

46. The tissues above enumerated differ from each other more widely, in proportion as they are examined in animals of a higher rank. As we descend in the scale of being, the differences become gradually effaced. The soft body of a snail is much more uniform in its composition than the body of a bird or a quadruped. Indeed, multitudes of animals are known to be made up of nothing but cells in contact with each other. Such is the case with the polyps; yet they contract, secrete, absorb, and reproduce; and most of the Infusoria move freely, by means of little fringes on their surface, arising from a peculiar kind of cells.

47. A no less remarkable uniformity of structure is to be observed in the higher animals, in the earlier periods of their existence, before the body has arrived at its definite form. The head of the adult salmon, for instance, contains not only all the tissues we have mentioned, namely,

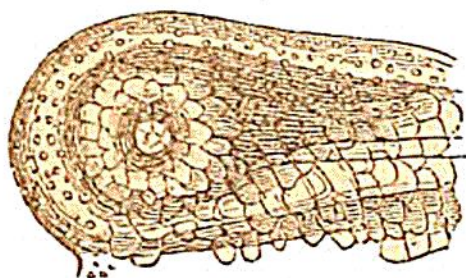


Fig. 8.

bone, cartilage, muscle, nerve, brain, and membranes, but also bloodvessels, glands, pigments, &c. Let us, however, examine it during the embryonic state, while it is yet in the egg, and we find that the whole head is made up of cells which differ merely in their dimensions; those at the top of the head being very small, those surrounding the eye a little larger, and those beneath being still larger, (Fig. 8.) It is only at a later period, after still further development, that these cellules become transformed, some of them into bone, others into blood, others into flesh, &c.

48. Again: the growth of the body, the introduction of various tissues, the change of form and structure, proceed in such a manner as to give rise to several cavities, variously combined among themselves, and each containing, at the end of these transformations, peculiar organs, or peculiar systems of organs.