are summarized and there is a section on uses of microphotography, including a note on the use of microrecording in university and other libraries in Britain. Guidance is given on the choice of both process and reader, and there is a good bibliography. Although the pamphlet is well up to date, it just misses including a reference to the new and greatly improved portable microfilm and microfiche 'Dagner' reader, developed by J. H. Mullens of The Hague, which on price grounds alone has special claims on the interest of the university or technical college libraries.

#### Research Guide

"Scientific Research in British Universities, 1956-57" (pp. vii + 405. London: H.M. Stationery Office, 1957. 22s. 6d.), like the previous volumes in this series, provides brief notes on scientific research in progress in British universities and university colleges during the period in question, describing the nature of the projects in sufficient detail to indicate the scope of the research. Under each entry the departmental head is named, together with those of members of the staff engaged in supervising research, and the entries are arranged alphabetically, first by universities and university colleges and then by subject. There are alphabetical name and subject indexes. The material has been collected by the British Council from heads of university departments.

#### Science in the Primary School

A USEFUL introduction to science has been described by B. L. H. Hampson, of Thomas Street School, West Gorton, Manchester (*School Nature Study*, 52; October 1957). He suggests that science teaching in the primary schools should no longer be restricted to Nature study, and that there should be substituted instead a logical starting-point for a general science training and the establishment by progressive stages

of a comprehensive foundation of general science knowledge from which any secondary phase of science education could be developed. Ways in which these principles have been put into practice in his own school are described as well as the conclusions reached by Hampson after six years experience. Recent reports have shown that the principles enunciated have been applied in both junior and infant schools in other parts of Britain.

#### Further Education in the North of England

THE tenth annual report of the Northern Advisory Council for Further Education contains interesting information about the way the pattern of technical education in the north of England has changed recently. Between 1954-55 and 1956-57 the number of full-time students increased from 3,797 to 4,640; part-time day students increased from 21,882 to 26,482. In evening classes at technical colleges, however, the increase in the number of students was very slight, from 27,179 to 29,179; in evening institutes the number of students decreased from 75,328 to 62,680. These changes were reflected in the kind of courses for which students enrolled. The number of students taking the more advanced studies—degree, higher national, diploma, college diploma, or higher national certificate—increased from 2,403 in 1954-55 to 3,040 in 1956-57. The report may be obtained from the Secretary, 5 Grosvenor Villas, Newcastle upon Tyne.

#### Transistors

EXTENSIVE research and development work on semiconductors, in particular on transistors and related devices, and on their applications, has recently been carried out within the Radio Corporation of America, which has agreed to publish a selection of papers describing the work as it applies to the theory, fabrication and application of transistors. The first volume has now been issued (*Transistors I: R.C.A. Laboratories. Second printing, 1957*). It consists of published and unpublished papers and abstracts. Two review articles deal with basic transistor device concepts and new advances in the junction transistor. In other papers the concepts are further extended and applied to new and improved devices. For example, the limitations of diffusion phenomena on the frequency response of transistors, and the drift transistor.

#### Lighting, Heating and Ventilation of Museums

In the *Museums Journal* of October, Messrs. W. E. Rawson-Bottom and B. S. Cooper contribute an important paper on the use of both natural and artificial lighting in museums. Following a brief review of early attempts in lighting, its present value as one of the essential factors of effective display is stressed. The first author deals with general lighting in the museum and favours the standard fluorescent batten unit for one or two lamps with louvres in short lengths of moulded plastic material which clip to the lamps. He also feels that the incandescent lamp is still useful in many places; for example, geological specimens and jewels tend to lose brilliance and gold can look like brass in fluorescent lighting. He then deals with the lighting to be adopted with various types of museum cases: in art gallery lighting he advocates fluorescent lighting in trough reflectors with 75-watt tungsten lamps for colour correction. The second author is concerned with the effects of photochemical deterioration and