

every department in nature. Wield the visible part of the universe; the stars in countless numbers studding the celestial vault like clusters of diamonds, display their motions, their forms, their densities to us only through mathematics. The changes of the seasons, the extremes of cold and heat, can only be explained by mathematical changes in our globe with respect to the sun. The astonished student of nature may fly to the surface of the earth to escape from the dominions of mathematics, but these multitudinous layers of earth and rocks require the agency of mechanical forces to account for their formation. He pauses, and betakes himself to mineralogy, but there he finds no rest; the first crystal exhibits a geometrical form. Chemistry lectures on ratio and proportion: botany addresses itself to every sense in forcible terms, and teaches the necessity of equilibrium. Machinery and engineering point out the mathematical laws of gravity. He cannot mount his horse without using his stirrups for a fulcrum in mathematical style, and when he is seated he must be circumspect, or gravity will draw him down, or inertia precipitate him forward in case he should check his gait suddenly. He cannot protect himself in his onward flight from the inclemency of the weather without using the mathematical principles of cohesion to draw his clothes together. Should he get on cars, steamboats or wagons, he is carried on by mathematical motion. Should his determination to avoid mathematics cause him to lay down and die rather than move by its agency, he finds himself reclining upon a soil held together by cohesion, and that he is only allowed to remain at all by the politeness of gravity. If he wishes to inhale fresh air to alleviate his suffering moments, he must acknowledge the mathematical attraction that keeps it together, and if finally he meditates suicide to release himself from the impositions of the detestable science, he must use a weapon propelled by a mathematical force to rid himself of its ubiquitous presence.

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