

direction of the future Grampians, we may espy a cloud-enveloped island ; but such is its remoteness, and such the enveloping haze, that we can know little more than that it bears along its shores and on its middle heights a forest of nameless trees, unchronicled by the fossil botanist.

In bringing to a close this part of my subject, let me here remark that, if we except the obscure and humbly organized diatomaceæ,—a microscopic family of organisms which some of our authorities deem animal and some vegetable, and of which hundreds and thousands would find ample room in a single drop of water,—we have now reached a point in the history of our country in which there existed no *species* of plant or animal that exists at the present time. Not a reptile, fish, mollusc, or zoophyte of the Cretaceous system continues to live. We know that it is appointed for all individuals once to die, whatever their tribe or family, because hitherto all individuals *have* died ; and Geology, by extending our experience, shows us that the same fate awaits on species as on the individuals that compose them. In the one case, too, as in the other, death has its special laws ; but the laws which determine the life and death of species seem widely different from those which regulate the life and death of individuals and generations. In general, and with but a few exceptions in favour of the cold-blooded division of the vertebrata, the higher orders of animals live longest. A man may survive for a hundred years ; an ephemera bursts from its shell in the morning, and dies at night. But it is far otherwise with the higher orders of species. Molluscs and corals outlive the vertebrata ; and tribes of the low infusory animals outlive molluscs and corals. We know not that a single shell of at least the latter Pleistocene period has become extinct ; but many of its noblest quadrupeds, such as the Irish elk, the cave-bear, tiger, and hyena, and the northern rhinoceros, hippopotamus, and elephant, exist no longer. And as we