

novel and anomalous, carefully to consider the powers of all other animated agents which may be limited or superseded by him. Many who have reasoned on these subjects seem to have forgotten that the human race often succeeds to the discharge of functions previously fulfilled by other species. Suppose the growth of some of the larger terrestrial plants, or, in other words, the extent of forest, to be diminished by man, and the climate to be thereby modified, it does not follow that this kind of innovation is unprecedented. It is a change in the state of vegetation, and such may often have been the result of the appearance of new species upon the earth. The multiplication, for example, of certain insects in parts of Germany, during the last century, destroyed more trees than man, perhaps, could have felled during an equal period.

It would be rash, however, to affirm that the power of man to modify the surface may not differ in kind or degree from that of other living beings; although the problem is certainly more complex than many who have speculated on such topics have imagined. If land be raised from the sea, the greatest alteration in its physical condition, which could ever arise from the influence of organic beings, would probably be produced by the first immigration of terrestrial plants, whereby the new tract would become covered with vegetation. The change next in importance would seem to be when animals first enter, and modify the proportionate numbers of certain species of plants. If there be any anomaly in the intervention of man, in farther varying the relative numbers in the vegetable kingdom, it may not so much consist in the kind or absolute quantity of alteration, as in the circumstance that a *single species*, in this case, would exert, by its superior power and universal distribution, an influence equal to that of hundreds of other terrestrial animals.

If we inquire whether man, by his direct power, or by the changes which he may give rise to indirectly, tends, upon the whole, to lessen or increase the inequalities of the earth's surface, we shall incline, perhaps, to the opinion that he is a levelling agent. In mining operations he conveys upwards a certain quantity of materials from the bowels of the earth; but, on the other hand, much rock is taken annually from the land, in the shape of ballast, and afterwards thrown into the sea, and by this means, in spite of prohibitory laws, many harbours, in various parts of the world, have been blocked up. We rarely transport heavy materials to higher levels, and our pyramids and cities are chiefly constructed of stone brought down from more elevated situations. By ploughing up thousands of square miles, and exposing a surface for part of the year to the action of the elements, we assist the abrading force of rain, and diminish the conservative effects of vegetation.