THE AGASSIZ ASSOCIATION.[1]

THE Agassiz Association, as most of you know, is a union of local societies which have been organized for the study of nature by personal observation.

It is not for the sake of any money you may make out of it that we advocate the study of nature. If it were, our association must change its name; for Louis Agassiz used to say that he had "no time to make money." We urge you to join us in this study for the sake of learning what is true. We honor those who set knowledge above "gold and the crystal," and esteem the price of wisdom "above rubies." There is great pleasure in the mere seeking of truth. There is a delight in all discovery.

Now, nature offers to every one of us new gifts every day. No matter how long a beetle may have been known to others, until you have found it for yourself, it is not old to you. So, too, although the species may be familiar, each new specimen has the charm of novelty.

But besides the pleasure of learning, it has been found that one who studies nature aright greatly improves his powers of attention, discrimination, and reasoning. The right way to study nature is to use your own eyes instead of depending upon printed accounts of what somebody else has seen with his. It is a lazy boy who hires another to do his fishing for him. To depend upon the observation of others will no more increase your mental powers than it would improve your muscular development if a friend should swing Indian clubs for you. To one who tries to get all his knowledge of nature from books, every thing comes at second-hand: nothing comes to him as his own discovery. There is no joy in it, and but little benefit. That is why the Agassiz Association always insists upon "personal observation," which is simply a Latinized way of saying, "using your own eyes to see what you can see."

This statement should make plain the nature of the work expected from the little clubs we are organizing in so many cities and towns. The members are to search and find out what there is of interest within, say, five miles of home.

In order to do this, they will make excursions after flowers, minerals, insects, or whatever they most care about, and perhaps make a map showing just where each sort may be found. Of course, they will find a few books useful to help them learn the names of what they find; they will need a cabinet in which to keep their treasures; and they will be glad to have wise men lecture to them now and then, and explain the things that are too hard to study out for themselves. I cannot see that it would do any great harm even if every town and village in the land should have its natural science club, with a little library and museum, and with wide-awake members ready at any time to give the curious traveller an account of all the interesting objects to be found in an afternoon's walk, and able to show him specimens of each variety, nicely preserved, accurately classified, and neatly labelled. All who have read "St. Nicholas" carefully for a few years past, know that the Agassiz Association has organized societies of this sort very successfully, and that the boys and girls — yes, and their parents and teachers, too — have found much recreation in these clubs, and learned much natural history and natural science as well.

During this very year, and since I last wrote to you about our association, more than a hundred new clubs or "chapters" have been added to our roll; and that means more than a thousand new members. You see, there must be at least four in a chapter, and there may be as many more as are desired. One of our chapters, in New Brunswick, N.J., has more than four hundred members, with about a dozen professors to guide them, and there are microscopes, and stereopticons, and all sorts of instruments to aid them in their studies.

After a number of these little clubs are fairly at work in any large city, or throughout a State, they often wish to become better acquainted with one another, and so the clubs hold joint meetings occasionally, and they call these large united gatherings "assemblies."

These assemblies elect their own officers, and hold regular conventions. One of the largest has been formed this year by combining the various societies in Massachusetts. We had a very successful convention in Boston on Decoration Day. This holiday happens to occur within a few days of Agassiz's birthday, which is very pleasant and convenient for us. There was an address from Professor Hyatt of the Boston Society of Natural History, a man deservedly popular with young people; and one from Professor Crosby, who has been conducting for our benefit a very interesting course of lessons in mineralogy, extending over more than a year (for which lessons he furnishes the specimens and necessary instruments). Professor Morse of Salem, the author of an excellent book on the study of zoölogy, also lectured to us. Professor Morse's son is a member of a very active chapter of the Agassiz Association, so active that it organized a stock company of boys and built a house for their meetings. Dr. Lincoln, who is now helping the members of our Boston Assembly to make a thorough study of all minerals to be found within ten miles of the Boston State House, was also one of our instructors.

Another of our recently formed assemblies is the State Assembly of New Jersey. Rev. L. H. Lighthipe is president of this assembly; and while I write (Aug. 10), he is conducting a well-attended seaside meeting. It is to continue for a week. Every morning the members make an excursion, under the lead of some expert, and may have the choice of botany, entomology, or microscopy. Every afternoon they gather in the large Educational Hall, and examine their "finds," with the assistance of the professor who led them in the morning. Every evening they attend a lecture, usually illustrated by the gas-microscope or by the stereopticon. Professor Austen, the president of the New Brunswick Chapter, has been very helpful in organizing and managing this pleasant seaside assembly.

