plants and animals were driven in upon insular areas, and on re-elevation, again spread themselves widely. Now I think it will be found to be a law here that periods of expansion were eminently those of introduction of new specific types, and periods of contraction those of extinction, and also of continuance of old types under new varietal forms.

It must also be noticed that all the leading types of invertebrate life were early introduced, that change within these was necessarily limited, and that elevation could take place mainly by the introduction of the vertebrate orders. So in plants, Cryptogams early attained their maximum as well as Gymnosperms, and elevation occurred in the introduction of Phænogams, and this not piecemeal, but as we shall see in a succeeding chapter, in great force at once.

We may further remark the simultaneous appearance of like types of life in one and the same geological period, over widely separated regions of the earth's surface. This strikes us especially in the comparatively simple and homogeneous life-dynasties of the Palæozoic, when, for example, we find the same types of Silurian Graptolites, Trilobites and Brachiopods appearing simultaneously in Australia, America and Europe. Perhaps in no department is it more impressive than in the introduction of the Devonian and Carboniferous Ages of that grand cryptogamous and gymnospermous flora which ranges from Brazil to Spitzbergen, and from Australia to Scotland, accompanied in all by the same groups of marine invertebrates. Such facts may depend either on that long life of specific types which gives them ample time to spread to all possible habitats, before their extinction, or on some general law whereby the conditions suitable to similar types of life emerge at one time in all parts of the world. Both causes may be influential, as the one does not exclude the other, and there is reason to believe that both are natural facts. Should it be ultimately proved that species allied and representative, but distinct in