physical and mechanical behaviour is not only desirable but also essential to the extension of their use as materials and the success of the components in service. This book makes this aspect abundantly clear with respect to beryllium.

The section on alloys includes a short account of dispersed phase material and of intermetallics. One has the feeling that very little useful information is given here, perhaps because of commercial secrecy. Such a criticism cannot be levelled at the chapters on physical, mechanical and nuclear properties, which are fully reported. Again, it is interesting to see that as much information is available on the thermal properties of beryllium as on copper or aluminium, and much more than that on many steels of commercial importance. The ductility problems of beryllium metal deserve and receive a distinct chapter to themselves. This could well form an ideal basis for any lecture on the effects of a hexagonal lattice on ductility and brittle behaviour. The effect of surface condition is once more emphasized.

A very short account of the properties of beryllia completes the factual data, but the book does not end here. The future trends in beryllium metal research re-emphasize the limitations of an anisotropic lattice, and the health hazards create additional problems. Two appendixes, on microprobe analysis and metallography, are useful inclusions. This is a valuable contribution to beryllium literature, and of some value in any teaching programme which includes reference to modern metallurgical trends.

C. R. TOTTLE

POINT SET TOPOLOGY

Topological Spaces

By Eduard Čech. Revised edition by Z. Frolik and M. Katetov. Pp. 893. (Prague: Publishing House of the Czechoslovak Academy of Sciences; London and New York: Interscience Publishers, a Division of John Wiley and Sons, 1966.) 145*s*.

THIS book is mainly for the specialist in point set topology, and seems certain to become a classic in the field. Čech's original book of the same title was published in Czech in 1959 and it arose out of a topology seminar which he conducted in Brno from 1936 to 1939. In the present translation the original has been rearranged, enlarged and modernized "in a manner which was felt to be in agreement with the views of E. Čech as he had expressed them on numerous occasions". Although the original version was a textbook, there is no special attempt in the translation to make the book accessible to students: however, it starts from scratch (the concept of "property" is left undefined) and is self-contained—as is clear from an almost complete absence of bibliographical references in the text. It should be useful to a good student. On the other hand, as is customary nowadays, great emphasis is given to the development of concepts in their fullest generality and refinement. Thus, for example, "sets" give way to "classes" whenever possible, "topological spaces" to "closure spaces" and "single-valued relations" are distinguished from "mappings". Moreover, special classes of spaces receive scant treatment; thus, compact spaces are confined to an appendix and function spaces are not even mentioned. The first three chapters deal with classes and relations, algebraic structures and order (dealing with groups, modules, etc., by way of the unifying concept of struct), and topological spaces, which are introduced as a special class of closure space, namely, a set with a closure operation u which is topological if $u^2 = u$. Chapter 4 deals with uniform and proximity spaces, including uniform continuity in its fullest generality, proximities and the Stone–Weierstrass theorem formulated for proximity spaces. Chapter 5 is concerned with separation, in which closure spaces are analysed according to their separation properties. A sample topic from Chapter 5 is normal spaces, which are treated as a generalization of the usual concept for which the Tietze extension theorem holds. Chapter 6 deals with generation of topological spaces, and Chapter 7 with generation of uniform and proximity spaces. These last chapters concern the theory of projective and inductive generation of various spaces—essentially, inverse and direct limits; characterization of closure spaces by convergence of nets; presheaves considered from the general topology standpoint—homology is excluded. In an appendix on compactness and completeness, complete spaces are defined as subspaces of uniform spaces; various topics are covered, including Čech–Stone compactification. Finally, all the exercises are put into a forty-eight page section at the end. In view of its price and size, the book may be considered a reference work. Its index appears to be exhaustive, and a very useful index of notations is included. The occasional inevitable departure from standard terminology may, however, cause trouble to someone using the book for the first time. The quality of printing is excellent and the book has been produced with great care. It is to be hoped that a new edition will be printed on better paper and have a stronger binding—the quality and price deserve it.

C. B. RAYNER

PHYSICS AT OXFORD

A Prophet in Two Countries

The Life of F. E. Simon. By Nancy Arms. (The Commonwealth and International Library of Science, Technology, Engineering and Liberal Studies: History Division—Biography Section.) Pp. viii+171. (London and New York: Pergamon Press, Ltd., 1966.) 12*s*. 6*d*. net.

MRS. ARMS has written an unusual and interesting biography. Sir Francis Simon, like many other distinguished Jewish scientists, left Germany in 1933. At that time he was a full professor in the well equipped Technische Hochschule at Breslau. In the previous 15 years he had become one of the leading figures in low temperature physics, not only in Germany but in the world. Then, like many others of his countrymen, he saw that it was necessary to uproot himself and his family from their well established background.

Lord Cherwell and Imperial Chemical Industries made Simon welcome and found him a research post at the Clarendon Laboratory, Oxford. The laboratory was much smaller in those days than it is now, and indeed had less equipment and facilities than Simon had been used to in Germany. Having established himself in Germany, Simon had now to start all over again in England, and with far fewer resources. Lesser men might have been deterred, but very soon Simon put the Clarendon in the forefront of scientific development.

Mrs. Arms paints a fascinating picture of Simon's early life in Germany, his wartime experiences on both the Eastern and Western fronts, and the extraordinary rapidity with which he established himself as a scientist in the course of the work for his thesis. Included in the early days is an absorbing picture of life in Berlin in the cultured atmosphere of the well to do middle class milieu in which Simon was brought up. We are shown how Simon foresaw that life in Germany would soon become impossible for himself and his family. (His clear sighted political view of the future is referred to in the somewhat elliptical title of the book.)

More than half the book is devoted to the varied aspects of Simon's subsequent life in England. Or perhaps one should say as an Englishman, for few men who have gone to live in another country can have felt more loyalty or identified themselves more completely with their new home. The book ranges briefly over his many activities. One chapter is devoted to the work on the atomic bomb