

remains first occur, over what we may term the densely crowded platform of violent death, the explorer may labor for hours together without finding a single scale.

It is worthy of remark, however, that this upper bed abounds quite as much in the peculiar vegetable impressions of the formation as the lower platform itself. An abundance equally great occurs in some localities only a few inches over the line of the exterminating catastrophe. Thickets of exactly the same algæ, amid which the fish of the formation had sheltered when living, grew luxuriantly over their graves when dead. The agencies of destruction which annihilated the animal life of so extended an area, spared its vegetation; just as the identical forests that had waved over the semi-civilized aborigines of North America continued to wave over the more savage red men, their successors, long after the original race had been exterminated. The inference deducible from the fact, though sufficiently simple, seems in a geological point of view a not unimportant one. *The flora of a system may long survive its fauna; so that that may be but one formation, regarded with reference to plants, which may be two or more formations, regarded with reference to animals.* No instance of any such phenomenon occurs in the later geological periods. The changes in animal and vegetable life appear to have run parallel to each other from the times of the tertiary formations down to those of the coal but in the earlier deposits the case must have been different. The animal organisms of the newer Silurian strata form essentially different groups from those of the Lower Old Red Sandstone, and both differ from those of the Cornstone divisions; and yet the greater portion of their vegetable remains seem the same. The stem-like impressions of the fucoid bed of the Upper Ludlow Rocks cannot be distinguished from