

those migrations, extinctions, and renovations of which their fossil remains and present distribution afford evidence.

Still, it is true that throughout the whole of these great mutations, since the beginning of geological history, there seems never to have been any time when the ocean so regained its dominion as to produce a total extinction of land life; still less was there any time when the necessary conditions of all the various forms of marine life failed to be found; nor was there any climatal change so extreme as to banish any of the leading forms of life from the earth. To geologists it is not necessary to say that the conclusions sketched above are those that have been reached as the results of long and laborious investigation, and which have been illustrated and established by Lyell, Dana, Wallace,¹ and many other writers.² Let us now place beside them some facts as to the present distribution of life, and of the agencies which influence it.

Just as political geography sometimes presents boundaries not in accordance with the physical structure of countries, so the distribution of animals and plants shows many peculiar and unexpected features. Hence naturalists have divided the continents into what Sclater has called zoological regions, which are, so to speak, the great empires of animal life, divisible often by less prominent boundaries into provinces. In vegetable life similar boundaries may be drawn, more or less coincident with the zoological divisions. Zoologically, North America and Greenland may be regarded as one great region, the Nearctic, or new Arctic, the prefix not indicating that the animals are newer than those of the old world, which is by no means the case. South America constitutes another region—

¹ Wallace, "Geographical Distribution of Animals" and "Island Life." Second edition.

² The writer has endeavoured to popularize these great results of geology in his work, the "Story of the Earth." Ninth Edition. London, 1887. They are often overlooked by specialists, and by compilers of geological manuals.