

follow. As the editor states: "It is hoped to publish the first few volumes quickly with reviews of the present position in most important fields. Subsequently, volumes will be planned as seem to be required by the state of the subject."

The first volume of the series illustrates the breadth of coverage promised by the editor. There are concise review articles on such conventional but timely subjects as Spectroscopy in the Vacuum Ultraviolet (W. C. Price, 16 pp., 72 refs.) and High-Resolution Raman Spectroscopy (B. P. Stoicheff of the Canadian National Research Council, 80 pp., 135 refs.). A 48-page article by D. A. Ramsay, also of NRC Canada, is devoted to The Spectra of Polyatomic Free Radicals. D. H. Rank of the Pennsylvania State University has contributed a very short article giving formulas for the best values of the refractive index of air, which are of considerable practical importance to spectroscopists in their reduction of data. Dr. Rank also gives a short discussion of the current state of the best value of the velocity of light, in which he emphasizes the later, post-1948 methods. The bibliography, however, includes earlier as well as later determinations and comprises some 80 items, followed by a list of 20 review articles on the velocity of light. Surely this is a most useful, up-to-date compilation of references. Dr. A. Elliott of the British firm of Courtaulds Ltd. presents a 50-page treatment on The Infrared Spectra of Polymers, a field in which there has been tremendous activity during the last ten years. He reviews experimental methods before quoting results and going into structural considerations. A list of 111 references is attached, followed by an 8-page listing of papers on the infrared spectra of polymers—one cannot help feeling that this subject has been exhaustively treated! In the final article in the book, a list of some 212 references follows a 60-page article on Rotational Isomerism About C—C Bonds in Saturated Molecules as Studied by Vibrational Spectroscopy by Dr. N. Shepard of The Chemical Laboratory of Cambridge University.

An article of special interest to the reviewer is "Modern Infrared Detectors" by T. S. Moss of the Royal Aircraft Establishment of England. This article reports the novel and far-reaching developments that have taken place during and especially since World War II. This excellent, 35-page treatment covers not only thermal detectors but also the more recently developed photoconductive detectors, including the most modern ones: indium antimonide and doped germanium and silicon. Some 87 references are listed. I express the hope that this brief but vigorous review of such a timely and popular subject will come to the attention of the many workers in infrared techniques who do not classify themselves as spectroscopists.

My reaction after perusing the first volume of *Advances in Spectroscopy* was to congratulate Dr. Thompson, his advisory board, and his Volume-1 authors on the excellent, thorough, and authoritative job that has been done. I look forward with anticipation to additional volumes in this new series.

Radioastronomie: Les Méthodes radioélectriques au Service de l'Astrophysique. By J. L. Steinberg and J. Lequeux. 294 pp. Dunod, Paris, 1960. Paperbound 19 NF. Reviewed by E. J. Öpik, University of Maryland.

SPECIAL attention is given to the technique of instrumentation and the astrophysical interpretation of the observations. Solar, galactic, and extragalactic emissions are treated in detail, whereas planetary radio observations are described but briefly. There are copious illustrations and diagrams, and basic literature listed is up to date. The authors are well in the picture of modern developments, including the maser and optical pumping.

They profess to have written the book for the public at large. This, however, is not obvious from its rather technical contents. The "popular presentation" amounts to some looseness of style, details and precise definitions being omitted, formulas unnumbered, and notations consistently not adhered to. For these reasons, more knowledge of physics and astrophysics is required of the reader than in the case of a "special" textbook. There are also inaccuracies in the text which a competent reader would be able to allow for. Thus, on p. 16, the exponent $h\nu/kT$ in Planck's formula is wrongly preceded by a minus sign. On p. 113, ρ_r is called the radiation density per unit volume, whereas it actually is Planck's flux intensity per cm^2 , sec and steradian denoted by $B(\nu)$ on p. 16. The weight factors in spontaneous emission are consistently omitted. On pp. 120 and 185 optical depth (épaisseur) stands for opacity.

Despite these minor shortcomings, the book is valuable and can be recommended to the competent physicist or astrophysicist as a broadly sketched introduction to radio astronomy.

Physics and Microphysics (Reprint of 1955 ed.). By Louis de Broglie. Translated from French by Martin Davidson. 286 pp. Harper Torchbooks, New York, 1960. Paperbound \$1.50.

From Atomos to Atom: The History of the Concept Atom. (Reprint of 1952 ed.) By Andrew G. Van Melsen. 240 pp. Harper Torchbooks, New York, 1960. Paperbound \$1.45. Reviewed by E. Mendoza, University of Manchester.

LOUIS de Broglie's book of essays is divided into three sections: Science, Scientific Philosophy, and History of the Sciences. Those in the first and third sections are of doubtful value; they are quite disconnected, with little indication of the circumstances of their publication. They include among others an odd medley of whimsey and physics entitled "Light in the Physical World", an after-dinner speech delivered at a conference on surface states held in 1945, an essay entitled "The Dawn of the Atomic Era" written in the same year and recording the sudden realization that physicists could no longer think and work in ivory towers. There is also an article which may be useful to students in which de Broglie describes the curious properties of a pack of cards obeying a sort of uncertainty