

Examen des Différentes Méthodes Employées pour Résoudre les Problèmes de Géométrie. By G. Lamé. Paris, Hermann (no date). xii+124 pp. 2 plates.

This rather unusual little book will be read eagerly and profitably by the student whose grasp of the rudiments of elementary geometry, algebra, analytic geometry, calculus, and descriptive geometry is sufficient to enable him to appreciate comparisons of their methods, aims, limitations, and applicability. The teacher will be indebted to the author not only for the occasional paragraphs of suggestions on teaching, but also for the help gained indirectly from a book which is something more vital than a mere store-house of information. In the author's opinion, the most noteworthy parts of the book are: the analytic expression of the common intersection of geometric loci; the complete determination of curves and surfaces of the second degree by descriptive geometry, when a sufficient number of points are given; and the theory of curves and surfaces represented by the equations $x^\alpha/a^\alpha + y^\alpha/b^\alpha = 1$ and $x^\alpha/a^\alpha + y^\alpha/b^\alpha + z^\alpha/c^\alpha = 1$.

E. B. COWLEY

Problems of Modern Physics. By H. A. Lorentz. Boston, Ginn and Co. vi+312 pp.

That a course of lectures delivered at the California Institute of Technology in 1922 by Lorentz now appears in print edited by Bateman is cause for rejoicing. Lorentz is always good reading because he is so sound and so honest. He gives both sides of a question and in our present state of perplexity in physics we need both sides. Take, for instance, his §45 (pp. 134-140) entitled "How Far Can Molecular Forces be Explained by the Electromagnetic Actions?" in which he presents and comments on work by Born and Landé. Or (p. 95) the discussion of the reality of variations of length due to translation. And (p. 47 et seq.) the question of whether moving electrons do radiate. Again §42 (p. 125) commenting on the structure of the electron and (in numerous places) on our troubles with quanta. Throughout, the book is illuminating.

Many years ago Lorentz adopted the plan of composition which develops the main line of thought with relatively simple formulas in the main text and relegates to an appendix the detailed mathematical analysis. This plan is followed here and adds to the readability of the book. Moreover the author has the faculty of getting directly and simply at the fundamental problems he wishes to discuss and thus covers a deal of physics in a brief space and time. He gets into general relativity, including Levi-Civita's parallelism, with no great mathematical splurge. Why cannot more of us write that way? Probably because we cannot think hard enough. It would be desirable for Lorentz to come again and cover the many new ideas which have sprung up since 1922 and which in his brief preface he says might form the subject of a treatise.*

E. B. WILSON

* Since this was written, the scientific world has been saddened by the news of the death of this great man.