electron configuration of the elements, critical potentials of elements and compounds, some physical constants, a neat derivation of the Boltzmann transfer equation and finally, specialized references to very recent developments in branches which could not be treated at length in the book.

Dr. Francis's book is well written in a refreshing and stimulating manner. It contains a wealth of information which will not be found in many other books and which can otherwise be obtained only by extensive literary research. The book can be highly recommended to anyone with an interest in ionization physics.

C. GREY MORGAN

BILIARY CIRRHOSIS OF THE LIVER

Biliary Cirrhosis

By Sir Roy Cameron and P. C. Hou. (Pathological Monographs, No. 1). Pp. x+214. (Edinburgh and London: Oliver and Boyd, Ltd., 1962.) 63s. net.

THIS volume is the first of a series of monographs on clearly defined pathological subjects under the general editorship of Sir Roy Cameron and Prof. G. Payling Wright. In their general introduction to the series, they stress the indebtedness of pathology to the 'basic' sciences of biochemistry, biophysics and genetics. Both the editors are eminent pathologists, and it is doubtless due to their innate modesty that they refrain from pointing out that this intellectual traffic has not been entirely one way; pathology and medicine in general have provided fruitful stimuli to research in the more basic sciences in the past, as it is to be hoped they will continue to do in the future.

Sir Roy himself is joined by Prof. Hou Pao-chang, until recently professor of pathology in the University of Hong Kong, in the authorship of this excellent first monograph. Biliary cirrhosis is a term covering many pathological pictures in the liver which are by no means obviously interrelated. Nevertheless, the title gives to pathologists a clear idea of the ground to be covered, and it will be invaluable to have available in this convenient form the history of clinical, morphological, physiological and experimental research into this complex subject, and the present status of knowledge about it. The authors make clear where the gaps in knowledge lie, and this book will be essential reading for future investigators in this field of study.

Part 1, consisting of five chapters, gives a full but succinct account of the anatomy, embryology and physiology of the biliary apparatus; a particularly useful section is devoted to the experimental work which has been done on bile-duct regeneration, and in which Sir Roy Cameron himself has played a distinguished part over the past thirty years.

Part 2 is concerned with the pathology of human biliary cirrhosis. It recapitulates (Chapter 6) earlier classifications, and gives sound reasons for not adding to their number. Chapters 7 and 8 deal with secondary (obstruction of extra-hepatic ducts) cirrhosis and with congenital types. Chapters 9-12 are concerned with the various forms of primary biliary cirrhosis, that is, those where extra-hepatic biliary obstruction is absent. One wonders if 'primary' is really the best adjective available for this group, but it has become hallowed by convention. The possible part played by virus hepatitis is discussed on pp. 158-163. Rather surprisingly, a whole chapter is devoted to the somewhat mysterious entity described by Hanot more than 80 years ago. The closing chapter deals with

parasitic cirrhosis, a subject to which Prof. Hou himself has made important contributions.

The book is beautifully produced, the bibliographies comprehensive, and the illustrations clear. Only one misprint has been detected. The price, as usual nowadays, is too high.

J. W. ORR

ESSAYS ON EVOLUTION

Evolution und Hominisation

Festschrift zum 60. Geburtstag von Gerhard Heberer. Herausgegeben von Gottfried Kurth. Pp. x+228. (Stuttgart: Gustav Fischer Verlag, 1962.) 48.50 D.M.

A *FESTSCHRIFT* dedicated to a distinguished scientist when he retires, or when he reaches the age of seventy or eighty, or on his death, has not been uncommon in the past. But here we have a *Festschrift* to celebrate the sixtieth birthday of a palaeontologist, Dr. Gerhard Heberer. All honour to him that his work should thus be recognized at such an early age; clearly his colleagues at the University of Göttingen and elsewhere hold him in high esteem and affection. But it is not easy to review a mixed collection of essays such as the present volume offers for the reason that they are so various in their themes, though broadly speaking their content is covered by the title "Evolution and Hominization". (Parenthetically, it is to be hoped the term "Hominization" has not come to stay—it was originated by Teilhard de Chardin and inevitably tends to convey an element of the mysticism that is so apparent in the posthumous publications of this Jesuit Father—himself also a distinguished palaeontologist.)

Dr. G. G. Simpson writes on "Some Cosmic Aspects of Evolution" and extends his thesis of the opportunistic factor in the evolutionary process to a surmise on the possibility of life in other worlds than our own. Ernst Mayr discusses the problem of chance and plan in evolution, Dobzhansky and Drescher write on the genetic basis of 'quantum evolution' with particular reference to the evolutionary potentialities of modern man (der Mensch passt öfter die Umwelt seinen Genen an, als dass er seine Gene der Umwelt anpasst), varying opinions are expressed by other authors on the antiquity of early man, but in some cases these are already out of date (an exception is the important paper by von Koenigswald on the absolute age of *Pithecanthropus*), while other essays deal with the australopithecines, early members of the genus *Homo* in Africa, and so forth.

But it has to be admitted that much of this volume contains is not new—some of the essays are but little modified versions of publications that have already appeared in the last few years. This raises the question whether the days of *Festschriften* are not passing, for with so many publications of carefully co-ordinated symposia on so many different subjects, disjointed mixtures of essays no longer serve so useful a purpose in scientific literature. Observations of importance included in such essays are likely to be overlooked unless they are also published in recognized scientific journals (as, in fact, they almost always are). The eagerness to honour a distinguished scientist which his friends and colleagues show is, of course, easy to understand. But with the already voluminous and unwieldy profusion of scientific literature, the growing custom of honouring an eminent scientist by, say, dedicating a volume of a scientific journal to his name, has much to commend it.