recent advances have been dealing with the interaction of antibody with hormones and viruses, and still more recently it has been demonstrated that RNA and DNA themselves can be considered antigens, and one can expect that certain of the antigenic groups are specific sequences of bases in the double helix. As one of the contributors points out, if this finding is confirmed, this will be a vital and valuable key for the study of the genetic code and for its mode of transcription. In addition to reports on the results of antigenic studies, this symposium also brings many details on technique, for example, modern methods of protein chemistry which allow the investigation of the antigenic sites of proteins.

H. LEHMANN

Aspects of Medical Virology. Edited by A. P. Waterson. *British Medical Bulletin*, Volume 23; No. 2. (Pp. 5; 30s.) London: The Medical Department, The British Council. 1967.

The great success of genetic analysis for the bacterial viruses (phages) now spurs on the animal virologists. In a recent issue of the *British Medical Bulletin* devoted to medical virology, Dr. P. D. Cooper outlines the methods of genetic analysis available in the study of animal viruses—recombination, complementation, and physiological functions—but concludes that good genetic markers are still lacking. 'Temperature-sensitivity' is, as yet, the only demonstrably universal marker for animal viruses and has been used in the study of polio, polyoma, and two arboviruses—Sindbis and Semliki Forest. The other universal marker for phage is 'suppressor-sensitivity'; but attempts to find analogous animal virus systems have not, so far, been wholly successful, though they have been tried for rabbit pox and herpes virus strains. The author concludes that 'information from genetic analysis should greatly expand during the next five years'.

R. J. C. HARRIS

Die Evolution der Organismen. Band I. Ergebnisse und Probleme der Abstammungslehre, 3rd ed. Edited by Gerhard Heberer. (Pp. xvi + 754; 265 figures + 8 tables. DM.128.) Stuttgart: Gustav Fischer Verlag. 1967.

This is the first volume of the third edition of a three-volume handbook which ranges over the whole of evolution. The second and third volumes are due to be issued in 1968 so that the whole edition is appearing one hundred years after Haeckel's 'Generelle Morphologie der Organismen' (1866) and his 'Naturliche Schöpfungsgeschichte' (1868); consequently this volume is in his memory and carries his portrait opposite the title page. It is likely that the subsequent volumes will be of more interest to readers of this journal, for the second will deal with evolutionary genetics and the third with the phylogeny of the hominadae. However, this volume will be prized by anyone who is interested in the evolution of animals and plants.

The first section deals with general principles and considerations. Although the standard of all the articles is high, two deserve especial praise for clarity and detail. The first of these is by Simon and Zippolt on geological dating, stratigraphy, the use of pollen, and the use of radioactivity for dating strata. The second is by Kuhn-Schnyder on palaeontology. Both articles have excellent charts and drawings which relate the different fossils to the different geological levels and indicate probable lines of evolution. This section also includes a philosophical discussion, at some length, by Zimmermann on the methods of evolutionary science; he ranges from early mythology and Aristotle through to Goethe and so to modern times, but barely mentions Lamarck. The article by Wickler on behaviour is fascinating, though at a lighter level.

The second section deals with the evolution of organisms in detail. Kaplan discusses the earliest living forms, the definition of life, and after a brief mention of bacteria, blue-green algae, and PPLO, he launches into the molecular basis of the living process. The usual subjects are reviewed: DNA replication and reproduction; genetic information and protein synthesis; viruses; how you can make organic molecules from gases. Admittedly this is the current fashion but the present reviewer cannot help feeling that none of these processes has much meaning unless they occur inside a living cell and that such articles miss the whole point of 'the living process' which is the maintenance of biological organization. The other two articles in this section, that by Mägdefrau on the evolution of plants and that by Remane on the evolution of animals, are highly commendable. They deal concisely with what is known about each main group of living organisms.

The book is extremely well illustrated by photographs and drawings; there are good charts and diagrams to help the reader through the millions of years which are so well reviewed.

J. CHAYEN

The UFAW Handbook on the Care and Management of Laboratory Animals, 3rd ed. Edited by the Staff of UFAW. (Pp. xvi + 1015; illustrated. 120s.) London and Edinburgh: E. & S. Livingstone. 1967.

Those familiar with the first and second editions (1947 and 1957) need no recommendation for the third edition of this excellent handbook. It skilfully rejects what can be omitted (though still useful) to make room for material that must be included as a result of what Sir Peter Medawar calls, in his foreword, the three revolutions. These concern genetics, husbandry, and the control of disease. The first-named revolution allows control of the hereditary variation in the experimental animal; the second (which includes among many things the statement of the Animal Technician as a member of a profession ancillary to biological and medical science) allows control of the external environmental variation; and the third, which enables specification of animals in