

means to wage war against those which increase in such undue numbers as to require to be treated as enemies. The botanist, too, must come to the chemist to discover the exact nature of soils and the different fertilizers, as well as the principles contained in the plants which he collects or cultivates, so as to know the comparative values of each species in a family of plants. Chemistry teaches us not only how, by special treatment, virulent poisons may be transformed into nutritious foods, as in the case of arrowroot and other products derived from the Araceae, but also how some species in the same genus may be harmless and others noxious. This we find amongst the Sumachs—where we have the Stag's-horn Sumach (*Rhus typhina*), the seed coats of which provide the French Canadian with wholesome vinegar and a refreshing summer beverage, and also its near relative the Poison Ivy (*Rhus Toxicodendron*). Conversely, too, the obligations of the chemist are just as great for the exact information as to species, growth and habits of plants which he receives. The close relationship existing between chemistry and mineralogy is manifest, as is that of the latter with geology. In the last named science the Palaeontologist finds frequently the necessity of a thorough knowledge of the different branches of Zoology and Botany, so that he may correctly identify the fossil remains brought before him, and refer the rocks bearing them to their proper ages.

By common consent the students in some of these branches work together with mutual benefit. The botanist delving in the earth in search of roots, or gathering mosses from the woods and swamps, finds many minute insects and shells. The conchologist, wading in the shallow waters or raising up the bark of dead trees when looking for shells, frequently discovers aquatic plants and insects of rarity. The entomologist, peering and prying everywhere to discover the active objects of his quest, is not less useful to the others, and so we find that each branch of science is an aid to the others, and must be developed to the highest degree, not only that as much knowledge as possible may be accumulated in its own domain, but also from the collateral value it may be to other sciences.

But I need not remind you the value and interest in the natural sciences is not for its devotees alone. It is not too much to say that the almost phenomenal strides which have been made in the progress of the world during the past century are due entirely to the developments of scientific knowledge. I will, however, refer briefly to one special line of progress in which this kind of study has been found of great use.

Educationalists in all parts of the world attest the value of the Natural Sciences as a part of the practical education of youth; and the fact that they enter so largely into the curriculum of our Ontario schools does much towards showing the high state of excellence of the methods here adopted towards preparing our young men and women for fighting the battle of life.

These studies, it must be remembered, —used educationally— are essentially not *ends*, but *means*; means for producing in the mind exact and careful methods of thought, of developing the faculties of accurate observation, and above all things are important as giving a power to express in a concise and definite manner what it is wished to relate. If these characters be not found in the Naturalist much of his work is but play, and his labour is lost; his studies are useless to himself and of little value to anyone else.

I cannot help thinking that the scientific outlook in Canada is far brighter at the present time than it has ever been before. The facilities of communication and travel which now exist put us at an enormous advantage over our predecessors. The result of these increased facilities has been, as a matter of course, a great spread of all kinds of knowledge, and entomology is perhaps one of the most benefited.

In all directions we hear of a higher appreciation amongst farmers and others of the value of this study. Addresses from specialists concerning insect life are asked for to be delivered at Teachers' Institutes, before our Normal Schools, at meetings of Farmers' Institutes and similar associations. Quite recently the Legislature of British Columbia has seen the advisability of appointing a Provincial Entomologist, and it is with pleasure that we learn the appointment has been given to one of our members, the Rev. G. W. Taylor, an excellent Naturalist and one who cannot but do good. Lectures explaining and popularizing Entomology are found to be always acceptable before Natural History Societies in all parts of the country, and in *The Educational Review*, a monthly magazine

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