

8, fig. 34, *a*, p. 522). This is true, as far as their appearance is concerned; but inasmuch as some are destined and tend to form one kind of organ, and assume features peculiar to the cells of that organ, and others form other organs and assume other very diverse features, it is impossible to deny that these apparently identical cells are at this time, respectively, very unlike in their intimate nature. The cells of the amnios, for instance, which we are about to describe, are totally different in appearance, at a certain stage, (Pl. 9a, fig. 28,) from all the other cells of the body, and retain their peculiarities throughout the whole period of the existence of the organ to which they belong; and yet these cells were once apparently identical with all the other cells in the embryo. Thus, premising that all the cells of which the embryo is composed have at one time a perfectly similar appearance, as far as our senses can perceive, we will proceed to describe the different changes through which these cells pass in the origin and development of the several organs.

*The Amnios.* At the time the amnios is nearly closed over, its cells (Pl. 9a, fig. 28) are arranged in a single layer. These cells are of moderate size, sharply polygonal, quite transparent, and nearly filled by a large, oval mesoblast; and the latter has perfectly homogeneous, clear contents, with a small, hollow, sharply defined entoblast in the centre. The mesoblast is not quite so transparent as the contents of the parent cell about it. These peculiarities are constant as long as the amnios exists, and by them the amnios may be recognized even at so late a period as when the Turtle is hatched; but then the cells are beginning to decompose, (Pl. 9a, fig. 31, *b*, fig. 31a, *b*,) and are slightly swollen.

*The Spinal Marrow.* The cells of the spinal marrow were not made the subject of a particular study, except at one stage, a short time before the Turtle was hatched, (Pl. 15, fig. 1, 2, 3,) and then only in one part of this organ, namely, just behind the medulla oblongata. These cells (Pl. 19, fig. 21) are very similar to those of the medulla oblongata, (fig. 20,) but some are more hyaline. No caudate cells were observed here, as in the medulla oblongata (fig. 20, *a*, *a*). The smaller cells are not mesoblasted.

*The Medulla Oblongata.* Our investigations of the cellular structure of the medulla oblongata, and of parts of the whole brain, were not commenced earlier than in the case of the spinal marrow. At this stage, the cells (Pl. 19, fig. 20, *a*, *b*) are irregular in outline, but more or less globular, and some have tail-like prolongations, forming the so-called caudate cells (*a*, *a*). The contents are light and finely granular, and surround a mesoblast, of variable size, which sometimes almost fills the cells (*b*).

*The Hemispheres.* The cells in this portion of the brain are variable in size and closely packed together, (Pl. 19, fig. 16b, 16c,) but not mutually compressed,