

the Royal Society, are characteristic fragments of a self-portrait of an era. And although this is a work for consultation and reference, hardly a refuge for pleasure, one is delighted by the occasional sign that these writers were like us in the ordinary things, as when Fairfax ends a letter "I am forced to be as short in what I write as I have been long ere I set about it".

One can envy the Halls a little for the pleasure it must have given them to work close to the lively minds of long dead men, so much better company than many of our contemporaries. So many modern scientists have become dreary and pompous and unfunny that it is no surprise to anyone with a spark of humour that there is a student flight from science. If we can regain some of the vivacity of these early amateurs, science may yet brighten its tarnished image. In its own way *The Correspondence of Henry Oldenburg* is serving science at large.

FRANK GREENAWAY

TROPICAL DEVELOPMENT

Economic Development in the Tropics

By B. W. Hodder. Pp. xiv + 258. (Methuen: London, 1968.) 35s.

THIS is a refreshing study of a much discussed and difficult problem—the correct assessment of the major issues to be faced in the economic development of tropical countries. Among the several notable merits of the book are that it has an unusual interdisciplinary approach, it stresses the significance of natural and human resources as well as the political and economic frameworks, and the author has first-hand experience of the tropics in Asia, Africa and the Americas.

Dr Hodder begins by analysing the significance of natural resources such as water, vegetation, soil, minerals and power potential, and such phenomena as climate. Somewhat surprisingly he considers man's ability to acquire any considerable degree of acclimatization to tropical climates is now generally doubted. The human resources are next examined in their qualitative and quantitative aspects. He considers birth control: "the recent upsurge of interest in birth control as a means of inducing economic growth in developing lands is perhaps a rather dangerous trend because birth control seems to be becoming accepted as the latest and most fashionable of a series of panaceas. In a sense, however, to reduce the rate of population growth, while undoubtedly desirable, is simply to apply a negative solution, for by itself a declining birth rate can do nothing to increase production. An excessive preoccupation with how to reduce the birth rate is thus concentrating attention on the wrong thing".

Types of agriculture are described before examining methods of intensifying, extending or improving production, and there is a good defence of fallow farming. Case studies of Trinidad, Uganda and Malaya lead on to weighing the merits of agricultural rather than industrial development, or a balance of both. Likewise, the relative places of labour or capital intensive and of large versus small scale industries are examined, and supported by case studies of India, Venezuela and Nigeria (about which he is somewhat pessimistic unless there is more unity). Transport, marketing, development plans, capital resources and international aid are also discussed, with an unusual stress on the significance of understanding the mechanism of internal marketing.

This book should be required reading for all students of the tropics, and for those concerned with economic planning and development there. They would acquire a balanced view of the many facets of the problems, and would be excellently served by a very full bibliography.

R. J. HARRISON CHURCH

BIOLOGICAL PRODUCTIVITY

Problèmes de Productivité Biologique

Edited by M. Lamotte and F. Bourlière. (Publication sous les auspices du Comité Français du Programme Biologique International.) Pp. vi + 246. (Masson: Paris, 1967.) 65 francs.

THIS book is based on French and Belgian contributions to an International Biological Programme (IBP) colloquium in Paris in 1966. After an introductory chapter concerned with primary production and the subsequent transformations of matter elaborated by plants, together with the flow of energy in biological systems, terrestrial primary production is considered in detail with some reference to grazing and the cycle of important inorganic nutrients. Grassland ecology is described with special reference to the interactions between ruminants and pasture plants. Next, the energetics of inland waters are described, followed by descriptions of rhythmical changes in the physico-chemical and biological regimes of certain brackish waters. The article on small mammals first describes the problems involved in estimating production by rodents and then gives an actual example of how a balance sheet for production by *Microtus arvalis* can be made. Production by dragonflies (*Aeschna* and *Anax*) is discussed on the basis of estimations of natural populations and those reared in the laboratory. In chapter 8, grazing arthropods are considered. It is not their production which is estimated, however, but the reduction in the potential for primary production they cause. Finally, an outline is given of the complex interrelationships between parasites, hyperparasites and predators which, in turn, make the task of estimating production so difficult.

Books based on colloquia and like meetings rarely produce as coherent an account as the titles suggest. This one is no exception to the rule. Nevertheless, thanks to the French National Committee, we have a lively and interesting addition to the IBP library. The wish expressed by the editors that it will be of value to younger workers and interest them in IBP should be realized. The specialist in any of the aspects of IBP may also welcome an insight into the problems with which he is not familiar. The book is well produced technically. The writing usually is clear, but some of the figures do not have satisfactory explanations attached to them and some of the technical terms used by specialists are not defined.

J. W. G. LUND

DEVELOPMENTAL PATTERNS

Methods in Developmental Biology

Edited by Fred H. Wilt and Norman K. Wessells. Pp. xiv + 813. (Thomas Y. Cromwell: New York, 1967.) \$18.

THIS is a book about materials and methods used in the experimental analysis of plant and animal development. The editors, themselves actively engaged in research, have assembled fifty-one articles focusing on three aspects of the subject. The first section, almost half the book, contains discussions on an array of organisms, including a number of potential use for developmental study as well as those of proved value. Emphasis is laid on their procurement and maintenance in the laboratory together with information on their basic biology and many experimental techniques. Representatives from all the vertebrate classes are considered, with the exception of reptiles. Perhaps the lack of a "domesticated" variety is a sufficient deterrent. There is an interesting chapter on annual fishes. These animals are characterized by their location in isolated bodies of fresh water which dry up each season, leaving only the eggs to ensure population survival. A