knowledge to be gained from reading it, but he does wish to write with the greatest enthusiasm concerning the splendid result of wide cooperation. The termites, always important creatures in certain tropical countries, have been extending their normal geographic ranges largely by the unwitting assistance of man, and in their broadening range they have found that man in his slipshod and blind haste has created innumerable opportunities for their increase. Thus they have been becoming more and more important from the economic point of view. The normal food of termites is cellulose, and, as pointed out by Dr. Kofoid in one of his comprehensive opening chapters, it has been their function—their place in nature—since millions of years to break down dying and dead vegetation and to return it to the soil. But man, in his multifarious efforts to change the processes of nature, has found very many ways of utilizing dead wood and of utilizing it for very many years. At the same time he has been helping the termites to spread and has given them almost infinite chances to multiply. Thus the two forms of life have come into direct antagonism, and termites and termite damage have been increasing at an alarming rate. Within comparatively recent years federal and state entomologists have been appealed to from many directions. People have learned the meaning of the word *termite*. The newspapers have carried the advertisements of commercial "termite destroyers," and much misinformation has been disseminated.

While the Pacific Coast is by no means the only region in the United States to suffer, it has been the Californians who have done the big thing—to form a sound committee and to support it financially. And the committee has interested the very best experts and has reached valuable and far-reaching conclusions. And the University of California has published this big volume, which tells the whole termite story in a most conclusive way. It is a high spot in applied entomology. It shows what man can do and should do in the face of the progress of insect damage.

L. O. HOWARD

MASS SPECTRA AND ISOTOPES[1]

IT is very timely that this book by Dr. Aston should appear just when experiments on the artificial disintegration of atoms are giving a fresh significance to the subject. The second edition of "Isotopes" appeared in 1924, and this new book brings the subject up to date and emphasizes the recent experimental and theoretical results. In Part I the historical development of the subject is discussed. In Part II we have a detailed discussion of the latest experimental methods. Part III contains a valuable classified summary of the latest data on the separate chemical elements, including the experimental results of Bainbridge's published in the summer of 1933. In Part IV various theoretical aspects are discussed, including the packing effect, the relative abundance of isotopes and elements, the isotope effect in band spectra, and in atomic spectra, also a discussion of methods for separating isotopes.

The book is well illustrated, as it contains 43 figures and 8 plates, with reproductions of apparatus, mass spectra and optical spectra. In addition there are many tables summarizing in a very complete manner our knowledge of the various aspects of the subject. The book will be welcomed by any one interested in the subject of nuclear physics.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

BEYOND URANIUM WITH THE MAGNETO-OPTIC METHOD OF ANALYSIS[1]

THE term "magneto-optic method" was coined by Allison and Murphy[2] to designate a procedure for which they claim applicability to chemical analysis. The apparatus used for such work is shown diagrammatically in Fig. 1. The substance to be examined is placed in cell B_2 in the form of a solution, and the positions of minima of light intensity are read on the wire path scale, from which the time lags are computed. The time intervals are supposedly dif-

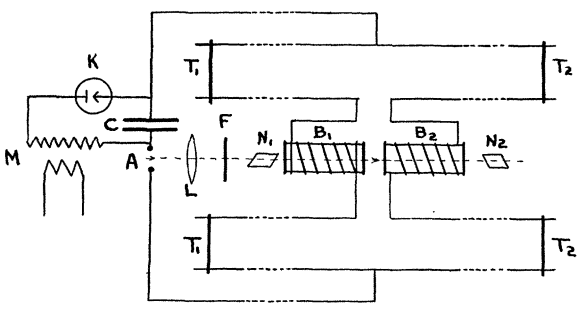

FIG. 1. Diagram of the magneto-optic apparatus. B_1, B_2, glass cells. N_1, N_2, Nicol prisms. F, light filter. L, lens. A, spark gap. K, kenotron. M, transformer. C, condenser. T_1, T_2, trolley.

[1] This note was taken in part from a paper read at the autumn meeting of the National Academy of Sciences, New Haven, Connecticut, November 18, 1931.

[2] Allison and Murphy, *Jour. Am. Chem. Soc.*, 52: 3796, 1930.

[1] "Mass Spectra and Isotopes." By F. W. Aston. Longmans, Green and Company. pp. 243. $4.80.