

would scarcely ever have been heard of. Nature seems to have established strong barriers around species, so that an identity should be preserved; and even if we admit the possibility of their coalescence in some cases, yet we have evidence that almost always they are preserved distinct from century to century; and the same is true even of the more prominent varieties, for we find not only the same species, but the same varieties of animals and plants, preserved some three thousand years in the Egyptian catacombs, that are now alive in the same country. How idle, then, to suppose that the laws of hybridity will account for such radical and entire transmutations as this hypothesis supposes! To accomplish this, it would need as strong a tendency in nature to a union of species, genera, and families, as now exists against it.

But a special appeal has been made on this subject to geology. The history of organic remains, it is thought, corresponds to what we might expect, if the hypothesis of development is true. In the oldest rocks we find chiefly the more simple invertebrate animals, and the vertebrated tribes appear at first in the form of fish, then of reptiles, then of birds, then of mammals, and last of all of man. What better confirmation could we wish than this gradually expanding series? True, all the great classes of organic beings, vegetable and animal, are found nearly at the earliest epoch, and continue through the entire series of rocks. But we have only to suppose a distinct stirps for each of the classes, and that the developments took place along parallel lines, in order to harmonize the facts with the hypothesis.

Such a general view of the subject of organic remains seems to give plausibility to the hypothesis of organic development. But the tables are turned when we descend to particulars. The idea of a distinct stirps or germ for each great class of animals and plants seems to me to destroy an essential feature of the hypothesis. It supposes that law produces at once a vertebral animal and a flowering plant; for the first, certainly, we find in the very lowest of the fossiliferous rocks. 'The lower silurian,' says Sir Roderick Murchison, in 1847, 'is no longer to be viewed as an invertebrate period, for the onchus (a genus of fish) has been found in the Llandeilo Flags, and in the lower silurian rocks of Bala.'

It is also a most important fact, that this fish of the oldest