

Forces can
be represented by
straight
lines.

11. Since the three elements which serve to determine a pressure are in their nature identical with those which determine a straight line—namely, magnitude, direction, and point through which it is to be drawn—it follows that a straight line may properly be taken as the representative of a pressure. When, however, a line AB is so taken, it will be understood that the pressure acts in the direction from A towards B ; if written BA , then from B towards A . Frequently also, the words “represented by” will be omitted, and we shall use “the force AB ” to indicate the force represented in magnitude and direction by the line AB , acting in a direction from A towards B .

12. We now proceed to state the two problems of Statics which alone will be here touched upon.

(1). The conditions of equilibrium for any set of Forces acting on the same particle.

(2). The conditions of equilibrium when Forces act on a rigid system of particles which has a fixed axis round which it can turn freely, the Forces acting perpendicularly to this axis.
