indicative of the general laws which determine the distribution of heat, moisture, and other natural agents, over its surface, and the revolutions it has undergone, are of course intimately connected with our subject, and will, therefore, naturally afford room for some remarks, but not such as will long detain the reader's attention.

(381.) In *zoology*, the connection of peculiar modes of life and food, with peculiarities of structure, has given rise to systems of classification at once obvious and natural; and the great progress which has been made in comparative anatomy has enabled us to trace a graduated scale of organization almost through the whole chain of animal being; a scale not without its intervals, but which every successive discovery of animals heretofore unknown has tended to fill up. The wonders disclosed by microscopic observation have opened to us a new world, in which we discover, with astonishment, the extremes of minuteness and complexity of structure united; while, on the other hand, the examination of the fossil remains of a former state of creation has demonstrated the existence of animals far surpassing in magnitude those now living, and brought to light many forms of being which have nothing analogous to them at present, and many others which afford important connecting links between existing genera. And, on the other hand, the researches of the comparative anatomist and conchologist have thrown the greatest light on the studies of the geologist, and enabled him to discern, through the obscure medium of a few relics, scattered here and there through a stratum, circumstances connected with the formation of the stratum itself which he could have recognised by no other indication. This is one among many striking instances of the unexpected lights which sciences, however apparently remote, may throw upon each other.

(382.) To *botany* many of the same remarks apply. Its artificial systems of classification, however convenient, have not prevented botanists from endeavoring to group together the objects of their science in natural classes having a community of character more intimate