INTRODUCTION OF ZOOLOGY INTO HIGH SCHOOLS.

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IN making an important change in an educational course, such as the introduction of a new subject of study, it is, above all, necessary to keep in view the objects which it is hoped will be attained, so that those methods may be adopted which shall lead most directly to their attainment.

The addition of zoology to the High School course may be considered to have a twofold object: (1) the further training of the observative powers and the cultivation of a love of nature; and (2) the conveying to the pupil of such a knowledge of the principles of the science as will render comprehensible to him those discussions of biological problems which form so large a part of our every-day literature.

Although in the German Gymnasia (which have had considerable experience in the use of natural history as part of the school course) zoology is frequently adopted in the lower forms for the first object lessons in natural history, the selection of botany for the first form course in the Ontario High Schools appears to me to be justified by the comparative simplicity of the forms which the pupil is required to observe, and by the ease with which the practical teaching of a class may be conducted. The teacher also can readily ascertain the progress of the pupil in accurate observation—for he can insist not only on precision of verbal description, but especially on the reproduction by drawing of the simpler forms and upon accurate measurement.

Parenthetically I desire to say that students generally arrive at the science classes in the University without having had sufficient practice in measurement. If the pupil were taught at school to think in French as well as English measure, and to make estimated as well as accurate measurements in both, much valuable time would be spared to him.

A further advantage of the botanical course is that another test of accurate observation—the correct determination of the species of flowering plants—can be, for several reasons, introduced much more easily than the determination of species of any group of animals; and again, there is nothing better calculated to awaken a love of nature than botanical excursions under an enthusiastic teacher.

Zoology, on the other hand, does not lend itself so easily for elementary exercises in observation. In the first place, the forms met with in the most conspicuous animals are far more difficult to reproduce by drawing than are the leaves of plants, *e.g.* In the second place, there is no group of animals which the pupil can be set to collect with as little trouble as he can the flowering plants, and no means of setting him the exercise of determination of species, which the accessible "floras" render possible for the flowering plants. This is otherwise in Europe where the school Natural Histories contain figures of all the commonest forms of the various branches of the animal kingdom, while here the necessary information for correct diagnosis of species is frequently difficult of access.

Although zoology, therefore, is not quite so well adapted for beginning the kind of training which the botany of the first form aims at, it is, never-