

## NEW BOOKS.

INTERNAL ENERGY. A METHOD PROPOSED FOR THE CALCULATION OF ENERGY STORED IN MATTER. BY JOHN V. V. BOORAEM. New York : McGraw Publishing Company, 1906, 16 × 24 cm. pp. 144. Cloth, price, \$2.10.

The purpose of this book as expressed by the author is to suggest a simple working hypothesis whereby the amount of chemical energy stored within a body may be estimated. The general idea underlying the attempt is a consideration of the relation between heat on the one hand, and cohesion as manifested by ultimate tensile strength (determined by rupture tests), melting-points, and the expansion of bodies with change of temperature, on the other. The author evidently uses some of his terms in a somewhat different sense from that ordinarily attached to them, and so makes it rather difficult for the reader to follow his ideas. So, for instance, on p. 11 he speaks of cohesion as equal to zero at the melting point. The usual distinction between the total and free energy of a body is not made.

The author apparently considers it possible to determine the total energy content of a body from a study of the changes of rupture stresses and volumes with varying temperatures, a view which is clearly quite at variance with those commonly entertained at present. The following quotation from the introduction may serve to give an idea as to how the author expects his book to be received by the public :—

“The writer feels that each reader of these pages will regard them with a different amount of skepticism, for each one will naturally be guided by his own personal experiences. Hence he fears that the results to be obtained can only be of variable character for the present. He trusts, however, that eventually the paper will meet with the approval of some who will give it earnest attention, for it can only be accepted through the efforts of this latter class.”

L. KAHLBERG.

THE DYNAMICS OF LIVING MATTER. BY JACQUES LOEB. Columbia University, Biological Series, VIII. New York : The Macmillan Company. 1906. 233 pp. \$3.00.

The unique experience and distinguished record of Professor Jacques Loeb in the study of the phenomena of living matter lead one to anticipate the appearance of a new volume by him with interest. The reader of *The Dynamics of Living Matter* will not be disappointed. The book is characterized by the same novelty of view-points, originality of interpretation, and wealth of pertinent illustration which have formed the instructive features of the author's earlier work. In the present instance an attempt is made to examine the chemical character of life phenomena and the physical make-up of living matter — to analyze the features of development, self-preservation and reproduction from a physicochemical