

magnetic intensity of the TWO HEMISPHERES of our globe; but in order to understand the explanation which I propose, it will be necessary for a time to assume that the sun is intensely positive, and that it disturbs the electrical equilibrium of the planets by the law of *induction*, and then the obliquity of the ecliptic to the plane of the equator would seem to result as a matter of course from such a state of things.

If ever our earth revolved upon an axis perpendicular to the plane of its orbit, then the plane of the ecliptic and the plane of the equator must, as a natural consequence, have coincided; but so soon as any cause or causes whatever conspired to render one hemisphere of the globe negative, and the other positive, [the southern negative and the northern positive,] immediately the inductive influence of the sun began to be unequally exerted upon them.

The attraction of the positive sun would be greatest on the negative or southern hemisphere, and this attraction would occasion a depression of the negative pole and a corresponding elevation of the positive pole; and this depression of the southern, and elevation of the northern pole, would give the identical inclination of the earth's axis to the plane of the ecliptic which we see it now possesses; and the rapidity with which this inclination increased must have been proportionate to the original eccentricity of the earth's orbit, and to the *negative intensity* of the SOUTHERN HEMISPHERE, while the extent to which it advanced must have been determined by the gradual approach of the earth's orbit to a circular shape, and the resistance which the rotary motion of the earth upon its axis furnished to the disturbing influence of the sun. One of the strongest arguments in favor of this explanation is, that the present inclination of the earth's axis to the plane of the ecliptic, could not have been produced by the inductive influence of the sun in an orbit of any other shape than that which the earth possesses. For it is obvious, that if the earth's orbit had been a perfect circle, any depression of the southern pole occasioned by the inductive influence of the sun, would have been perpetually increasing, until it [the southern pole] would have pointed directly to the sun in every portion of its orbit; and it would have been impossible for the earth's axis to have continued under these circumstances parallel to itself in its revolution round the sun. For it is clear, that the attraction of the positive sun for the negative hemisphere would have been equal from every point of a circular orbit; and hence the slightest inclination of the southern pole towards the sun would have been maintained in every portion of the orbit, causing the northern pole to describe annually circles in the heavens similar to those which are now occasioned by the precession of the equinoxes in every 2,500 years.

Nor could the present inclination of the axis have been produced in an elliptical orbit if the sun had been situated in the centre of the ellipse; for the first inclination would have taken place in the earth's axis at its nearest approach to the sun, which would have been in passing the shorter diameter of its orbit, and whatever inclination towards the sun the southern pole might have received at this point, would have been corrected as the earth on its return passed the opposite portion of its orbit.

It is clear, that the attraction of the positive sun for the negative hemisphere of our globe in passing the two extremes of the shorter axis of its orbit, would have been exerted in diametrically opposite directions, so that although the inductive influence of the sun thus situated in the centre of the ellipse might have occasioned oscillations in the earth's axis of rotations, still it never could have given to it any permanent inclination. But place the sun in one of the foci of the ellipse, and you will find that his inductive influence will produce a very similar if not the identical