

some quotations in support of it, the following from General Langlois is particularly interesting. "The officers who leave the school at the end of one year are, in general, inferior to their comrades in the matter of studying logically and deeply a scientific question of tactics or organization. The method of work indispensable to every man of action demands imperiously the study of a science to its foundations, a study which makes the intellect supple and develops a habit of logical deduction necessary to one who commands."

The first part of this volume consists of a chapter on vectors and one on displacements of a rigid body. In the second part the subject of the kinematics of a point and a solid body is presented in the usual manner. The application of kinematics to the theory of machines is quite extensive. Following a classification attributed to Willis, elementary machines are arranged in three classes according as the ratio of transmission is (*a*) constant in magnitude and sign, (*b*) variable in magnitude but constant in sign, or (*c*) variable in both magnitude and sign. Each class is subdivided into three kinds according as the transmission is by (*a*) direct contact, (*b*) a rigid intermediary, or (*c*) a flexible intermediary. The author then gives many examples and develops the theory involved in each subdivision. Statics and dynamics of a point form the subject of the third part, which includes the general principles of mechanics, the theory of the newtonian potential, the motion of a free particle in constant and central fields of force, a short section on ballistics, and the motion of a particle on a curve and on a surface. The last part is devoted to the statics of systems of bodies.

Much of the material in the first volume is taught in courses other than the one for which this text has been prepared and is included here for review or reference. Announcement has been made that the second volume is in press and the third in preparation.

The book contains no problems for solution by the student.

W. R. LONGLEY.

*Problèmes de Mécanique et Cours de Cinématique.* By C. GUICHARD. Paris, A. Hermann et Fils, 1913. 156 pp.

THIS little book has been edited by MM. Dautry and Deschamps and published by l'Association générale des étudiants