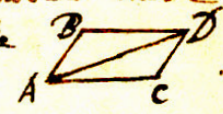


Hypoth. 1. Bodies move uniformly in straight lines unless so far as they are retarded by the resistance of y^e Medium or disturbed by some other force.

Hyp. 2. The alteration of motion is ever proportional to y^e force by wch it is altered.

Hyp. 3. ~~Two~~ Motions imparted in ^{two} different lines, if those lines be taken in proportion to the motions & compounded into a parallelogram, compose a motion whereby the diagonal of y^e Parallelogram shall be described in the same time in wch y^e sides thereof would have been described by those compounding motions apart. The  motions AB & AC compound the motion AD.

Prop. 1.

If a body move in vacuo & be continually attracted toward an immovable center, it shall constantly move in one & the same plane, & in that plane describe equal areas in equal times.

Let A be y^e center towards wch y^e body is attracted, & suppose y^e attraction acts not continually but by discontinued impressions made at equal intervals of time wch intervals we will consider as physical moments. Let BC be y^e right line in wch it begins to move from B & ~~at~~ wch it describes with uniform motion in the first physical moment before y^e attraction make its first impression upon it. At C let it be attracted towards y^e center A by one impuls or impression of force, & let CD be y^e line in wch it shall move after that impuls.

Produce BC to J so that CJ be equal to BC & draw JD parallel to CA & the point D in wch it cuts CD shall be y^e place of y^e body at the end of y^e second moment. And because the bases BC CJ of the triangles ABC, ACJ are equal those two triangles shall be equal. Also because the triangles ACJ, ACD stand upon the same base AC & between two parallels they shall be equal. And therefore the triangles ACD described in the second moment shall be equal to y^e triangle ABC described in the first moment. And by the same reason if the body at y^e end of the 2^d, 3^d, 4th, 5th & following moments be attracted by single impulses in D,

