

Book Reviews

Dr D. S. Jolliffe very kindly reviewed Dr W. H. Jopling's "*Handbook of Leprosy*" in Number 1, 50, *Leprosy Review* (1979), but we unhesitatingly include this additional review of a book which has already proved itself to be of great value in many parts of the world.

Handbook of Leprosy, 2nd edit., by W. H. Jopling, 1978. Published by William Heinemann Medical Books Ltd, 23 Bedford Square, London WC1B 3HT. pp. xii-139. ISBN 0 433 17566 4. Price £3.75.

This is a very valuable book, condensing into relatively little space an enormous number of facts regarding leprosy, including many interesting asides not normally associated with a book of this nature.

In his preface to the 2nd edition the author points out the wide-ranging advances which have occurred during the 1970's in our knowledge and understanding of leprosy, and which have called for extensive re-writing. The result is a concise textbook of leprosy, rather more sophisticated than other handbooks on the subject which have appeared recently and are intended primarily for the field worker. This book, written by a distinguished clinician, is written for the medical practitioner who is concerned with leprosy and who desires something more than a nodding acquaintance with it. The serious student will find here a thoroughly up-to-date, authoritative guide, clearly and concisely written.

The immediate relevance of this book is apparent from the start. The opening chapter on epidemiology emphasizes the importance of nasal infection as a source of *Mycobacterium leprae*; also the involvement of flies, arthropods and mosquitoes in the transmission of the bacillus, and the possibility of infection via the respiratory tract. Bacteriological, pathological and clinical aspects are presented together comprehensively in a single chapter, and several aspects in which knowledge has recently advanced are detailed, e.g. in relation to eye, bone, kidney and testicular involvement in lepromatous leprosy. There is an important chapter on modern immunological concepts, including references to immunotherapy and immunoprophylaxis. In a long chapter on management the approach is up to date. The most recent ideas on chemotherapy are given and drug resistance received special mention. A more emphatic approach to the importance of combined therapy in lepromatous leprosy might perhaps have been made, but unresolved problems of cost and organization in the field, and the fact that we still await confirmation of the best forms of combined therapy have doubtless influenced the author's presentation. The present day approach to leprosy control is presented concisely and includes Ellard's test for detecting dapsone in urine.

Some very useful Tables are a feature of this book, and there is an extensive glossary. Each chapter has appropriate references, and double conversion tables are given in an appendix. Twenty illustrations in colour are included, small but adequate, and there are some excellent photographs and diagrams in black and white.

The condensation into a book of this size of a subject as wide in scope as leprosy has now become inevitably involves many problems in the selection of material. Undoubtedly the author has got his priorities right. The surgeon could add considerably to those sections which primarily concern him and would doubtless have welcomed more detailed reference to preventive physiotherapy. From the standpoint of the clinician there is one area in which some expansion would have been welcome, namely differential diagnosis. The positive signs which enable a diagnosis of leprosy to be made receive full attention, but for the doctor working in tropical areas where leprosy is endemic, with no easy recourse to a reliable pathological laboratory, many diagnostic problems arise, especially in relation to dermatology. Let us hope that when a 3rd edition becomes necessary Dr Jopling from his great experience will be able to include a chapter on this subject.

T. F. DAVEY

The Armadillo as an Experimental Model in Biomedical Research, Scientific Publication Number 366. Pan American Health Organization, 525 Twenty-third Street, NW, Washington, DC 20037, USA. Price US\$10.00.

This paperback of 140 pages records the **Proceedings of a Workshop held at the Pan American Center for Research and Training in Leprosy and Tropical Diseases in Caracas, Venezuela, 23–27 May 1977**. Apart from a small group of observers from Venezuela, there were 16 participants, all well-known in the field of experimental work on this model, including those who originally described it. The animal was discussed in detail under the following main headings: Part I, Biology of the armadillo; Part II, Experimental leprosy in the armadillo; Part III, Natural leprosy infection in the armadillo; Part IV, Utilization of the armadillo in biomedical research; plans and programs, and Part V, Future possibilities of the armadillo as an experimental model for biomedical research.

Discussion amongst the participants at each session is reported in full and—as usual—is often as interesting as the formal text. Although the main content of this book perhaps lags a little behind some of the conclusions of the more recent Mexico Congress, it contains much information of general interest to workers in many fields of leprosy research; it would in fact also be read with care, as one of the participants remarks early on, by research workers in other diseases, who may be intrigued by this animal's potential. The recommendations of the workshop were as follow:

“In view of the differences in local facilities, species, and degree of development of research capacities, we have made the following general recommendations:

(1) We strongly recommend that reproduction of armadillos under controlled conditions be given high priority in the immediate future. The armadillo must be bred in captivity before it can be utilized in biomedical research to its full advantage. This program should be carried out with different species of armadillos that have been demonstrated to offer particular promise for biomedical research (see this volume, pages 41–63, 120–136).

