

system. This could hardly have occurred by any thing which we can call chance. Let it be granted, that the law of gravitation is established, and that we have a large mass, with others much smaller in its comparative vicinity. The small bodies may then move round the larger, but this will do nothing towards making it a *sun* to them. Their motions might take place, the whole system remaining still utterly dark and cold, without day or summer. In order that we may have something more than this blank and dead assemblage of moving clods, the machine must be lighted up and warmed. Some of the advantages of placing the lighting and warming apparatus in the centre are obvious to us. It is in this way only that we could have those regular periodical returns of solar influence, which, as we have seen, are adapted to the constitution of the living creation. And we can easily conceive, that there may be other incongruities in a system with a travelling sun, of which we can only conjecture the nature. No one probably will doubt that the existing system, with the sun in the centre, is better than any one of a different kind would be.

Now this lighting and warming by a central sun are something superadded to the mere mechanical arrangements of the universe. There is no apparent reason why the largest mass of gravitating matter should diffuse inexhaustible supplies of light and heat in all directions, while the other masses are merely passive, with respect to such influences. There is no obvious connexion between mass and luminousness, or temperature. No one, probably, will contend that the materials of our system are necessarily luminous or hot. According to the conjectures of astronomers, the heat and light of the sun do not reside in its mass, but in a coating which lies on its surface. If such a coating were fixed there by the force of universal gravitation, how could we avoid having a similar coating on the surface of the earth, and of all the other globes of the system. If light consist in the