The Iowa State Assembly is about to hold its fifth annual convention. Iowa conventions are always successful. All the chapters send delegates, who bring to the meeting not only carefully written reports of the work the chapters have done during the year, but also the finest of the specimens collected. The young men, and young women too, give most interesting accounts of their studies, illustrating them with specimens, original drawings, diagrams, and maps. Then there is a dinner, a meeting for the practical demonstration of their methods of work, and one or two excursions. This assembly offers three prizes each year for the best work done in any chapter since the previous convention.

I must not stop to give in detail accounts even of all our large assemblies; still less can I undertake to tell of the individual chapters. Among so many, it would be impossible to select single ones for special praise. Merely by way of illustration, however, I may mention Chapter No. 3, of Frankford, Philadelphia, which, under the lead of John Shallcross and Robert T. Taylor, has maintained itself in full vigor since the first year of our extension beyond Massachusetts, and which was instrumental in founding the Philadelphia Assembly, the first assembly in the association.

The Manhattan Chapter of New York City is a noteworthy illustration of what young people can do without aid. This society has grown from a handful of boys, meeting from house to house, into a club of a hundred young men, renting rooms at No. 103 Lexington Avenue, and exhibiting there a fine collection fairly representing the natural productions of Manhattan Island. This chapter, like all others, is glad to welcome visitors to its rooms.

The largest chapter in Massachusetts is No. 448, of Fitchburg, with a hundred and fifty members. This chapter has published a handsome pamphlet, giving an account of all the flowering plants to be found in the vicinity.

A new sort of club has been devised and put into successful operation during the year. Chapters of this sort are called "corresponding chapters." They are composed of members who do not live in the same town, but are united by their common interest in the same study. The first of these was the Archæological Chapter. Its President is Hilborne T. Cresson of Philadelphia; vice-president, Dr. C. C. Abbott of Trenton, N.J.; secretary, A. H. Leitch of Dayton, O. The members of this club are grown men; and they propose, under the auspices and general direction of the Peabody Museum of Cambridge, to preserve ancient mounds from the spade of the vandal and the speculator, until they can be properly and scientifically explored under competent supervision. Two other corresponding chapters recently added are the Gray Memorial

[1] From St. Nicholas for November, 1888.

Chapter, for the study of botany, and the Isaac Lea Memorial Chapter, for the study of shells.

It is worthy of mention that from the beginning the girls and women have kept equal step with the boys and men, not only in patient and thorough work in field and laboratory, but also in the work of organization and direction. Many ladies are efficient secretaries, curators, or presidents of chapters, and one girl has held with honor the office of president of a State assembly.

We have been asked why we favor the establishment of societies. Why should not the study be carried on by individuals? All true study, it is claimed by these critics, is prosecuted in solitude and silence. Great books are not written by a society of authors; poets do not sing in chorus; artists do not paint in clubs; and the light of scientific discovery has come to the world in little flashes of illumination, which have fallen singly upon the minds of silent and lonely thinkers.

There is much truth in this argument, and there can be no good work done either in or out of any society unless each separate worker acts and thinks for and by himself. Yet there are important advantages which are secured by united effort. Every one who finds any thing that interests him, wants some one to whom he can show it. A pleasure shared is a pleasure doubled. Thus, at the meetings of our clubs, each member has a friendly audience to listen to the results of his private study. Then, too, when several friends join in a society, they are often able to buy more expensive books and instruments than any could afford alone. A library may be had, a microscope bought, a lecturer secured, a room rented, a building erected. Think, too, of the pleasure of these social gatherings, often enlivened by music and song; think of the pleasant excursions, picnics, or field-meetings, and the occasional evening receptions.

Besides, when we bring several of these local clubs into fellowship with one another through correspondence, exchanges, or a convention now and then, the pleasures and benefits are greatly increased, and many things are done which no single chapter could do. Storms can be traced and their courses represented on maps; erratic bowlders can be tracked to their ancient homes; the routes of travel of birds and insects can be followed for hundreds of miles, and facts of interest gathered in every department of science.

One of the most important features of the last year's work has been in this direction. Simple blanks have been sent to different chapters, with the request that they be filled out with records of local observation in particular branches. One boy has prepared a set of blanks on which different observers are writing accounts of all the dragon-flies they may see, telling the place where each specimen was found, its name, description, habits, etc.; and other members have prepared similar blanks for records of observations on birds and minerals. In this way distant parts of the country are brought into friendly acquaintance; and boys of Maine and boys of Florida, girls of California and girls of Massachusetts, become interested in learning one another's thoughts, and in giving one another information and assistance.

