

theless, admirably adapted for further developing the powers of observation, and for further cultivating a love of nature, especially by awakening an interest in the habits of animals.

Again, it lends itself more easily than does botany to the attainment of the second of the objects referred to above—the conveying to the pupil some comprehension of the principles of biological science. This appears to me, indeed, the chief reason why it should form part of the High School course. Considered as a means of *training* alone, botany might be adopted to the exclusion of zoology; but both sides of organic nature must be studied before the most interesting problems—such as the reciprocal relations of the vegetable and animal kingdoms—can be approached. If it is conceded then that something more than mere training of the observative powers is to be aimed at by the High School course in natural history, it behooves us to examine into the best method of acquiring such a knowledge of zoology as will serve to introduce the pupil to a knowledge of the scope and aims of biological science.

In the German Gymnasia botany and zoology are relegated to the lower classes, physics and chemistry to the higher. The instruction in the former group begins in the lowest form with the superficial study of a few types, is continued in the next two forms by widening the pupil's acquaintance with the domestic flora and fauna, and is concluded in a higher form by some instruction in the structure and physiology of plants and animals. The text books employed are chiefly such as aim at giving a wide superficial knowledge of specific forms, and of the classification of the vegetable and animal kingdoms. These have their educative values increased by the circumstance that the schools can purchase illustrative col-

lections of specimens very cheaply from dealers, and the diagnosis of specimens collected by the pupil is insisted upon as an essential part of the training. On the other hand, such text books as give a more detailed account of the structure of a few distinct types are rarely employed in the schools, being in fact better suited for somewhat older pupils.

It is obvious then that the conditions of the introduction of zoology into the Ontario High School course are very different from those obtaining in the German Gymnasia. Our problem is to supply a year's course of study in zoology to pupils who have already had their powers of observation sharpened by a botanical course, and to make it of such a character as to convey some inkling of the problems of general biology. This, it appears to me, may be best done by requiring the pupil to study carefully a few types in such a way as to make intelligible to him any remarks on allied forms, and on the principles suggested by the facts observed. A text book suited for such a course ought, therefore, to be a judicious combination of the two kinds referred to above.

A difficulty next occurs as to a convenient starting-point for a survey of the animal kingdom. There are various pedagogical maxims on which we may wish to rely in selecting one. We may proceed from the known to the unknown, from the simple to the complex, or we may follow the general course of the development of the science. The first and third of these maxims applied to zoology would appear to be at variance with the second, for the simpler forms involve greater difficulties of study, while the more complex and conspicuous forms first attracted the attention of naturalists. Yet it is possible to be true to all three, by taking the lower forms in each branch of the animal kingdom