question naturally arises, Is the world of the fixed stars composed merely of a number of neighboring partial systems divided into groups, or must we assume the existence of a universal relation, a rotation of all self-luminous celestial bodies (*suns*) around *one common center of gravity which is either filled with matter or void?* We here, however, enter the domain of mere conjecture, to which, indeed, it is not impossible to give a scientific form, but which, owing to the incompleteness of the materials of observation and analogy which are at present before us, can by no means lead to the degree of evidence attained by the other parts of astronomy The fact that we are ignorant of the proper motion of an infinite number of very small stars from the tenth to the fourteenth magnitude, which appear to be scattered among the brighter ones, especially in the important part of the starry stratum to which we belong, the *annuli of the Milky Way*, is extremely prejudicial to the profound mathematical treatment of problems so difficult of solution. The contemplation of our own planetary sphere, whence we ascend, from the small partial systems of the moons of Jupiter, Saturn, and Uranus, to the *higher* and general *solar system*, has naturally led to the belief that the fixed stars might in a similar manner be divided into several individual groups, and separated by immense intervals of space, which again (in a higher relation of these systems one to another) may be subject to the overwhelming attractive force of a great central body (one sole sun of the whole universe).* The inference here advanced, and founded on the analogy of our own solar system, is, however, refuted by the facts hitherto observed. In the *multiple* stars, two or more self-luminous stars (suns) revolve, not round one another, but round an external and distant center of gravity. No doubt something similar takes place in our own planetary system, inasmuch as the planets do not properly move round the center of the solar body, but around the common center of gravity of all the masses in the system. But this common center of gravity falls, according to the relative positions of the great planets Jupiter and Saturn, sometimes within the circumference of the sun's body, but oftener out of it.† The center of gravity, which in the case of the double stars is a void is

* The value or worthlessness of such views has been discussed by Argelander in his essay, "*Ueber die eigene Bewegung des Sonnensystems hergeleitet aus der eigenen Bewegung der Sterne*, 1837, s. 39.

† See *Cosmos*, vol. i., p. 145. (Mädler, *Astr.*, p. 400.)