

*Geology.*

(313.) The researches of physical astronomy are confessedly incompetent to carry us back to the origin of our system, or to a period when its state was, in any great essential, different from what it is at present. So far as the causes now in action go, and so far as our calculations will enable us to estimate their effects, we are equally unable to perceive in the general phenomena of the planetary system either the evidence of a beginning, or the prospect of an end. Geometers, as already stated, have demonstrated that, in the midst of all the fluctuations which can possibly take place in the elements of the orbits of the planets, by reason of their mutual attraction, the general balance of the parts of the system will always be preserved, and every departure from a mean state periodically compensated. But neither the researches of the physical astronomer, nor those of the geologist, give us any ground for regarding our system, or the globe we inhabit, as of eternal duration. On the contrary, there are circumstances in the physical constitution of our own planet which at least obscurely point to an origin and a formation however remote, since it has been found that the figure of the earth is not globular but elliptical, and that its attraction is such as requires us to admit the interior to be more dense than the exterior, and the density to increase with some degree of regularity from the surface towards the centre, and *that*, in layers arranged elliptically round the centre, circumstances which could scarcely happen without some such successive deposition of materials as would enable pressure to be propagated with a certain degree of freedom from one part of the mass to another, even if we should hesitate to admit a state of primitive fluidity.

(314.) But from such indications nothing distinct can be concluded; and if we would speculate to any purpose on a former state of our globe, and on the succession of events which, from time to time, may have changed the condition and form of its surface, we must confine our