

man raised by his moral and intellectual faculties above the animals next below him in rank, that the idea of his gradual evolution from them is absurd. Man's moral powers, for instance, which are his noblest distinction, do not exist at all in the lower animals. Nothing but miraculous creation can explain the existence of man. 5. The admission of a distinct stirps for each of the classes, is a virtual abandonment of the whole hypothesis; for it admits, for example, that a flowering plant and a vertebral animal commenced two of these series, although to reach such a height or organization, requires, by the same hypothesis, a transmutation through all the flowerless plants and invertebrate animals. 6. There is decisive evidence that in many cases during the geological periods, animals, instead of ascending, descended on the scale of organization from the more to the less perfect. 7. Geology shows us that there was a time when organic life first appeared on the globe, and an indefinitely long period when no animals or plants existed. What gave the laws of nature the power, all at once, to start the new races? Why was not that power put forth earlier, or even from eternity, if the world existed from eternity? In short, of all the sciences, geology affords the fewest facts to sustain this hypothesis. No other science presents us such repeated examples of special miraculous intervention in nature.

*Inference 7. The changes which have occurred on the globe, both organic and inorganic, have shown progress from the less to the more perfect.*

*Proof 1.* As the temperature of the interior of the earth is much higher than that of surrounding space, by the laws of heat there must be a constant radiation of heat into space, and unless this can be proved to have proceeded in a cycle, or without end,—which can not be done,—the earth must have been constantly undergoing physical changes. If this process of refrigeration has been going on long enough, there must have been a time when the surface was too hot for any kind of organic beings to exist upon it. And when it became possible for some sorts to be placed upon it, it was still unadapted for those of complicated organization. 2. Accordingly, we find but a few of the flowering plants, or of vertebral animals, in the lowest rocks, and their number and perfection have for the most part increased from the first, while the lower classes have made but little progress, and perhaps in some instances have retrograded. 3. The surface has been rendered capable of sustaining beings of a higher organization in three modes; first, by the operation of aqueous and atmospheric agencies the quantity of soil has been increased; secondly, animals and plants have eliminated lime from its more hidden combinations, and converted it into carbonate and sulphate; thirdly, the surface has reached a statical condition, and the climate is more congenial to such natures.

*Obj.* Almost every year brings to light in the rocks evidence of the existence of more perfect animals and plants at an earlier date than had been known, and since the greater part of the earlier fossils are marine, perhaps the number of air-breathing vertebrate animals and of flowering plants found among them, is almost as great as we ought to expect, even if the present condition of things has existed from the earliest Silurian periods.

*Ans.* It is true that one or two examples of Batrachians and Chelonians have been found as low as the Devonian series, but not one in the vast formations below, nor a single example of mammals till we rise to the trias; whereas in the tertiary we find 392 species of mammals, and in the alluvial 358 species; and among existing animals 2,030 species; and a similar prodigious increase of more perfect forms exists in almost all other vertebral