AN ELEMENTARY COURSE OF THEORETICAL AND APPLIED MECHANICS DESIGNED FOR THE USE OF SCHOOLS, COLLEGES, AND CANDIDATES FOR UNIVERSITY AND OTHER EXAMINATIONS

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RICHARD WORMELL

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PREFACE.

THIS Introduction to the Study of Theoretical and Applied Mechanics contains exact but simple demonstrations of all the propositions usually given in similar elementary treatises, with numerous experimental illustrations and practical applications. It is divided into sections, which are to a great extent independent. Each section is followed by a collection of examples, either original or taken from examination papers.

It is not necessary that all the chapters should be taken in order; students reading for the First Examination for B.Sc. of the London University may omit Chapter XII. in Statics, and sections 8 to 11, 16, 17, 23 to 30, 41 to 44, and 51 to 62 in Dynamics; but these parts are required for the Second Examination for B.A. and B.Sc.

The methods adopted in some parts of the work are different from those of other similar treatises; for instance, the fundamental propositions on the Centre of Gravity are based on the principle of limits, and in

the propositions on Motion the relations between the variable elements have been expressed geometrically, so that the demonstrations in Dynamics, as well as in Statics, are geometrical rather than algebraical.

Although the work is specially adapted to the curriculum of the University of London, the author has endeavoured to make it a useful text-book for schools generally, and for students preparing for other examinations.

SECOND EDITION.

THE Second Edition, besides being a thorough revise of the First, contains additions on the following subjects: Forces not in the same plane; the Mechanical Advantage of Compound Machines; Newton's Third Law of Motion; Energy and the Relation between Force and Energy.

April, 1871.

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