

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

de Paris. It represents a course given at the Sorbonne in 1912 by Professor Guichard to the candidates for the "certificat de mécanique rationnelle."

The first four chapters contain solutions of the problems proposed under the following headings. plane kinematics, kinematics of a solid body, dynamics of a point and geometry of masses, and dynamics of systems of bodies. The remainder of the book (about 70 pages) is devoted to an exposition of the theories of kinematics.

W. R. LONGLEY.

NOTES.

THE twenty-second summer meeting of the American Mathematical Society will be held at the University of California and Stanford University on Tuesday–Thursday, August 3–5. Titles and abstracts of papers intended for presentation at this meeting should be in the hands of the Secretary by July 5.

THE March number (volume 16, number 3) of the *Annals of Mathematics* contains the following papers: "Note on normal sections of a surface in a space of n dimensions," by C. L. E. MOORE; "An algebraic treatment of the theorem of closure," by A. A. BENNETT; "An integral equation of the Volterra type," by T. H. GRONWALL; "The linear continuum in terms of point and limit," by R. L. MOORE; "A plane cubic Cremona transformation and its inverse," by F. M. MORGAN; "Relation between the roots of a rational integral function and its derivative," by FRANK IRWIN.

THE forty-third meeting of the French association for the advancement of science was held at Havre July 27–30 under the presidency of A. GAUTHIER. M. BRESSE was chairman of the mathematical section, before which the following papers were presented: "History of calculating machines," by A. GÉRARDIN; "On the periodic movement of a viscous fluid," by R. MESNY; "On Foucault's pendulum" and "The conic and sextic integrals of two homogeneous linear differential equations of the second order," by G. BRESSE; "Note in memory of Henri Poincaré," by E. LEBON; "Indeterminate