

how students so immature could profit greatly by the study of such material.

The first memoir on mechanics is again a "Programm" and is intended as an introduction to the subject for students in the gymnasium. Here once more it is difficult to see how the students could have derived much profit from the study. To be sure the presentation is logical and explicit. That seems to be the most serious objection to it. The student would get too much mathematics and logic, too little physics and mechanical intuition from his studies. This would be an excellent argument for having mechanics taught by physicists and engineers rather than by mathematicians, were it not a still better argument for having mathematicians more or less forget their mathematics and really learn mechanics as such before trying to teach it. These two treatises on arithmetic and mechanics are very interesting and highly worth studying. In their way, they are quite distinctive. Grassmann's other work on mechanics is largely a presentation of the subject from the standpoint of the *Ausdehnungslehre*. The contributions to physics are partly original, partly explanatory. They would not greatly interest anybody now actively engaged in research or in teaching in physical science. This is largely true of all but the highest work done on physics thirty or forty years ago. Mediocrity is short lived in physical science; and it is evident that as a contributor to physics and mechanics Grassmann was not of high rank. This is no reproach: the *Ausdehnungslehre* and the dictionary to the *Rig-Veda* are there to silence all specious criticism.

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*Die Grundlagen der Bewegungslehre, von einem modernen Standpunkte aus.* Von DR. G. JAUMANN, Professor der Physik an der Deutschen Technischen Hochschule in Brünn. Mit 124 Abbildungen. Leipzig, Johann Ambrosius Barth, 1905. vi + 421 pp. M. 11; M. 12 gebunden.

IN the author's view the transformation which Fresnel wrought in the theory of light, and Faraday in electromagnetic phenomena, furnishes a prototype for all domains of theoretical physics, mechanics not excepted. The latter, although preserving its old form unaltered, proceeds now in part from points of view which lay quite beyond the reach of its founder and, in this respect, it appears to be nearing a decisive change. This rather remote aim gave direction to the treatment of this book.