THE ELEMENTS OF THE THEORY OF MECHANICS

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ROBERT WALKER

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Trieste

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THEORY OF MECHANICS.

BY THE

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OF WADHAM COLLEGE.

OXFORD

D A TALBOYS

1830

PREFACE.

It is the object of the present treatise to exhibit, in a rigorous and connected form, the principles of Mechanical Science. The works in this department already published in this country are, it is conceived, either limited by the method of demonstration, or deficient in pointing out the connexion of the various parts of the subject. In the present treatise, therefore, the powerful aids of analysis have been introduced; and with the view of marking the distinction between that which is important as theory, and that which is the application of the theory, each of the great divisions of the subject is subdivided into two parts; the first part containing that which rests upon the assumed methods of estimating force, and which will consequently stand upon that, as an hypothesis, were matter differently constituted; the second containing the application of these principles to matter as it is. The application has been carried only so far as seemed necessary to exhibit the importance and object of the results of the theory. Examples have been purposely avoided as tending to draw off the attention from the dependence of one principle upon another, and therefore excluded by the design of the treatise: but, should this attempt be favourably received, the author proposes to prepare another

volume, which shall be, as it were, a companion to the present. This second volume shall contain deductions from the principles here established, a selection of examples with their solutions, either complete, or partly so, or merely with their results, as may appear necessary, and any historical illustration or remark which may throw light or interest upon the subject.

In a work like the present there can be little room for originality, and originality has not been aimed at. Every work, which was thought likely to assist, has been consulted; and whatever appeared to fall in with the design, has been borrowed. The names of Pontécoulant, Poisson, Boucharlat, Venturoli, Lloyd, and Whewell must be mentioned as authors, whose works were constantly at hand; and to the first of these the present treatise is most largely indebted.

For the convenience of students, asterisks are prefixed in the Table of Contents to those articles and chapters which may be omitted on a first reading.

WADHAM COLLEGE,
July 1830.

CONTENTS.

Art.

CHAPTER II.

PARALLEL FORCES.

Art.

*CHAPTER III.

FORCES ACTING IN SPACE.