taryship of Prof. O'Shea, of the Buffalo University, to unite these scattered local agencies, to promote child-study by establishing and fostering round tables for parents and teachers, to distribute helpful literature, and to "direct scientific studies relating to the rational treatment of childhood from maturity to birth." The Society has been unable to effectively promote these aims through the resignations of the Secretary-Treasurer and his successor, Mr. Myron T. Scudder, both of whom removed from the State soon after their elections. On December 1, 1897, the Society issued Leaflet No. 1, containing "I. Suggestions for Testing Sight and Hearing, and II. A Few Suggestions Upon Fatigue." It is hoped to follow this in the near future with pamphlets on special topics. The Society will be glad to undertake special studies upon any problems which may arise in the actual work in the school of life of the home, and invites anyone facing such problems to communicate to the Secretary-Treasurer.

The Society invites all persons interested in child study, whether residing in the State of New York or elsewhere, to become members. All such persons are enrolled as members upon the payment of 50 cents annual dues to the Secretary-Treasurer. This fee entitles each member to all the publications and other benefits of the Society during the year of membership. At the Syracuse meeting the vacancy of the office of Secretary-Treasurer was filled by the election of Professor Edward F. Buchner, of New York University. All remittances of membership fees, and all inquiries respecting the State Society for Child Study should be sent to his address at New York University, Washington Square, East, New York City.

Mrs. Northrop's Talks on Plant Life.

Delivered at P. S. No. 40 and repeated at P. S. No. 10, given under the auspices of the New York City Teachers' Association.

Nature Study proper is not the systematic study of a science, but a wholly informal working with any specimens that come to hand. In this course Plant Life will be taken up systematically, because it would seem more helpful for the teacher to have a clear general outline of the whole back of her classroom work. With this object in view, the organs of the plant will be taken up in regular order, beginning with the seed, the baby plant, root, stem, leaf, flower, fruit and seed are all the organs a plant can have. Each plant has a life work, the production of the seed, and the life of many plants ends when this has been accomplished.

Seeds are among the most interesting things in Nature: within each is the rudiment of the tree or plant. Mrs. Northrop provided each member of the class with one of the winged fruits of the maple, which was examined and found to contain a seed at the base, and in this was carefully packed away the baby maple, the embryo. This consists of a little stem-like part, the radicle or caulicle, from which the root develops later, and two long, narrow cotyledons or seed leaves. After the baby plant starts into life for itself, the plumule or bud between the two seed leaves develops.

Children should be taught to notice seeds, and many are easily obtainable, such as apple and orange seeds, grains, almonds and peanuts. The embryo is first nourished by the albumen, or food, prepared by the mother plant. This is sometimes around the embryo, as in the morning-glory and the corn, and sometimes in the cotyledons of the embryo itself, as in the bean, pea, acorn, etc.

The teacher should lead the children to make simple experiments. All experiments are simply asking Nature questions. This can be done by varying the conditions and watching the results. Plant seeds in various positions and see that the root invariably grows downward, while the plumule as invariably seeks the light. Turn the plant away from the sun, and let the children see how the leaves will turn again to the light. Test the manner of growth in root and stem by pricking a row of dots with India ink at equal distances apart on growing tips of roots and on the first joints of the young stems; the root will be found to grow at the tip only, while the stem grows throughout its entire length.

Roots serve three purposes: They take in nourishment for the plant; keep them steady in the ground and are often used as store-houses for surplus nourishment. When they serve the last purpose they become thick and fleshy, as in the carrot, parsnip, turnip and sweet potato. Some plants do not require soil but live on air, such as mosses and lichens in our vicinity, and Florida moss in the Southern States. Other plants there are that draw their nourishment from others, and these parasites are sure to degenerate, often losing both the green color and leaves. The dodder is a good example of this.

Some plants climb that they may rise higher and get a fuller exposure to the light than they could if standing independently, and with a less expenditure of energy. They climb in various ways; by means of rootlets that adhere, as they grow, as in the poison ivy and trumpet creepers; some by twisting leaf stalks, as in the clematis; and others by means of parts specially adapted for the purpose—the tendrils. Tendril climbers are the most interest-

ing. In them the tendrils seem like tiny hands sweeping about in circles until they clasp a support and, more strange still, they very seldom twine about the plant of which they are a part, but seem to avoid it.

LECTURE III—WINTER BUDS, STEM-STRUCTURE, LEAVES.

Class was provided with twigs of horse chestnut, tulip tree, alder, birch, etc., from which to study.

To one whose eyes are open to the workings of nature a walk in the woods in the winter is just as enjoyable as in summer; each tree is invested with an individuality and it can soon be easily recognized by the differences in bark and general appearance. From the twig in the class-room you can trace the story of the entire tree much as the comparative anatomist traces the story of an entire skeleton from a single bone. Horse chestnut, hickory, lilac and tulip are among the best for this purpose. Twigs are marked with dots which show the position of the leaves. On some they will be opposite, while on others alternate. The size of leaf may be judged from the size of the twigs; large stems like the horse chestnut would denote large leaves. The bud scars may next be observed, the distance being the rings showing the year's growth; also notice on the bark whitish markings; these are called lenticels and it is through these that the air circulates. The buds of the horse chestnut are carefully protected from the cold by a resinous gum inclosed in a thatched case, within which are the soft woolly leaflets. Trees also form potential buds which develop in case the others become frost bitten.

The next point to be observed is the structure of the twig. Cut it in two and you will observe that it is arranged as follows, working from the center: Pith, wood and bark, the latter made up of a layer of green and an outer layer of corky growth. This formation is found in all exogenous trees, those in which the growth is from the outside; the wood is therefore arranged in layers or rings.

The most interesting feature of trees, perhaps, are the leaves; these are infinite in variety and shape.

The leaves of each tree belong distinctively to each and would not fit on any other.

Look at the branches from the top and see how leaves are arranged to secure the greatest amount of light and air and how they occupy the entire circle. The arrangement varies with different trees and in different climates.

C. W. TROW.