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

— The American Historical Association held its fifth annual session last week, a large number of members being present. The president, William T. Poole, in his opening address, treated principally of the ordinance of 1787 for the North-west Territory, and called attention to the great need of impartial biographies of Gen. George W. Clark, La Salle, Kenton, and Father Hennepin; Gen. James Grant Wilson gave an account of the evolution of the "Cyclopædia of American Biography;" Dr. A. G. Warner read a treatise on town and county government in the United States; Professor McLaughlin of the University of Michigan rendered tribute to the influence of Gen. Cass on the development of the North-west; Professor Knight of the Ohio State University treated of the history of higher education in that section; Professor Allen of the University of Wisconsin presented a paper on the position of the North-west in general history; and Major J. W. Powell presented a language-map for North America, which has been prepared by the Bureau of Ethnology. It represents in graphic form the results of the investigations of many persons who have been engaged on the work for the past fifteen years. He explained the methods adopted in correlating and classifying the aboriginal tongues, and the historical researches that had been prosecuted to determine the pristine homes of the various tribes. He finally gave a characterization of Indian languages. Other papers were read by W. C. Fisher of Cornell; C. N. Morris of Berkeley; G. Brown Goode, assistant secretary of the Smithsonian; F. A. Bancroft, librarian of the State Department; H. C. Lee of Philadelphia; W. W. Henry of Richmond; and Clarence W. Bowen of New York. Officers of the association for the coming year were elected as follows: president, Charles Kendall Adams of Cornell University; vice-president, John Jay of New York; second vice-president, William Wirt Henry of Virginia; secretary, Herbert B. Adams of Johns Hopkins University; treasurer, Clarence Winthrop Bowen of New York. An executive committee, in addition to the above-named officers, were elected as follows: Rutherford B. Hayes. George P. Fisher, and John W. Burgess.

— At a recent meeting of the Royal Meteorological Society, Rev. I. A. Preston gave an interesting summary of phenological observations for 1888. He said that vegetation was generally backward throughout the season. In the south-west of England and south of Ireland plants were earlier than usual, but not elsewhere. In February they were from one to four weeks later, and gradually gained ground till June. In the south of Ireland they were slightly in advance of the average in June and July; in the south-west of England they just reached the average in July, while in Guernsey they were a fortnight later. Fruits generally were a failure, — very few really ripened, — and, from want of sun, were deficient in flavor. Hay-making was unusually late (as much as five weeks). It began in July or August, and was not entirely finished till late in September. Much of it was spoiled or secured in bad condition. Straw was plentiful, and, though the corn was not an average crop, the fine October enabled farmers to secure a better one than could have been expected. Roots were often a failure, and potatoes were much diseased. Capt. D. Wilson Barker read a paper entitled "A Winter's Weather in Massowah," in which he gave the results of four-hourly observations from December, 1887, to February, 1888; the highest shade temperature being 95°, and the lowest 68°.

—The observation of the total eclipse of the sun of Jan. 1, which was visible over a belt stretching from California to Manitoba, was favored by clear weather, and it is probable that results of great value have been obtained. The principal work was done by the Harvard University party at the Lick Observatory, by astronomers at Norman, Professor Swift near Chico, the Chabot Observatory, and people at Cloverdale. Professor Louis Smith was stationed at Nelson, Cal., and telegraphed the following as the result of his observations of the eclipse: "As far as affording opportunity to search for intra-mercurial planets, it was a failure from clouds and haze. All four contacts were well made, the chronometer watch previously set to Lick Observatory time being used. Five very small colorless protuberances were seen, all having pointed apexes. Near the point of one was another detached from the sun. Bailey's beads were seen at the second and third contacts, but entirely unlike those seen at Denver in 1878. No chromosphere was visible, though looked for. Mercury, Venus, Vega, and Alpha Cygni were seen. The corona could not be drawn, but as seen through the telescopes it was not very extensive." At Brandon, Manitoba, observations were made. At 3.15 o'clock, central time, 90° longitude, the first contact was observed. At 3.15.34 the shadow had crept over one-half the disk; at 3.15.47, three-quarters; and the totality occurred at 3.16.09. At the quarter a deep-reddish color was observable at the edge of the sun's disk, projecting from beneath the dark body. Immediately after, a sort of halo was formed around the disk, it is difficult to say whether of a greenish or bluish color. It was red at the outer edge, with the color deepening. At 3.15.34 a vibratory motion was visible around the outside of the sun's disk. At the three-quarter obscurity, jets from the upper right and lower left sides and from the lower left horn of the crescent were visible. The corona was irregular, extending to the left and right, — on the left above and on the right below. The corona was observed and sketched very carefully. This sketch was exhibited to other observers, who recognized the irregular shape it assumed. Above and below, the depth was not nearly so great as to the right and left. To the right the illumination assumed an almost square or block appearance, whereas to the left it was narrowest and more elongated. To the observers' view, the inner corona was distinctly visible immediately after totality on the upper left side. This phenomenon grew fainter for 28 seconds, and then more visible, until immediately before the sun's re-appearance, when it was again distinctly visible. On the bottom right-side corner of the inner corona appeared a luminous gold ring, and it was very beautiful during totality. Another observer used his telescope, and secured corroborative evidence of the above. In fact, so well defined was the corona, that to close and careful observers there was no difficulty in agreement. No streamers or filaments were observed. The time of totality, according to one observer, was 56 seconds, and according to another 57. As the eclipse neared totality, the thermometer fell very perceptibly. In fact, it became intensely cold. The vibratory motion already spoken of was distinctly seen on the walls of St. Matthew's Church close by. Stars could be seen studding the deep blue of the heavens. The corona was small and of a pearly lustre. In two places only several long rays were seen. Fuller reports may be expected at an early date.

— In behalf of the American Association for the Study and Cure of Inebriety, the sum of one hundred dollars is offered by Dr. L. D. Mason, vice-president of the society, for the best original essay on "The Pathological Lesions of Chronic Alcoholism Capable of Microscopic Demonstration." The essay is to be accompanied by carefully prepared microscopic slides, which are to demonstrate clearly and satisfactorily the pathological conditions which the essay considers. Conclusions resulting from experiments on animals will be admissible. Accurate drawings or micro-photographs of the slides are desired. The object of the essay will be to demonstrate, first, are there pathological lesions due to chronic alcoholism? second, are these lesions peculiar or not to chronic alcoholism? The microscopic specimens should be accompanied by an authentic alcoholic history; and other complications, as syphilis, should be excluded. The successful author will be promptly notified of his success, and asked to read and demonstrate his essay personally or by proxy, at a regular or special meeting of the Medical Microscopical Society of Brooklyn. The essay will then be published in the ensuing number of "The Journal of Inebriety" (T. D. Crothers, Hartford, Conn.) as the prize essay, and then returned to the author for further publication, or such use as he may desire. The following gentlemen have consented to act as a committee: W. H. Bates, M.D., chairman, 175 Remsen Street, Brooklyn, N.Y.; John E. Weeks, M.D., 43 West 18th Street, New York; Richmond Lennox, M.D., 164 Montague Street, Brooklyn, N.Y.

— The fourth annual meeting of the Indiana Academy of Science was held from Dec. 25 to Dec. 27 at Indianapolis. On Wednesday night Professor J. P. D. John delivered the presidential address, on "Religion and the Law of Continuity." The programme provides for papers to be read in four sections, — zoölogy; botany; geology and geography; chemistry, physics, and mathematics. Among the papers announced, those on zoölogy outnumber those in any other section.