

the wants, even of the least civilized nations. But the distribution of the places and motions of the heavenly bodies by means of a celestial sphere with imaginary lines drawn upon it, is a step in *speculative* astronomy, and was occasioned and rendered important by the scientific propensities of man.

It is not easy to say with whom this notion originated. Some parts of it are obvious. The appearance of the sky naturally suggests the idea of a concave Sphere, with the stars fixed on its surface. Their motions during any one night, it would be readily seen, might be represented by supposing this Sphere to turn round a Pole or Axis; for there is a conspicuous star in the heavens which apparently stands still (the Pole-star); all the others travel round this in circles, and keep the same positions with respect to each other. This stationary star is every night the same, and in the same place; the other stars also have the same relative position; but their general position at the same time of night varies gradually from night to night, so as to go through its cycle of appearances once a year. All this would obviously agree with the supposition that the sky is a concave sphere or dome, that the stars have fixed places on this sphere, and that it revolves perpetually and uniformly about the Pole or fixed point.

But this supposition does not at all explain the way in which the appearances of different nights succeed each other. This, however, may be explained, it appears, by supposing the *sun* also to *move among the stars* on the surface of the concave sphere. The sun by his brightness makes the stars invisible which are on his side of the heavens: this we can easily believe; for the moon, when bright, also puts out all but the largest stars; and we see the stars appearing in the evening, each in its place, according to their degree of splendor, as fast as the declining light of day allows them to become visible. And as the sun brings day, and his absence night, if he move through the circuit of the stars in a year, we shall have, in the course of that time, every part of the starry sphere in succession presented to us as our nocturnal sky.

This notion, that *the sun moves round among the stars in a year*, is the basis of astronomy, and a considerable part of the science is only the development and particularization of this general conception. It is not easy to ascertain either the exact method by which the path of the sun among the stars was determined, or the author and date of the discovery. That there is some difficulty in tracing the course of the sun among the stars will be clearly seen, when it is considered that no