BOOK REVIEWS

Kurzwellentherapie. By E. Schliephake. 5th ed. 1952.

Pp. 256. Piscator-Verlag, Stuttgart. (36 DM; 63s.)

The author, who is Professor of Medicine at Würzburg, has had over 25 years' laboratory and clinical experience in this speciality. This book not only sets out his own theoretical views and personal contributions in this field, but also embodies the experimental and clinical results of other workers.

After a short historical introduction, the author divides his book into two parts: Section A—physical and physiological (101 pages), and Section B—technical and clinical (137 pages, excluding the reference list and index).

Section A begins with considerations of elementary physics, definitions of units, and an explanation of such conceptions as "wave-length" and "frequency". A wave-length of less than 10 m. is referred to as ultra-short wave and one within the range 10-100 m. as short wave. For therapeutic purposes wave-lengths from 0.1 to 30 m. are used. In the author's view, the correct choice of wave-length is just as important as the size of the dosage and the choice and positioning of the electrodes.

The theoretical aspects of the action of short waves on biological systems are illustrated from experiments on bacterial cultures, isolated tissues, and small laboratory animals. The author considers that short waves act at molecular level, both on electrolytes and colloids, and quotes experiments carried out on purely chemical systems. He shows that their application to specific organs can produce marked changes in the blood chemistry as well as in the red and white cell counts, sedimentation rate, and viscosity. The increase in temperature at the site of application observed on treatment may therefore be due to factors other than local vasodilation. Experiments quoted also show the essential difference between short-wave therapy and diathermy. Whereas the effects of the latter appear to be concentrated at the periphery, short waves, by reason of their greater penetrating power, exert their maximum effect on deep structures. Furthermore, in short-wave therapy the electrode plates are held at a distance from the body, whereas in diathermy they are in direct contact.

In Section B, the first three chapters describe the types of apparatus in common use, their management, and the methods for measuring dosage. The choice of electrodes, their orientation and "distancing" from the body, and the choice of wave-length and size of dosage are discussed in relation to the site and nature of the complaint. One of the main dangers is localized overheating, which can result in serious burns, and a number of precautionary measures and contrivances designed to guard against this are shown. The relative merits of condensers and coils for producing the electro-magnetic field are discussed.

The fourth chapter deals with the application of

short-wave irradiation to the production of artificial pyrexia, and the fifth with the rationale of short-wave therapy in individual diseases. The text is illustrated by case reports, including temperature charts, and x-ray plates taken before and after treatment. A glossary at the end of the book summarizes this chapter in tabular form, the last columns giving briefly the results likely to be expected. Where, in the author's experience, these have been disappointing he says so. This summary is only meant to indicate in general terms the routine likely to give satisfactory results in any particular condition. In the final summing up, it is emphasized that at present no hard and fast rules can be laid down but that most cases must be considered individually, the practical experience of the physician being often the most important factor in success. A final chapter, appearing for the first time in this edition, deals with the recent application of short-wave irradiation to diagnosis, a matter which appears to be still under investigation.

The second section is enhanced by some excellent illustrations, but in the first section some of the graphs and circuit diagrams are inconveniently small and the accompanying script almost microscopic. Two other similar complaints might be made. Firstly, the alphabetical reference list at the end is arranged in *solid blocks*. Inconveniently small print and the usual abbreviations assist to make them difficult to decipher. The more usual practice of tabulating references is much to be preferred. A second difficulty is the not infrequent use of abbreviations in the text, such as UKWD (for ultra-short wave irradiation), BSG (for blood sedimentation rate), and HED (about which the reviewer is still mystified). In future editions, a short glossary of these abbreviations would be an advantage to non-German readers.

From the rheumatologist's point of view this book may prove disappointing, only about 6 pages being devoted specifically to the rheumatic diseases. A footnote states that a monograph on rheumatism by the author is now in the press so that more detailed information should soon be forthcoming. In general, the results obtained are good, provided long-term treatment is undertaken, although in some cases the beneficial results do not become apparent until some weeks afterwards. Combination with salicylates or gold therapy is often advantageous.

But the book should certainly enable the postgraduate student wishing to specialize in physical medicine to form a good general picture of short-wave therapy, provided he is armed with the requisite technical dictionaries and a certain amount of perseverance. Into a relatively small book the author has succeeded in packing an immense amount of factual material, much of which it would probably be difficult to find elsewhere.

H. T. FAWNS.