## No 6

It is impossible to deduce Kepler's law (as M. Comte has most vainly attempted) from the condensation of a nebula, & to show that planetary rings must be thrown off exactly where we now find our planets; for to do this, we must know the law of nebular density during all its successive conditions, whether gaseous, fluid, or solid, which is obviously impossible. Laplace made no such vain attempt; he knew his materials far too well. All we have to suppose is this —— that the revolving mass, during the progress of its various changes, may several times over have reached the critical condition we have pointed out; in which case several rings must be thrown off; & if such rings were thrown off, then Kepler's law must follow of physical necessity for it is virtually implied in the critical condition.

"But has any thing been done for the hypothesis since the time of Laplace? We reply, absolutely nothing. Our author bestows very unmerited praise upon the somewhat ostentatious calculations of M. Comte. As far as they are good for any thing, they only tend to prove a proposition demonstrated with beautiful simplicity by Newton — that the motions of a planet revolving in an orbit nearly circular, are not affected by the magnitude of the central spherical body, while its whole mass remains the same. Hence if the sun were suddenly expanded to the limits of our atmosphere,

the earth would go on (for we will suppose her not to be dissipated by heat) just as she did before. And, in like manner, were the earth blown not like a bladder, and expanded nearly to the moon, the moon's orbit need not change one inch; nor would she have her movements disturbed by the sudden turmoil in her primary. We owe M. Comte no thanks for proving an identical proposition, or telling us what we knew before. Had he shown, on any probable law of condensation, that the nebulous matter must reach the <u>critical condition</u> & that rings must be thrown off, he would have done something to the purpose; but he has not done this; and we believe the problem is beyond the power of any analysis. In short, he has left the nebular hypothesis where he found it. He has imposed on himself by not grasping the conditions of the problem; and our author has been imposed on by not understanding the feebleness of M. Comte's analysis." (From the Edinburgh Review on "Vestiges of the Natural History of Creation" No 165 p. 22-3 (July 1845)