

the claw (fig. 20, *a*). They are sharply polygonal, and contain minute scattered granules, a single, large, round mesoblast, and a minute entoblast (fig. 20*d*). In the last phase, just before the Turtle is hatched, the cells of the epidermis of the shell are (Pl. 20, fig. 18, on the right) sharply polygonal; they have very thick walls, and appear to be perfectly homogeneous. Underneath these are very large, hyaline, excessively thin-walled, polygonal cells (fig. 18, on the left). Each cell contains a central heap of very dark granules, which extend in a scattered manner to the walls of the cell.

*The Eye.* Soon after the eye has begun to develop, (Pl. 12, fig. 6; p. 550,) the cells of the retina (Pl. 21, fig. 28, *a*) are columnar, narrow, elongated, and arranged with their longer axes trending perpendicularly to the parietes of the cavity which they surround. Each cell occupies the whole thickness of the retinal layer. At a much later period, when the shield has become quite conspicuous, (Pl. 14, fig. 1,) and the toes begin to protrude from the paddle-shaped feet, the cells (Pl. 21, fig. 30) of the crystalline lens are excessively hyaline, and have homogeneous contents without a trace of a mesoblast. They are arranged in lines, which run from the anterior to the posterior side of the lens, and converge around a centre (*a*) where the cells are smallest, so that a fibre of the lens may be said to be an exceedingly long, fusiform body, composed of cells arranged in a single line. A short time before the Turtle is hatched, (Pl. 15, fig. 1, 2, 3,) the membrana pupillaris is composed of very large, polygonal cells (Pl. 21, fig. 29, *a*). The crystalline lens (fig. 32) is composed of long, ribbon-shaped, flat fibres, (fig. 32*b*, 32*c*,) containing scattered, faint granules. Each fibre runs from the anterior to the posterior side of the lens, those at the centre in a straight line, and those exterior to them more and more in a curve, according as they are nearer the surface. Every one is composed of excessively transparent, thick-walled, quadrilateral cells, (fig. 32*a*,) to display which requires the agency of water, since in a fresh state they cannot possibly be detected, except that portion of the wall which forms the edge of the fibre (fig. 32*b*, 32*c*). A few exceedingly transparent, large, globular bodies are scattered among the fibres; but even these must be brought out by the agency of water. By the continued action of water, the cells swell up enormously (fig. 31, 32*d*). This can only be accounted for by the thickness of the walls of the cells, in a natural state, which allows such great extension without tearing. At the time the Turtle is hatched, the retina is nearly as complicated as in the adult. A section of the thickness of the retina was made at a point half-way between the crystalline lens and the back of the eye.

Immediately behind the hyaloid membrane, (Pl. 22, fig. 8, *k*;) the surface of the retina is covered by a thin layer (fig. 8, *i*) of excessively elongated fibres, which