ditions most favourable to the development of these em­bryons are humidity, produced by a feeble vegetable fer­mentation, with a proportional temperature (between + 20° and + 6° R.), and under circumstances likely to favour absorption and evaporation through the external tunic of the egg. Hence their love of dunghills, or heaps of leaves piled up in places open to the sun.

The supposition entertained by many is incorrect, that poisonous serpents always produce living young, and that the innocuous kinds as constantly deposit eggs. This di­versity in the generative process does not seem to bear any relation to the organization of the species ; at least we find the two modes exemplified in nearly-related species of the same genus. Thus the harmless *Coronella lævis* pro­duces young as lively as those of the common viper ; *Boa murina* is also viviparous, while the deadly *Najas* and seve­ral others lay eggs. The number of young ones varies in different species. M. Schlegel did not find above ten in several kinds of *calamaria,* from twenty to twenty-five in the genus *coluber,* and above thirty in *Trigonoeephalus atrox.* The offspring usually differ from their parents in being of more lively colours, with the head blunter and rounder, the eyes larger, and the scales and other appen­dages of the epidermis less raised. They are, however, furnished with teeth exactly like those of their respective parents, and of which they do not fail, when occasion offers, to make speedy use. The venomous kinds instinctively elevate and depress their poison-fangs, as if ready from the first to defend themselves against that persecution to which their race is subjected. The European kinds are known to change their skins about five times every sum­mer, that is, once a month from the end of April to the beginning of September. They are capable of long-con­tinued abstinence, independent of the lethargic state into which the northern species fall in winter. A *Boa con­strictor* sent from Surinam to Holland fasted continuously for six months. The age to which serpents attain is to us unknown.

We shall now devote a few pages to a branch of our sub­ject of peculiar interest, which we have seldom altogether neglected in relation to other departments of zoology in the course of the present work, and which, so far as con­cerns the singular beings now under more particular consi­deration, has never been at all discussed in any work ac­cessible to the English reader,—we mean the distribution of serpents over the earth’s surface.

A knowledge of the geographical distribution of reptiles may be regarded, not only as highly interesting in itself, but as extremely important in relation to the general sub­ject of the location of organized life. Numerous diversify­ing agents tend to alter the original position of plants. Their seeds are carried hither and thither both by winds and waves, the human race have transported them to and from many distant regions, and artificial culture has so changed their natural characters, that the very earth which bore them can no longer recognise her offspring. A vast majority of living beings are created with the means of transporting themselves, with more or less facility, from one country to another. Many quadrupeds are continually ex­tending the sphere of their original habitation ; birds of powerful flight wing their buoyant way from clime to clime ; while the liquid depths of ocean offer a vast continuous space, within which the finny tribes may exercise their mi­gratory movements. But it is far otherwise with the race of reptiles, especially the footless tribe of serpents. Destitute of the power of long-continued locomotion, they never at­tempt to travel far from the places of their birth, and thus, even in our own days, they still represent more accurately than do the other classes of the animal kingdom the posi­tions in which they may be supposed to have been origi­nally placed. Such as inhabit northern countries, and are

at the same time incapable of enduring cold, having no power to flee from the rigours of winter, escape its effects by falling into a state of lethargic repose.

It is obvious, then, that the geographical distribution of serpents presents a peculiar interest, inasmuch as it tends to make us acquainted with the true and natural relations which exist between these creatures and the places they in­habit, and thus in a measure presents us with a picture of the primitive state of matters, before man’s intermeddling, and other supervening agents, had altered the local relations of animal life.

One of the most curious general facts in the distribution of serpents, is their apparent absence (at least so far as the land species are concerned) from the numerous islands of the vast Pacific Ocean,—a circumstance not altogether to be accounted for by the isolation of these various groups, seeing that those of the Indian Archipelago particularly abound with serpents. Another fact seems still more firmly established, that the reptiles of the New World are all spe­cifically different from those of the Old,—a peculiar feature in the history of their class, in so far as many quadrupeds and birds are common to both countries. At the same time it may be borne in mind, that it is only the species of very northern portions of the two continents which are in any case identical, and that as these northern portions are al­most, if not entirely, destitute of reptile life, the field is great­ly narrowed, so far as that form of existence is concerned. The snakes of South America are in general very distinct from those of the northern portions of the New World, al­though a few are identical. Several of the southern spe­cies inhabit the West lndies and the warmer parts of the United States, where they form what may be termed *cli­matic varieties.* Other species more characteristic of a large extent of North America, reach as far south as Mexico and the Antilles. America in general, especially its equatorial districts, is almost as rich in snakes as the Indian islands. It is otherwise with New Holland, where these reptiles are by no means numerous, but where the species, excepting perhaps a few of its more northern kinds, are peculiar to the country. The serpents of Japan seem, without excep­tion, to belong to particular species not hitherto observed in other quarters of the world. The numerous islands of the great Archipelago of the Indian Ocean produce in se­veral instances identical species, and these, moreover, are not unfrequently the same as those of Malacca, Bengal, Hin­dustan, and Ceylon. If we may judge from the few known species, the serpents of Madagascar may be regarded as peculiar to that vast island. Africa, compared with other great equatorial continents, cannot be said to be very rich in these reptiles. Its southern portions produce species en­tirely different from those of Europe and of other countries ; but these species have a wide range in Africa itself, being in many cases spread over all its intertropical regions, and even its northern parts. These comparatively northern countries, in addition to some peculiar species, produce several others which likewise inhabit the shores of both sides of the Mediterranean. Many of our European ser­pents are found over a large portion of temperate Asia,—a region which appears to produce but a small proportion of peculiar species.

The geographical distribution of families and genera,— these being viewed as representing various leading forms,— affords an equally curious subject of observation. We may notice, in the first place, that the venomous sorts are distri­buted, with the exception of a few islands, over whatever countries produce serpents of any kind. These venomous species bear no determinate co-relation, as is often supposed, to intense heat ; for they occur in cold and temperate coun­tries equally with the innocuous kinds. But their aggre­gate number is much more limited than that of the latter ; for while **we** reckon the total number of known Ophidians