

seem to run from the entrance of the optic nerve (fig. 8, *h'*) to the anterior edge (*i'*) of the retina. In the section, (Pl. 21, fig. 33.) these fibres were found to be slender, tail-like prolongations of the cells (*b*) next to the inner surface of the retina. The whole thickness of the retina is made up of five apparently distinct layers of cells; but this is true only in a certain respect, as the following separate description of each of them will show. The innermost layer (*b*, *c*) is about one quarter as thick as the whole retina, and is composed of large, hyaline cells, each containing a large mesoblast. The general contour of these cells is globular, but either the outer or the inner end, and sometimes both, are prolonged into tail-like processes, which, in the case of those on the inner surface of the retina, form the fibrous layer above mentioned, or project (*c*) so far into the next outer layer (*d*) as, at times, almost to reach the layer beyond (*e*, *f*). The next outer layer (*d*) is only two thirds as thick as the first. It is composed of excessively thin-walled cells, which are hardly larger than the mesoblasts of the cells in the inner layer. Exterior to this, the third layer (*e*, *f*) is a little thicker than the innermost one, (*b*, *c*) and appears to be identical in structure with it, except that the cells are a little more elongated, and spindle-shaped. Its cells send projections (*e*) both into the second layer (*d*) and (*f*) into the next outer or fourth one (*g*). The fourth layer (*g*) is about as thick as the second, (*d*) and, except that the cells are much smaller, they are just like those of the first (*b*) and third (*e*, *f*) layer. Here and there the tail-like prolongations of these cells project, (*i'*) even to the outer surface of the membrana Jacobi (*h*, *i*). The outermost layer, the membrana Jacobi, (*h*, *i*) is composed of two kinds of cells: the first kind are those (*i*) which resemble the cells in the next inner layer, (*g*) except that no mesoblast is visible, and they send tail-like prolongations (*i*) into the layer next within, and also outwardly to the surface of the layer to which they belong; the other kind of cells do not project into the layer beneath. They are long and club-shaped (*h*, fig. 33a, *a*, *b*, *c*); some of them terminate suddenly in a thick end, (fig. 33a, *b*, *c*) where a large yellow or orange mesoblast is situated; others have a long, slender projection at both ends, (*a*) and the yellow mesoblast is situated at the thickest part of the cell. These last are by far the most numerous cells in the layer. The colored mesoblasts are so situated that they are all on the same level; and they vary in intensity of color, from almost white to the deepest orange red. In no instance has it been possible to find the cells of the retina forming a continuous fibre, extending from the inner to the outer surface, as has been observed by Kölliker and H. Müller in Mammalia. (Compare Wagner's *Icon. Phys.* 3d Lief. 1854.) In the adult Turtle, the cells of the retina are very similar to those just described, except that their prolongations are more slender.