

The great facts of evolution in regard to the general scheme of things being admitted, the question as to the details of the process in a single system naturally arises, and naturally too we turn to the system which we can examine at closest range, the solar system of which we are a part. No longer do we find a large measure of agreement as to the lines of progress. Certain bolder features call for a quite general assent, but "vergent theories and assumptions soon appear, and where assumptions may be so varied, and final tests of theories can so seldom be made, there is a rich field for conflicting explanations and controversy. An examination of the various proffered theories, particularly when one has to give some account of them, may well call up the opening lines of the great poem of Dante, which itself had as setting the universe as conceived at the time :

" In the middle of the journey of our life, I (came to) myself in a dark wood
[where] the straight way was lost.

Oh! how hard a thing it is to tell what a wild and rough and stubborn wood
this was, which in my thought renews the fear!

So bitter is it, that scarcely more is death, but to treat of the good that I there
found, I will relate the other things that I discerned."

Fortunately the " good " and the " other things " here call for only brief treatment. First let us consider in mere outline the Nebular Theory of Laplace, and it may be best to follow his own account :

" To arrive at the cause of the primitive motions of the planetary system we have the following phenomena : the motions of the planets in the same sense and almost in the same plane ; the motions of the satellites in the same sense as the planets ; the motion of rotation of these different bodies and of the sun in the same sense as the movement of revolution, and in planes only slightly different ; the almost circular form of the orbits of the planets and satellites.

Let us see if it is possible to rise to their veritable cause.

Whatever its nature, since it produced or directed the movements of the planets it must have embraced all these bodies, and in view of the great distances which separate them it must have been a fluid of immense extent. To have given to them a movement almost circular and in the same sense about the sun, this fluid must have surrounded the sun as an atmosphere. The consideration of the planetary motions leads us to think that in virtue of an excessive heat, the atmos.