second year of his work in physics, immediately after the completion of a course in general physics, and to give him a thorough course in the principles of mechanics stated in the language of the calculus and vector analysis, but emphasizing the physics of the subject. The statement of physical facts and concepts in mathematical language is one of the difficult steps in a student's course; and Professor Crew has done well in giving us his introductory course in the mathematical side of physics.

The book is written in a style which is always clear and interesting. The forms of statement are fresh, and the author has drawn on a wide range of reading and experience for new and apt illustrations.

A. P. Carman

The Evolution of Forces. By Gustave LeBon. Pp. 388. New York, D. Appleton & Co. 1908.

In the controversy between Mr. Norman Campbell, of Trinity College, Cambridge, and Mr. F. Legge, of the Royal Institution, concerning Dr. LeBon's writings, Mr. Campbell said:

> I was a student of that author's works two years before his book appeared, and I believe that I have read every word that he has ever published on physical questions.[1]

On the basis of this thorough knowledge, Dr. Campbell places an extremely low estimate upon LeBon's work.

I have not read all of LeBon's writings by any means, but very certainly the present book on "The Evolution of Forces" is of little or no account, except in one respect only. If one wished to diagnose the ills of contemporary French science, one would find in LeBon exaggerated symptoms of a malady (not of course affecting all French scientists) which has resulted from the tremendous scientific preeminence of the French during the early part of the nineteenth century. Let one consider the state of mind of a man who can express himself after the manner of the following quotations which are taken almost at random from LeBon's book:

[1] The *Athenæum*, March 3, 1906.

> This happy confidence in the great dogmas of modern science remained unaltered until the quite recent date when unforeseen discoveries condemn scientific thought to suffer doubts from which it imagined itself forever free.
>
> There should, therefore, be no hesitation to examine closely the fundamental dogmas of science, for the sole reason that they are venerated and at first sight appear indestructible.
>
> After I had proved that the dissociation of atoms was a universal phenomenon and that matter is an immense reservoir of energy hitherto unsuspected in spite of its colossal grandeur, etc.

Speaking of a certain matter, LeBon says:

> As I expected, it was one of those classic errors repeated without verification to which repetition at length gives indisputable authority.

Speaking of another matter, he says:

> All *authors* have regarded it as having a preponderating influence.

There is one idea which, according to my experience, seems to be dominant in the minds of young students, namely, that the physical science which they study in the technical school or college is *in* the text-book and was created by a *literary effort* of an *author*. Dr. LeBon, apparently, has never got beyond this childish idea. The word author, as applied to a scientist, is misleading. Our scientific men in the United States do not combine sufficiently the ability to write with the ability to search and search again, so that, although it is mildly ridiculous to call many of them authors, it would be a distinct affront to speak of them narrowly as such.

W. S. Franklin

Contribution toward a Monograph of the Laboulbeniaceae. By Roland Thaxter. Part II. With 54 plates. Memoirs of the American Academy of Arts and Sciences, Vol. XII., No. VI. 4to, pp. 219–461. Cambridge, printed by Edward W. Wheeler. June, 1908.

Nineteen years ago Dr. Thaxter published his first paper on the Laboulbeniaceae,[1] and since that time has brought out many papers in which he has steadily added much to our knowledge of the species and genera and still

[1] "On Some Species of North American Laboulbeniaceae," *Proc. Am. Acad. Arts and Sci.*, Vol. XXIV., February, 1890.