Perhaps a more definite idea of what our boys and girls find in their rambles may be gained from a list of a few of the topics upon which members have made original notes during the year. From hundreds may be named these: 'Two Rare Fossils from Catskill," "Rose-Leaf Galls," "White Blackbirds," "Ivy-Blossoms," "Curious Trees," "Animals that do not Drink," "Do Salmon Eat Birds?" "Complementary Colors," "An Abnormal Cabbage-Leaf," "A Living Barometer," "Rainbow and Sun-Dogs," "Double Adder's-Tongue," "New Jersey Butterflies," "Eggs of the Crayfish," "Colorado Ants," "Floating Pollen," "A Double Stinger," "Frost Pictures," "An Experience with a Heron," "A White Weasel," "A Strange Mouse," "Girls in a Silver-Mine."

In closing this brief report, I wish, in behalf of the Agassiz Association, again to invite all who are in any way interested in the study of nature to join us, either by organizing societies in their own towns, or, if that be impossible, by joining as individuals. All are welcome, from the oldest to the youngest. We have a council of fifty scientists always ready to receive from our members questions about whatever may puzzle them, and these gentlemen are eager to give all the help they can. We are just about to begin a course of simple observation-lessons in botany, open to all our members. The plan is to send to every one who takes the course a set of perhaps fifty specimens, nicely prepared, with printed instructions on the proper way of so observing them as to see all that can be seen, and for telling in the proper way all that is seen — and nothing more. To all who would like to consider the question of joining the association, we will send, free, papers giving full directions for organizing a club or a chapter, or for joining alone. We will also send, until the supply is exhausted, an excellent wood-engraving of Agassiz, representing him examining a sea-urchin. This picture is printed on one of the papers of information, but is one of the best likenesses of Professor Agassiz in existence. All who are interested may address The Agassiz Association, 50 South Street, Pittsfield, Mass. HARLAN H. BALLARD.

NOTES AND NEWS.

A REGULAR meeting of the American Physiological Association was held in the rooms of Jefferson Medical College, Philadelphia, on Dec. 29, and at the University of Pennsylvania on Dec. 31. A number of interesting communications were read. Professor Reichert recounted experiments showing that the anterior columns of the spinal cord possessed no irritability of their own, or that the power of excitability was confined to the posterior sensory columns. He also showed that the rate of transmission of a nervous impulse differed under different conditions. Dr. J. W. Warren described some recent experiments showing that a sensory impulse, such as the explosion of a torpedo, re-enforced the knee-jerk, and drew the curve showing the variation of this re-enforcement with the interval between the sensation and the knee-jerk. Dr. Donaldson showed specimens from which it could be seen that the effect of a long electrical stimulation was to decrease the size of the nuclei of ganglion-cells, and that the amount of this shrinkage was roughly proportional to the duration of the stimulation. Professor Martin in one paper gave the determinations of the minimal and maximal temperatures consistent with life that the blood supplied to an isolated heart could undergo, and in another showed that the variation in the amount of carbonic acid given off by a normal frog and one kept in the dark was due to the optical and not the psychic differences of the two states, because a frog deprived of its cerebral hemispheres acts in this respect just like a normal frog. All of these papers led to interesting discussions; and the discussion of Dr. Reichert's paper induced Dr. S. Weir Mitchell to place at the disposal of the society two hundred dollars, to be devoted towards aiding research upon the rate of nervous transmission, especially in man. The society was hospitably entertained, and found much pleasure in visiting the laboratories of the Jefferson College and the University of Pennsylvania. The members of the society were invited to participate in the International Congress of Physiologists to be held in Basle in 1889.

— Professor F. Janssen, in a recent number of the "Revue Scientifique," describes his interesting and arduous expedition to the Mont Blanc, undertaken in October of this year, in order to study the influence of the atmosphere upon the solar spectrum. It has long been a disputed question whether the oxygen lines are due to the solar or terrestrial atmosphere. This question can be solved only by observations on elevated stations, where the influence of the atmosphere of the earth is very small. In order to make the results still more satisfactory, Mr. Janssen selected the month of October, when the amount of vapor present is small. The ascent was very difficult on account of the lateness of the season, snow having covered the slopes of the mountain and the glaciers. Notwithstanding his advanced years, Mr. Janssen persevered, and, with the aid of a number of experienced guides, reached the Grands-Mulets, where the observations were to be made. He was favored by exceptionally clear weather, and on Oct. 14 observed the solar spectrum. The lines and bands of vapor were absent, and the bands of oxygen decreased rapidly with increasing altitude of the sun. At noon they had entirely disappeared. The lines, on the other hand, were still visible, but had become very faint. From these observations it appears that oxygen does not exist in the atmosphere of the sun in such form as to produce the lines which it produces in the form in which it occurs in the earth's atmosphere