

## NATURE STUDY—No. XIX.

## NATURE STUDY AND THE CAMERA.

By FRANK T. SHUTT, M.A.

As we understand the term, popularly, to-day, Nature Study is primarily and essentially the study of the out-of-doors. Therein lies its great fascination and charm. It takes us out into the sunshine and fresh air—and that is wherein it differs from our ordinary scholastic work. Away—body and mind—for the time from bricks and mortar and books and desks to learn what we can of the form and life and habits of plants and animals, to consider the meaning of the rocks and the soil, the clouds and the rain, but what is of far higher value, to realize as we have never done before the beauty of form, of motion and of color in the things about us—that, in part, is the essence of Nature Study and what it helps us to do. Forest and field, river and stream, the earth and the sky, all may be made to contribute towards this knowledge and all looked at aright may help us in the recognition of the beautiful and thus add much to the enjoyment of life. Our eyes and our mind are opened to the beauty of the things about us. There is created or developed within us a new sense—the realization of the beauty that lies in form and color.

Now, it is evident that the first step in Nature Study is to correctly observe. This is by no means such an easy matter as many may suppose. It is a rare art, though a fascinating one. It not only requires time—one might say, leisure—and concentration of thought, but also practice. To a certain degree it is a gift, born in us, *i.e.*, that we differ, naturally, in our ability to see clearly and accurately and take note of the things about us, but like all gifts it must be developed and trained before it can reach its highest attainment. Moreover, it is an art that can be acquired even by those who by nature are in a large measure unobservant—and we believe that to such, especially, is this study one of great value. How many of us go through life without making a clear mental concept even of the trees and plants passed and repassed almost every day, so much so, indeed, that some have never recorded (mentally) the difference in contour between an elm and a maple !



But Nature Study does not stop at careful observation and the formation of distinct and true mental pictures. It leads to a knowledge not only of the structure but of the functions of living things. It continually puts the questions, why? and wherefore? and thus educates or draws out that valuable art of deduction, without which our observations would be of little service—without which half the value of Nature Study would be lost. Of this feature, however, it is not our present intention to speak further, but rather to bring to the notice of the earnest and enthusiastic student the camera as an aid and adjunct to careful, accurate observation. The making of a photograph—and by the making I include the taking, the dark room work and the printing—serves to impress the image of what we have seen upon the mind and memory as nothing but making a drawing can—emphatically and accurately. The mere focussing on the ground glass of the tree, a clump of fern, the bird on her nest, serves to imprint the image on the memory more accurately, vividly and permanently than does the casual glance at the objects themselves. How much deeper and more lasting is the image after the finished print is made! The writer found in his college days that it well repaid to write out his lecture notes, even though the manuscript might never be reviewed—and in later days he finds the same principle still holds good with Nature Study and the camera.

All this, valuable as it is, however, does not comprise all the benefits to be derived from the aid of the camera. Though Nature Study is, as we have said, primarily for the out-of-doors, it frequently calls for subsequent work indoors to a more complete understanding of the objects of our study. In the photograph, carefully made, we have a record for this purpose. We cannot bring home with us the clump of towering trees, but in the image so accurately made by light we can again and again consider and compare their mode of growth, their contour and many other features. The same truth is still more obvious in geological studies. The rock cuttings showing the various strata, the escarpments and boulders can only be brought home for future study by the camera. And what shall we say of the fugitive clouds that, unconsciously to most of us, make the beauty of the landscape? We must secure the image ere the substance goes,



and that quickly or we shall be without an aid to our imagination for enjoying again the pleasures of the cloud-flecked sky. And as the highest enjoyment is only obtainable when accompanied by knowledge, we may add there is much to be learned from cloud formation and cloud forms, from the utilitarian as well as from the æsthetic standpoint.

Again, we can live again and enjoy the pleasures of our summer studies and rambles in our photographic records, and thus obliterate in part the severity and the monotony of our long winter. Not that the study of nature must necessarily cease in that cold and snowy season. There are a thousand objects still to interest and instruct us in the forest and by the stream, even when the white mantle lies deep upon the ground. One could easily enlarge upon this phase of Nature Study—one that has as yet received but little attention.

All knowledge is relative, or practically so. We learn by making comparisons. What more necessary for this than the possession of records? Of some objects, by their very nature, we can only obtain their image and for this photography is particularly helpful—indeed indispensable. That this fact is now widely recognized we have only to note the wealth of photographic illustrations in all works now published on the Natural sciences.

But perhaps enough has now been said to awaken an interest in the erstwhile photographer, who years ago may have bought a kodak, pushed the button and let somebody else do the rest. That camera, perhaps, was long ago relegated to the garret. Unfortunately, the cheapness of the instrument and the ease with which a part of the picture making could be done has served, with many, to make the camera little better than a toy and its manipulation the merest pastime. Naturally with them the camera has gone the way of the crokinole board and table tennis—it was amusing for a time, but soon became tiresome and was put aside. No, the camera must be used seriously, if it is to be with us a life work and a life pleasure, and it is very much to be doubted if any subject or study can afford so much of interest and value and pleasure as the study of Nature in her manifold manifestations.

And, in conclusion, it may be useful to give a word or two of



practical advice to those who having some skill in photography may desire to use that skill in the study of Nature. To be successful, both from the standpoint of making records by the camera and of making real progress in our study, do not attempt at first to work in many fields. Select one or two subjects, and, as far as possible, exhaust them before taking up another. An odd fact or picture gained here and there from many subjects, may in time make a collection of some interest and occasional value, but not to be compared in either interest or value to a systematized knowledge and a complete record of one or two subjects. Concentrate, then; diffuse work seldom leads to mastery, to satisfaction or success. Choose a subject and as far as opportunity permits study it seriously, in general and in particular, before beginning the exploitation of another, is the advice of one who has had some experience following this method. For instance, let us take the deciduous trees in our neighborhood. For contour, they should be photographed in full foliage and after the leaves have fallen, isolated and growing under forest conditions. Making negatives from the same point of view in summer and winter is most useful. Then make a study of the barks of the same trees. Follow this by a study and the making of careful photographic records of their flowers and seed vessels—an interesting work and one that will put us in possession of a wealth of most fascinating pictures to be treasured alike for their beauty and educational value. Finally, take the leaves, either singly or on a small branch; study and memorize their shapes and peculiarities and make photographic records of them. In this alone there is two or three season's work, even though but half a dozen trees be studied. It will not only afford much interesting and recreative in-door and out-of-door work, but will give us such a knowledge of our trees as few to-day possess. And the probabilities are that we shall also have many beautiful photographs that will delight and instruct us and our friends.

Subjects might be mentioned without number, but they will occur to every earnest worker. Our object was to indicate how the camera may be made of valuable assistance in the study of Nature, and in this we trust we have been in a measure successful. Photographic work and Nature Study are mutually helpful—they progress together—and the writer can honestly affirm that the pleasures and usefulness of both the art and the science are enhanced by their happy combination.

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