

SOME RECENT BOOKS ON MECHANICS.*

A Treatise on Physics. By ANDREW GRAY, LL.D., F.R.S.
Vol. 1, *Dynamics and Properties of Matter.* London, J. &
A. Churchill, 1901. 8vo., xxiii + 688 pp.

Cours de Mécanique. Par CH. CELLÉRIER. Paris, Gauthier-
Villars et Fils, 1892. viii + 617 pp.

NEARLY half a century ago Professors William Thomson of Glasgow and P. G. Tait of Edinburgh planned a Treatise on Natural Philosophy. This work, to be published in three volumes, was to contain a thorough discussion of the phenomena of physical science. The plan seems to have been too great to carry through. The first volume was written and published. Later it was reprinted in two large parts—but alone; and the hope of the scientific world that the other two volumes might be forthcoming must needs be given up forever. Now Professor Andrew Gray, Lord Kelvin's successor in the chair of natural philosophy at Glasgow, publishes the first volume of what purports to be a three volume Treatise on Physics—a sort of junior Treatise on Natural Philosophy as it seems—which, in the words of the author, shall “serve for those who, beginning at the elements of the subject, wish to have in one book an account of theoretical and experimental physics which may be sufficient for most practical purposes of a scientific and technical education.”

How like these sentiments are to those which preface the older work! Yet how the conditions have changed! In the sixties there were in English few if any valuable treatises on mechanics or physics; that of Thomson and Tait stood alone. Now there are numerous expositions of every branch of physical science whether experimental or theoretical. Professor Gray himself has provided us with three volumes on Absolute Measurements in Electricity and Magnetism, one volume on Magnetism and Electricity, and a volume on Bessel's Functions and their Applications with the coöperation of Professor Mathews. But the changes in the number of the expositions of science do not compare with the changes in science itself. During the past thirty or forty years so great advances have been made that for one or two authors to compose something which shall be more than a collection of facts and theories, something which

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