

round its own axis, has necessarily taken the figure of a spheroid, the axes of which are as 229 to 230. The direction of the weight must be perpendicular to the Earth's surface; consequently no hypothesis, drawn from the direction of gravity, can be sustained, unless the general attraction of the parts of matter be denied; but the existence of this mutual attraction is demonstrated by observations, and the experiment of pendulums proves, that its extension is general; therefore we cannot support an hypothesis on the direction of gravity, without going against experience and reason.

Let us now proceed to examine whether the matter of which the terrestrial globe is composed be homogeneous. I admit, that if it be supposed the globe is more dense in some parts than in others, the direction of gravity must be different from what we have just assigned, and that the figure of the Earth would also differ, agreeably to those suppositions. But what reason have we to make these suppositions? Why, for example, should we suppose that the parts near the centre are more dense than those which are more remote? Are not all the particles which compose the globe collected together by their mutual attraction?

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