

these habits are the expression of their structure. Every species is described as if it stood alone in the world; its peculiarities are mostly exaggerated, as if to contrast more forcibly with all others. Yet, how interesting would be a comparative study of the mode of life of closely allied species; how instructive a picture might be drawn of the resemblance there is in this respect between species of the same genus and of the same family. The more I learn upon this subject, the more am I struck with the similarity in the very movements, the general habits, and even in the intonation of the voices of animals belonging to the same family; that is to say, between animals agreeing in the main in form, size, structure, and mode of development. A minute study of these habits, of these movements, of the voice of animals cannot fail, therefore, to throw additional light upon their natural affinities.

While I thus acknowledge the great importance of such investigations with reference to the systematic arrangement of animals, I cannot help regretting deeply, that they are not more highly valued with reference to the information they might secure respecting the animals themselves, independently of any system. How much is there not left to study with respect to every species, after it is named and classified. No one can read Nauman's Natural History of the German Birds without feeling that natural history would be much further advanced, if the habits of all other animals had been as accurately investigated and as minutely recorded; and yet that work contains hardly any thing of importance with reference to the systematic arrangement of birds. We scarcely possess the most elementary information necessary to discuss upon a scientific basis the question of the instincts and in general the faculties of animals, and to compare them together and with those of man,<sup>1</sup> not only because so few animals have been thoroughly investigated, but because so much fewer still have been watched during their earlier periods of life, when their faculties are first developing; and yet how attractive and instructive this growing age is in every living being! Who could, for instance, believe for a moment longer that the habits of animals are in any degree determined by the circumstances under which they live, after having seen a little Turtle of the genus *Chelydra*, still enclosed in its egg-shell, which it hardly fills half-way, with a yolk bag as large as itself hanging from its lower surface and enveloped in its amnios and in its allantois, with the eyes shut, snapping as fiercely as if it could bite without killing itself?<sup>2</sup> Who can watch the Sunfish (*Pomotis vulgaris*) hovering over its eggs and protecting them for weeks, or the Catfish (*Pimelodus Catus*) move about with its young, like

<sup>1</sup> SCHEITLIN, (P.) Versuch einer vollständigen Thierseelenkunde, Stuttgart und Tübingen, 1840, 2 vols. 8vo. — CUVIER, (FRED.) Résumé analytique des observations sur l'instinct et l'intelligence

des animaux, par R. Flourens, Ann. Sc. Nat., 2de sér., vol. 12.

<sup>2</sup> See, Part III., which is devoted to the Embryology of our Turtles.