*few* other animals will venture to approach their ſtation.

In comparing ſerpents as to their voices, ſome are found silent, ſome have a peculiar cry ; but hiſſing is the found which they moſt commonly send forth, ei­ther as a call to their kind, or as a threat to their ene­mies. In the countries where they abound, they are generally silent in the middle of the day, when they are obliged to retire from the heat of the climate ; but as the cool of the evening approaches, they are then heard iſſuing from their cells with continued hiſſings ; and ſuch is the variety of their notes, that ſome have aſſured us they very much reſemble the muſic of an Engliſh grove. This ſome will hardly credit ; at any rate, ſuch notes, however melodious, can give but very little delight, when we call to mind the malignity of the minſtrel. If conſidered, indeed, as they anſwer the animal’s own occaſions, they will be found well adapt­ed to its nature, and fully anſwering the purpoſes of terrifying ſuch as would venture to offend it.

With reſpect to motion, ſome ſerpents, particularly thoſe of the viper kind, move ſlowly ; while others dart with amazing ſwiftneſs. The motion in all is ſimilar ; but the ſtrength of body in ſome gives a very different appearance. The viper, that is but a flow feeble-bodied animal, makes way in a heavy undulating manner ; advancing its head, then drawing up its tail behind, and bending the body into a bow ; then from the ſpot where the head and tail were united, advan­cing the head forward as before. This, which is the motion of all ſerpents, is very different from that of the earth-worm or the naked ſnail. The ſerpent, as was ſaid above, has a back-bone, with numerous joints; and this bone the animal has a power of bending in every direction, but without being able to ſhorten or lengthen it at pleaſure. The earth-worm, on the other hand, has no back-bone ; but its body is compoſed of rings, which, like a barber’s puff, it can lengthen or ſhorten as it finds neceſſary. The earth-worm, there­fore, in order to move forward, lengthens the body ; then by the fore part clings to the ground where it has reached, and then contracts and brings up its rear : then, when the body is thus ſhortened, the fore-part is lengthened again for another progreſſion, and ſo on. The ſerpent, inſtead of ſhortening the body, bends it into an arch ; and this is the principal difference between ſerpentine and vermicular progreſſion.

We have inſtanced this motion in the viper, as moſt eaſily diſcerned ; but there are many ſerpents that dart with ſuch amazing swiftness, that they appear rather to leap than crawl. It is moſt probable, however, that no ſerpent can dart upon even ground farther than its own length at one effort. Our fears indeed may increaſe the force of their ſpeed, which is sometimes found ſo fatal. We are told by ſome, that they will dart to a very great diſtance ; but this we have never been able to aſcertain. The manner of progreſſion in the ſwifteſt ſerpent we know, which is the jaculus, is by inſtantly coiling itſelf upon its tail, and darting from thence to its full extent : then carrying the tail, as quick as lightning, to the head ; coiling and dart­ing again ; and by this means proceeding with extreme rapidity, without ever quitting the ground. Indeed, if we conſider the length and the weakneſs of the back-bone in all theſe animals ; if we regard the make

of the vertebras, in which we ſhall find the junctures all formed to give play, and none to give power ; we cannot be of opinion that they have a faculty of ſpringing from the ground, as they entirely want a *fulcrum,* if we may so expreſs it, from whence to take their ſpring ; the whole body being compoſed of unſupported muſcles and joints that are yielding.

Though all ſerpents are amphibious, ſome are much fonder of the water than others ; and though deſtitute of fins or gills, remain at the bottom, or ſwim along the surface, with great eaſe. From their internal ſtructure, we ſee how well adapted they are for either ele­ment : and how capable their blood is of circulating at the bottom as freely as in the frog or the tortoiſe. They can, however, endure to live in freſh water only; for ſalt is an effectual bane to the whole tribe. The greateſt ſerpents are moſt uſually found in freſh water, either chooſing it as their favourite element, or finding their prey in ſuch places in the gteateſt abundance. But that all will live and ſwim in liquids, appears from an experiment of Redi ; who put a ſerpent into a large glaſs veſſel of wine, where it lived ſwimming about fix hours ; though, when it was by force immerſed and put under that liquid, it lived only one hour and an half. He put another in common water, where it lived three days ; but when it was kept under water, it lived only about 12 hours. Their motion there, however, is perfectly the reverſe of what it is upon land ; for, in order to ſupport themselves upon an ele­ment lighter than their bodies, they are obliged to increaſe their ſurface in a very artificial manner. On earth their windings are perpendicular to the ſurface ; in wa­ter they are parallel to it : in other words, if a person ſhould wave his hand up and down, it will give an idea of the animal’s progreſs on land ; if to the right and left, it will give ſome idea of its progreſs on the water .

Some ſerpents have a moſt horrible foetor attending them, which is alone capable of intimidating the brave. This proceeds from two glands near the vent, like thoſe in the weaſel or polecat ; and, like thoſe animals, in proportion as they are excited by rage or by fear the ſcent grows ſtronger. It would ſeem, however, that ſuch ſerpents as are moſt venomous are leaſt offen live in this particular ; ſince the rattleſnake and the viper have no ſmell whatever ; nay, we are told, that at Calecut and Cranganon, in the Eaſt Indies, there are some ve­ry noxious ſerpents, who are ſo far from being disagreeable, that their excrements are sought after, and kept as the moſt pleaſing perfume. The Eſculapian ſerpent is also of this number.

Some ſerpents bring forth their young alive, as the viper ; ſome bring forth eggs, which are hatched by the heat of their ſituation, as the common black ſnake, and the majority of the ſerpent tribe. When a reader, ignorant of anatomy, is told, that ſome of thoſe ani­mals produce their young alive, and that ſome produce eggs only, he is apt to ſuppoſe a very great difference in the internal conformation, which makes ſuch a varie­ty in the manner of bringing forth. But this is not the cafe : theſe animals are internally alike, in what­ever manner they produce their young ; and the variety in their bringing forth is rather a flight than a real diſcrimination. The only difference is, that the viper hatches her eggs, and brings them to maturity, within her body ; the ſnake is more premature in her produc-