using different means in studying the subject from different points of view, each requiring a special training. Under these circumstances, it has occurred to me that an attempt at combining into one systematic whole the various results obtained during a prolonged investigation of one of our Acalephs might not be useless in showing what may be done in studying steadily, for a great many years in succession, one of our most common species. I propose, therefore, in this chapter, to make the attempt to present one of our most common Discophoræ, the Aurelia flavidula of Péron and LeSueur, in all its different aspects. I hope thus not only to revive the interest for a more careful investigation of our common animals, whose study seems now universally neglected, but also to show that the harvest a student of nature is likely to reap cannot fail to be richer, when he turns his attention to common objects, which he may easily obtain at all seasons, than it can be through seeking opportunities of describing new species.

Following what seems a natural course, I shall first give an account of the formation and growth of our Aurelia, considered morphologically as well as microscopically; next, I propose to consider the structure of the adult, and to trace its homologies; then, to examine its habits, its geographical distribution, and its affinities; and, finally, to analyze all the data thus obtained, with a view to improving the classification of Acalephs in general.

The genus Aurelia, to which this species belongs, was first characterized by Péron and LeSueur, in 1809. Prior to that time the species belonging to it were included in one genus, not only with all the other Discophoræ, but even with all the Acalephs then known. Aurelia flavidula, to which I intend to devote particular attention here, is the North American representative of Aurelia aurita, the most common Medusa of the coast of Europe. The latter species, having been described by most writers on Acalephs, and minutely illustrated by Ehrenberg in a special paper, affords a most desirable opportunity for extensive comparisons, rarely to be had in investigations upon this class of animals.

SECTION II.

FORMATION AND GROWTH OF AURELIA FLAVIDULA, INCLUDING COMPARISONS WITH CYANEA ARCTICA.

THE EGG OF AURELIA FLAVIDULA. Nothing is known of the manner in which the egg-cell originates; whether it is one of the cells of the ovary set free to act in an independent manner, or develops from a fluid mass lying in the interstices of the cells, has never been determined by direct observation.