

come to measure in figures either the magnitude or the minuteness of its mechanisms, we find our arithmetic almost breaking down in the attempt, and numbers of ten or twenty places of figures, as it were tossed about like dust, and turning up on every occasion.

(4.) To come then to our subject. The first and most important office the sun has to perform in our system is to keep it together, to keep its members from parting company, from *seceding*, and running off into outer darkness, out of the reach of the genial influence of his beams. Were the sun simply *extinguished*, the planets would all continue to circulate round it as they do at present, only in cold and darkness; but were it annihilated, each would from that moment set forth on a journey into infinite space in the direction in which it happened then to be moving; and wander on, centuries after centuries, lost in that awful abyss which separates us from the stars, and without making any sensible approach even to the nearest of them in many hundreds or even thousands of years. The power by which the sun is enabled to perform this office—to gather the planets round its hearth and to keep them there—is the same in kind (though very different in intensity) with that which when a stone is thrown up into the air draws it down again to the earth. As to the manner in which this is effected by the weight of the stone, or its tendency to fall straight down, acting to turn or draw it out of its right-lined course oblique to the surface, and oblige it to move in a curve,—with the explanation of that we have here nothing to do.