

of different sizes, each set being equal in number to the average number of eggs laid by the species under observation. It thus became evident that the eggs require more than one year for their full development. Once upon this track, it appeared practicable to determine how long a period this growth embraces; for, as soon as it could be ascertained how many eggs different species of Turtles lay, there was a standard of comparison obtained for the investigation of the ovaries; and, as I early learned that the species most common about Cambridge exhibit marked differences in that respect, I selected these species for my first studies. *Chrysemys picta* lays always between five and seven eggs. I have never observed as few as four, and only occasionally eight. *Nanemys guttata* lays generally two or three; I have only once or twice found four eggs in its nest, and three times in its ovary. There was therefore no chance of making any mistake, when comparing the number of their ovarian eggs with that of the eggs they lay, after I had ascertained that a few weeks before the breeding season there are the same numbers of mature eggs to be found in the ovary as these species usually lay in the spring. I felt still greater confidence in the possibility of coming to precise results, after I had found again and again the very same number of eggs in the oviduct,¹ and noticed that at that time another set of eggs could be readily distinguished, of the same number as the larger eggs left in the ovary. Indeed, the difference between this largest set of ovarian eggs and the smaller ones is so great, even at the time when the eggs about to be laid are still in the oviduct, that they are distinguished at the first glance; for, though they have unquestionably to remain another year in the ovary, they are already nearly as large in diameter as those which have just left it.

With a knowledge of these facts, it was easy to arrive at a full understanding of the normal periodicity in the growth of the ovarian eggs. It soon became plain, that shortly before the period of laying there were not only two, but as many as four, distinct sets of eggs in every ovary; and that, after the largest set had been laid, a new small set was started from among the innumerable smallest eggs of variable size. It now seemed that a single question remained to be answered. What is the age at which the Turtle discloses for the first time such differences between its eggs? Upon opening large numbers of young *Chrysemys picta*² it was ascertained, that, up to their seventh year, the ovary contains only eggs of very small size, not distinguishable into sets; but that with

¹ It has already been stated above that the eggs of one ovary are not necessarily received into the oviduct of the same side of the animal, but may be taken up by the fallopian tube of the opposite side. See Part II., Ch. 1, Sect. 13, p. 288.

² Comp. Part II., Ch. 1, Sect. 14, p. 292, where the most prominent characters of this species and the differences in its size, in successive years, are given approximately, for the first twenty-five years of its existence.