(2) We recommend that research on the immunology of the armadillo be pursued. In comparison with other animals, several species of armadillos (*Dasypus novemcinctus*, *D. sabanicola*, and *D. hybridus*) appear to have sluggish, cell-mediated immune reactions; the humoral response appears to be vigorous. It may be helpful to bring this observation to the attention of immunologists in general.

(3) Use of the armadillo in experimental chemotherapy of leprosy should be encouraged because the armadillo has several advantages not possessed by other animal models. Such advantages lie in the lepromatous features of the experimental disease and the presence of very large numbers of viable *Mycobacterium leprae*.

(4) Studies should be encouraged on the pathogenesis of infection by *M. leprae* in various species of armadillos.

(5) Studies should be continued on the indigenous infections that have been reported in *D. novemcinctus* with *M. leprae*-like bacteria in Louisiana and neighboring states. The geographic extent of the indigenous infection should be determined, and the possibility of such infections in other areas of the Americas and in other species of armadillos should be investigated. Exploration should be continued in various geographic areas in the Americas on possible infections by other mycobacteria of wild armadillos.

(6) Investigations should be made of the suitability of the armadillo as an experimental model for other infectious diseases, particularly those caused by infectious agents whose temperature optima may be less than 37°C and for which there are presently no suitable animal models (see this volume, pages 120–136).

(7) We recognize the hazards involved in work with infected armadillos. Conditions for breeding colonies are different from those for laboratories in which the armadillos are infected. The shipment of armadillos from one area to another should be carefully considered in light of the possibility of introducing infectious agents. The degree of infectious hazards of infected armadillos is unknown, so measures for the protection of the personnel should be carefully considered. Strict measures for the containment of infectious material would be necessary.

(8) We recommend that methods for determination of armadillo age be investigated, with consideration of the use of the eye lens and tooth laminae or other methods. We suggest that

collections of eye lenses and teeth be started now from animals of known age and from important experimental animals.

(9) Because of the confusion and overlap in common or local names of armadillos, we recommend that the scientific identifications of armadillos be used exclusively. In some instances it may be necessary to carry out further research on the taxonomy of armadillos.

(10) In view of the differences among facilities, opportunities, and capabilities mentioned initially, all possible means of financial and other support should be sought, particularly for Latin America, where leprosy and armadillos are abundant but where facilities are sometimes deficient.

(11) We strongly recommend that the Pan American Health Organization promote the publication and distribution of the highly useful atlas on the histology of the armadillo, *Atlas sobre histología del armadillo*, as presented at this meeting by personnel of the Pan American Zoonoses Center."

1978 Year Book of Dermatology, edited by F. D. Malkinson and R. W. Pearson. Published by the Year Book Publishers Inc, Chicago and London.

This book of 383 pages is priced at £19.75 in the United Kingdom and is clearly outside the realm of casual purchase by most individuals, though invaluable in any dermatological department. It is dated 1978 but in fact represents literature reviewed up to December 1977, and is of course merely one of a now famous series providing "in condensed form the essence of the best of the recent international medical literature. The material is selected by distinguished editors who critically review more than 500,000 journal articles each year". In this one on dermatology, the section reviewing Connective Tissue Diseases alone goes from page 9 to page 36 and finishes with a list of 392 references. Those working in leprosy will be impressed to note that this includes a reference (number 136) to the use of clofazimine in the treatment of discoid lupus, with improvement in 17 out of 26 patients, a reminder of the increasing number of publications in the medical literature on the use of this drug in conditions other than leprosy.

The word leprosy does not in fact appear in the index, but there are a few interesting entries under *Mycobacterium*. One of these refers to the paper by Dr Louis Levy in *Proc. Soc. Biol. Med.* **153**, 34-36 (1976) on the Activity of Thiadiazole on *Mycobacterium leprae*, commenting that the drug appears to be one of the few that are bactericidal for *M. leprae* and that it appears to be relatively non-toxic. The main entry on this paper concludes: "Unfortunately it has been withdrawn from human trial because of its carcinogenicity on long-term administration to rats. Perhaps some analogue will be both effective against *M. leprae* and free from carcinogenic effects". The Editors' comment in brackets continues: "We may never know how valuable this promising drug might have been in the treatment of leprosy, though, hopefully, additional observations will be made by workers in other countries. From now, CL 64,855 joins a rapidly enlarging group of drugs condemned on the basis of animal studies showing apparent carcinogenicity. How many potentially usable drugs will be lost on the basis of carcinogenicity tests in animals is not known, but before the list becomes massive, and significant numbers of people suffer because of the lack of development of new drugs, the validity of the animal testing procedures should be established".

A. C. McDOUGALL