

ular, rounded appearance. By maceration in water, the membranous sheath of the fibres (fig. 24, and *a*) becomes quite conspicuous, and distends so as to leave the mass of disturbed fibrillæ floating free in the centre. Just before birth, the muscular fibres of the upper retractor muscle of the head are very transparent (fig. 27). When the fibrillæ are not disturbed, they are excessively transparent, and represented by the light spaces between the faint, parallel, longitudinal lines which may be seen in every part of the fibre; but where they are displaced, their component granules are separated or dislocated, and thrown into zigzag lines (fig. 27*a*). The granules are then easily recognizable. Treated with very weak alcohol, the undisturbed fibrillæ gradually display their component granules in close and continued series. Where the granules had been disturbed and separated from each other, before the application of alcohol, spaces were left between them, as the application of this reagent proved.

The Tendons. A short time before birth, the tendons of the foreleg consist of very slender, spindle-shaped cells, packed closely together (fig. 26, 26*a*). They do not appear to have united, as yet, to form the slender fibrillæ of the adult tendon.

SECTION X.

CHRONOLOGY OF THE DEVELOPMENT OF THE EMBRYO.

In the higher Vertebrata, the progress of the embryo is generally so regular, that the investigator, knowing the period of gestation or of incubation, is at the same time certain to find the different parts of the germ proportionally developed. This is not the case with the Testudinata, at least not so strictly; since the embryonic growth may be retarded for weeks, and the period of hatching postponed for months. In order, therefore, that the reader may see at a glance what figures belong to any particular phase, we give below a list of our figures, arranged according to their actual degree of development, in stages, and have affixed the dates of the time when the eggs were laid, and when they were opened and drawn. By this, it may be seen that age tells very little respecting the real degree of development of the embryo; but that the actual inspection of the structure of the organs is necessary, in order to ascertain whether any two or several embryos are equally developed. The duration of the growth of the ovarian eggs has already been discussed. (See p. 490 and 496.) For the names of the different species, see the Explanation of the Plates.

First Stage. Pl. 10, fig. 12, taken from the oviduct and drawn at once, June