Biological Education in American Secondary Schools, 1890–1960

By Paul De Hart Hurd. (Biological Sciences Curriculum Study Bulletin, No. 1.) Pp. ix + 263. (Washington, D.C. : American Institute of Biological Sciences, 1961.) 4.75 dollars.

TO help in the preparation of new material for American schools, Dr. Paul De Hart Hurd of Stanford University was invited to make a historical critique of the development of secondary school biological education in the United States. His report describes the investigations that he has made of the teaching of biology in the American high school covering the period 1890–1961, and is limited to consideration of curriculum development and investigations of classroom and laboratory learning. Training of teachers, professional training of biologists and special programmes for high-school students are not considered. The work would be of interest to students of the history of biological education. Teachers of biology in Britain could find many parallels to the questions which Dr. Hart Hurd raises about contemporary teaching in the United States ; they would also wish that some of the answers had been forthcoming.

Histologie und Mikroskopische Anatomie des Menschen

Von Prof. W. Bargmann. Dritte, verbesserte Auflage. Pp. xvi + 820. (Stuttgart: Georg Thieme Verlag, 1959.) 69.60 D.M.

THIS is the third edition of Prof. Bargmann's monumental work, which originally appeared in two volumes. In keeping with—as the author says—"the renaissance in structural biological research" which we witness at the present time, the original text has been revised in many respects. This is particularly so in the chapters dealing with cells and tissues generally. Accounts of ultra-structure as revealed by electron microscopy have been added *per se* or skilfully woven into the text. The neurone theory has been restored to its appropriate place, full descriptions are given of the fine structure of synapses, sensory epithelia, Ranvier's nodes, motor end-plates and of the myelin sheath. The reality of bile capillaries and Disse's space is attested and the 'sex chromatin' fully discussed, to mention only a few items; but 'amitosis' as a mode of cell proliferation still looms unduly large. With the fast advance being made in the field of electron microscopy, keeping up to date is almost impossible, but it is regrettable that some of the exciting and illuminating pictures which have been obtained with the electron microscope of skeletal muscle are not included.

Where the book scores over the many others available in the field of histology is in the treatment of the microscopic anatomy of the connective tissue apparatus, its intimate architecture and the relationship of particular designs to the function of individual organs. First-class descriptions are given of complex mechanical, elasto-muscular arrangements and, in some instances, also of intricate vascular patterns.

The compass of the book being exceptionally wide, it includes many embryological data. The value of these could be enhanced by some more illustrations of what are, after all, very complex situations and events, and, sometimes, a single picture would aid and clarify a very condensed description. Similarly, the chapter on the central nervous system would gain by additional illustrations. Valuable information is given on post-natal developmental processes and on senile changes.

The masterly style bears the stamp of the dynamic personality of the author, makes fascinating reading and brings microscopic anatomy very much to life. There can be no doubt that the interest of the student must be aroused and highly stimulated by such a vivid account; at the same time, the student would do well to keep an open mind towards many problematic issues which have remained somewhat hidden in this presentation. Key references to the literature are given at frequent intervals; and photographs of famous microscopists and brief footnotes here and there direct attention to historical aspects of the subject.

F. JACOBY

Coir

Its Extraction, Properties and Uses. Pp. v + 54. (New Delhi: Council of Scientific and Industrial Research, 1960.) Rs. 6.00; 10*s*.

THIS small book of some fifty pages gives a good account of the Indian coir or coconut fibre industry, India being one of the main producers of this important commercial fibre. The book is the result of a decision made by the All India Board of Technical Studies in Textile Technology in 1950 to collect and collate available information on the coir industry. This has now been presented in condensed form under such headings as: extraction of coir, structure and properties of the fibre, spinning, weaving, dyeing and printing, ropes and cordage, other uses, marketing and trade.

The value of coir as a fibre lies in its resilience or elasticity and its durability and damp resistance, properties which render it so well suited for matting or floor-covering and certain types of cordage. One of the features of its production is the traditional retting process with the drawbacks (evil smell) that go with it. It also involves a considerable loss of potential plant food (potassium and phosphorus). Reference is made to various alternative methods of extracting the fibre from the husk, mechanical and chemical, that have been put forward from time to time. For various reasons, however, the old method prevails in what is still essentially a cottage industry in India. A number of interesting photographs and a short bibliography are included.

Indian Tobacco

A Monograph. Pp. xxii + 413 + 154 photographs. (Madras: Indian Central Tobacco Committee, Ministry of Food and Agriculture, Government of India, 1960.) Rs. 36.00; 72*s*.; 10 dollars.

THIS book, which contains a great deal of useful information on the cultivation, production and use of tobacco in India, owes its origin to the Indian Central Tobacco Committee and is the work of several authors, including past and present directors of tobacco research. As the Indian Minister for Agriculture points out in his foreword, India is faced with a land shortage or crisis, with simultaneous pressure from food and non-food crops. Tobacco falls into the latter category and cannot claim priority. Steps to increase yield from the existing acreage are therefore all the more imperative. This comprehensive work should play a useful part in this connexion.

Tobacco cultivation in India differs from that in most other important tobacco growing countries because in India the crop has to be grown under monsoon conditions. The book may be of special