

bed of blue lias filled with the *Gryphæa arcuata*, in the mountains on the lake of Annecy, and fragments of oolite, like that of Gloucestershire, from the top of Mont Grenier, near Chamberry, left me no doubt of the identity of the formations of England, France and Savoy; and no reason can be assigned, which might lead us to infer, that the similar formations in each country were not cotemporaneous. With respect to very remote countries, or the countries in opposite hemispheres, we have, as yet, few data to determine whether there be a similarity of fossil remains, which can identify formations that may appear analogous, or even whether such a similarity could identify them, when they occur in very different latitudes and under very different degrees of temperature.

There is another circumstance, independent of climate or remote distance, that may have occasioned a change in the genera, and even in the orders and classes of animals, whose remains are found in similar strata. The ocean may have been much deeper in one part, than in another not very remote, and the deepest bed of the ocean might support genera of pelagian animals;* while a more shallow adjacent part might be tenanted by different genera, and even different orders and classes of animals, whose organization fitted them for moving near the surface of the water. The transition strata were probably formed under a great depth of the sea: and few of the animals, whose remains are found in these strata, possessed in an eminent degree the power of locomotion. The animals possessing this power, were, chiefly, chambered univalve Mollusca; their shells are divided, and have a tube or siphunculus passing through each cell, by which they were enabled to exhaust the water, and rise to the surface from immense depths. The shells of these animals did not form an outer covering, but were partly enveloped in their bodies, and appear to have performed the function of an air bladder. They had heads surrounded by feelers and large eyes; their beaks were like those of the parrot.† The feelers which surrounded their heads served them for seizing their prey, and for swimming and walking at the bottom of the sea; they swam with their heads behind them; and when they walked, their heads were downward. There are only two known genera of chambered animals of this class inhabiting the present seas; the Nautilus, and the Spirula,—their shells are spiral: the greatest number of chambered fossil shells found in the upper secondary strata are also spiral, and are well known as Ammo-

* Pelagian animals, so called by naturalists, because they live in deep seas.

† The animals of this Order, to which Cuvier has given the name of *Cephalopodes*, from their feelers, which serve as feet, being attached to their heads, comprise several genera, as the cuttle-fish, the calamar, &c. but the latter animals have no shells. The Argonauta, common in the Mediterranean, has an open unchambered shell. There are numerous minute microscopic chambered shells found in the present seas, but according to Cuvier the living animal has never yet been observed.—*Règne Animal*, tome ii. p. 367.