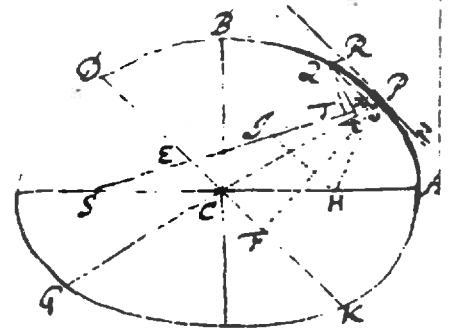


## De Motu Corporum in Gyrum

*Problem 3.* A body orbits in an ellipse: there is required to find the law of centripetal force tending to a focus of the ellipse.



*Scholium.* The major planets orbit, therefore, in ellipses having a focus at the center of the Sun, and with their *radii* drawn to the Sun describe areas proportional to the times, exactly as Kepler supposed.

*Theorem 4.* Supposing that the centripetal force be reciprocally proportional to the square of the distance from the center, the squares of the periodic times in ellipses are as the cubes of their transverse axes.

