

**ELEMENTARY TEXT-BOOK  
OF THEORETICAL  
MECHANICS: (KINEMATICS  
AND STATICS)**

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Elementary Text-Book of Theoretical Mechanics: (Kinematics and Statics) by Geo. A. Merrill

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**GEO. A. MERRILL**

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OF THEORETICAL  
MECHANICS: (KINEMATICS  
AND STATICS)**



ELEMENTARY TEXT BOOK  
OF  
Theoretical Mechanics

(KINEMATICS AND STATICS)

BY  
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[AUTHOR'S EDITION.]

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## PREFACE.

The subject of Mechanics, as herein treated, is within the comprehension of students in the upper classes of secondary schools. An intelligent journeyman, also, would find no difficulty in reading and understanding nearly every page of this book. While algebra, geometry and trigonometry are freely used to facilitate the demonstration of principles, a person with only a good working knowledge of arithmetic will be able to understand the principles thus deduced and to apply them,—especially by the aid of the graphical methods which are given with some prominence throughout the book.

The author feels that he enjoys almost a monopoly in this field, so far as American publications are concerned. The teaching of Mechanics as a subject *per se* is confined in the main to collegiate courses, and the few American text-books on the subject are written for students familiar with the calculus. A number of more elementary texts have been published by English authors, but their value to American readers is impaired by the fact that they are usually compiled with a view to meeting the conditions imposed by the English examination system, which does not conform to the American educational plan.

The subject-matter has been restricted to Kinematics and Statics. It is left entirely for future consideration as to whether or not a subsequent volume on Kinetics will be issued.

As this is a text-book and not a treatise, it is written from the standpoint of the student, without attempting to force upon him any rigid sequence of topics and ideas that a logical analysis of the subject might seem at times to require. Beyond an effort to abide by a few of the fundamental precepts of teaching, no one method of presentation has been used to the exclusion of others. Only a few experiments are required or suggested. Any good teacher, however,

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could easily arrange a parallel course of laboratory exercises. In his own classes the author has found that the average student has acquired from his every-day observations and experiences an acquaintance with facts and phenomena quite sufficient to enable him to master the subject without a formal laboratory course. It is probably the same in the higher classes of all schools that include shopwork and general physics in their curricula. Even in the purely academic high schools the course of general physics includes, as a rule, laboratory exercises on the simple machines, friction, acceleration, etc.

The present and prospective prominence of American manufacturing industries not only gives the average young man a zeal for the study of Mechanics, but it also argues the need of giving greater prominence to that subject in the high schools. Looked at from almost any standpoint, the few pages usually allotted to Mechanics in the elementary text-books of Physics are grossly inadequate. Doubtless the teaching of Mechanics as a separate subject would be stimulated by the publication of a number of good text-books in that line.

The author's thanks are extended to Dr. Caroline Baldwin Morrison for numerous suggestions and for the careful reading of the press-proofs.

GEO. A. MERRILL.

SAN FRANCISCO, FEB., 1899.

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1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability, particularly in the context of public sector organizations. The text notes that such records are essential for identifying trends, detecting anomalies, and providing a clear audit trail.

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3. The third part of the document focuses on the role of data in decision-making. It argues that data-driven insights are essential for making informed choices and optimizing operations. The text provides examples of how data analysis can be used to identify areas for improvement and to develop more effective strategies.

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