

limited piece of nature with its own laws to which the organisms are compelled to accommodate their organisation. The great model is Forel's excellent monograph, *Le Léman*. All these papers deal with the regular annual variation in temperature, the transparency of the water, a little in regard to environment, a list of organisms—never complete and only thoroughly carried out for those groups which most interested the author. In the biological parts we find casual remarks, but really the only remarks of scientific value. All the papers finish with a chapter giving the results of the investigations, the peculiarities of the physico-chemical conditions combined with the characteristics of the organic life, intended to give us a clear understanding of this one lake as different from other lakes. These chapters are almost identical in all the papers.

In my opinion, the whole of the above tendency in limnology has perhaps been correct and useful during its infancy; now, I think it must be regarded as a stage in evolution which we have outgrown. If a lake has to be thoroughly explored, it is of course necessary to have a *preliminary* idea of the lake, its physico-chemical conditions, and its biology, but only rarely is it necessary to publish this material. It is just such preliminary explorations that the above papers represent, and beyond them the investigations of the lake concerned only seldom extend.

When this preliminary exploration has been done, the more thoroughly scientific work should begin. We will, for example, suppose that the littoral region of the lake is to be explored. If so, there is no sense in studying all the organisms simultaneously. The expert limnologist will quickly find out some few species which ought specially to be investigated; from the observations on the morphology, biology, etc., of these, carried out every fortnight for a year, questions will arise which can only be answered through investigations of the surrounding medium. This study will therefore involve others, and will naturally lead to the study of the whole littoral region, its organisms and conditions of life.

At present all such studies can in a very high degree be furthered by means of *fresh-water biological stations*. If we remember all the excellent investigations on the biology of fresh-water organisms (Daphnids, Apus, Trematodes, Cestodes, water-insects, Volvox, many phanerogams) which have been carried out for a long time, long before any one had even the slightest idea of what a biological laboratory was, and further that such laboratories have existed for about twenty years, we might really expect that, under the much better conditions for the study of the fresh-water organisms, knowledge of their biology might have been more advanced in these last twenty years. This, however, is by no means the case. The laboratories have