A First Statics

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TEXT BOOKS FOR SCHOOLS
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PREFACE

The attitude of a student towards a new subject should be that of an investigator. This statement has been criticized because it has been misunderstood, but it is a truism. A student who is not wasting his time is exerting himself to find out something previously unknown to him. This is exactly what a discoverer is doing—with special ability and success.

A discoverer does not try random arrangements of a quantity of apparatus in the hope that "something may turn up." He tests a theory, hypothesis, or notion.

A student then should experiment to enlarge, confirm, clear up, and render exact his previous notion. Neither mere verification nor the determination of isolated facts is of much intellectual value. It is vain to attempt to defend the latter method—which the chemist calls "test-tubing"—by asserting that mechanics deals with things. All sciences deal with ideas and the communication of ideas. A bridge must exist in thought and must exist on paper before it can take form in steel.

On the other hand, it is generally agreed that to develop a science according to a strictly logical scheme from the smallest possible number of axioms is not a profitable course for a beginner. Ideas must be obtained before they...