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In order that the plan of the book may be understood the following short summary is given of the subjects treated of in Part I.

Chap. 1. Theory of moments of inertia and the ellipsoids of inertia.

Chap. 2. D'Alembert's Principle and other fundamental theorems.

Chap. 3. Theory of motion about a fixed axis with applications to the pendulum, the numerical value of g, the watch balance, the ballistic pendulum, the anemometer.

Chap. 4. General principles of motion in two dimensions. Special consideration of stress, friction, impulses and relative motion.

Chap. 5. Geometry of motion in three dimensions, with Euler's equations.

Chap. 6. On Momentum, with the discussion of sudden changes of motion.

Chap. 7. On Vis Viva and Work, with some general theorems by Carnot, Bertrand, Thomson and Gauss.

Chap. 8. Lagrange's equations. Theory of reciprocation, the Hamiltonian transformation and the Modified function.

Chap. 9. Small oscillations. Several methods described. Lagrange's method, the energy test of stability and the Cavendish experiment.

Chap. 10. Some special problems. Oscillations of rolling bodies, and Lagrange's rule with regard to large tautochronous motions.