

9,) the light ring around the germinal vesicle becomes still lighter, and the dark spot more sharply defined, until, when full-grown, (Pl. 9, fig. 10, and Pl. 9a, fig. 32, 32a,) the yolk is orange yellow, the ring around the germinal vesicle dead white, and the spot above it a neatly bounded circular area, (Pl. 9a, fig. 32a,) resembling a pinhole over a dark background.

It is important to notice, in this connection, that there is a marked difference in the gradation and relative size of the smaller eggs when compared to the larger ones. The innumerable minute eggs which are buried in the folds of the ovary exhibit, up to a certain size, every possible degree of development, from the smallest granule-like egg cells to characteristic eggs visible to the naked eye. There are immense numbers of these small eggs of every size, apparently in the same state of progress; and they seem all to form but one series, in which every successive stage is represented by an indefinite number of eggs. Not so with the larger eggs, from the time they exceed the size of a large pin's head up to their full maturity. These larger eggs appear always in regular sets of a definite number, and, what is particularly important, this number coincides with the number of eggs the different species of Turtles lay at one time. In *Nanemys guttata*, which lays two or three eggs, each set contains only two or three eggs; in *Chrysemys picta*, which lays from five to seven eggs, each set contains from five to seven eggs; and so with every species, even with those which, like *Chelydra serpentina*, lay more than thirty eggs. Four such sets can readily be distinguished in every ovary, one of which contains mature eggs (Pl. 9, fig. 10); another set contains eggs about half that size (Pl. 9, fig. 8); a third set contains still smaller eggs, (Pl. 9, fig. 5, 6,) the size of which stands in the same relation to the second set, as those of the second to the first; the fourth is smaller still, in the same ratio (Pl. 9, fig. 1, 2, 3). Below these it is difficult to distinguish the different sizes, and impossible to determine which are the eggs likely to start in advance of the others, after the largest set has been laid. But the uniformity of the eggs of each set, the conformity of their number with that of the eggs laid by different Turtles, and the absence of eggs of intermediate sizes between those of different sets, can leave no doubt, that, after a certain time, the eggs of each successive brood are determined in the ovary, and undergo a long development, equal in duration to four times the interval which intervenes between the successive periods of laying. As I have satisfactory evidence that our Turtles lay only once a year, it follows, therefore, that an egg requires four years, from the time there exists a marked difference among the eggs of different sizes, to acquire its full maturity; not to speak of the length of time required for its formation and earlier development. We shall have occasion hereafter to consider the importance of these facts, in connection with the act of fecundation of the eggs.