

The mineral celestite does not occur in veins or cavities, but disseminated through the rock, the manner of dissemination differing somewhat in different sections; in some places the crystals were not nearly so perfect as in others, often collected in small circular spots. The crystals have the usual combinations of faces found in celestite as well as the specific gravity and optical properties of this mineral.

While the mineral was originally found near Jamesville it has more recently been found elsewhere and, the author believes, is of general occurrence in the limestones of the Salina. In places where rocks containing the celestite were exposed to the weather, the mineral was dissolved, leaving cavities which by their distinct outlines indicate the character of the material which they had contained. In some localities the crystals were large and their impressions simulate the marks of chisel blades of about three fourths of an inch in width, occasionally single but often crossing one another.

In the rocks where this mineral occurs in circular particles, leaching gives rise to an appearance as if the stone were worm-eaten, and bearing a striking resemblance to the 'vermicular limestone.' The 'vermicular limestones' have given geologists much trouble as to a satisfactory explanation of their formation. That sodium chloride was the original occupant of these cavities seems doubtful. But celestite is soluble in water containing small quantities of sodium, calcium or magnesium-chloride. Analyses of the brines from the different salt-producing sections of the state easily proves the presence of these chlorides. With these facts in mind and knowing that the dissemination of celestite through the rock is not unlike that which would be necessary to form cavities as found in the vermicular and that when such a rock has been leached, the appearance of the resulting rock is like that of the vermicular, the conclusion seems unavoidable that these many cavities now empty in the vermicular must have once contained a mineral of the character of celestite and that by the action of the agencies mentioned above the same was

dissolved, leaving nothing but the so-called cells to show its former presence.

J. E. KIRKWOOD,
Corresponding Secretary.

THE SCIENCE CLUB OF THE UNIVERSITY OF
WISCONSIN.

THE fifth meeting of the club for 1903-4 was held February 23, in the physical lecture room of Science Hall. The club had for its guest the local section of the American Electrochemical Society, this being the first meeting of the local section. The papers were presented by members of the section. The first paper, by C. F. Burgess, on 'Electrolytic Iron,' was illustrated by specimens and products of pure iron recently obtained by him by electrolysis. One specimen of extremely pure material weighted twenty-one pounds.

The second paper, by Oliver W. Brown, on 'The Electric Furnace,' was a general description of the recent advances made in electric furnace work.

The third paper, by V. Lenher, on the 'Solubility of Gold,' was illustrated by experiments and dealt with some recent work of the author.

VICTOR LENHER,
Secretary.

DISCUSSION AND CORRESPONDENCE.

CONVOCATION WEEK.

TO THE EDITOR OF SCIENCE: Having attended a majority of the meetings of the American Association for the Advancement of Science during the past fifteen years I may, perhaps, be considered competent to contribute some impressions in regard to recent tendencies and the future development of the association which they apparently indicate.

It has always seemed to me that in any attempt to solve a problem such as that of the future policy of the association the proper course to pursue is to study the causes which have led up to existing conditions and from these to try and anticipate what the inevitable outcome is to be. Discussion of personal likes or dislikes is profitless if these are manifestly at variance with the general course of

development and whatever I may have to say will be predicated upon that principle.

The one tendency which has been so steadily persistent and so prominent in the development of the association as to overshadow everything else is that of specialization of work, and this factor is unquestionably destined to become more and more prominent from year to year. It was first manifested in the division of the association into its original sections, next in the subdivision of these, then in the organization of special societies distinct from the sections and finally in the further subdivision of the societies and the formation of new ones in accordance with the development of new lines of thought and investigation. This is a condition with which we must reckon and our effort should be to study how it can best be made to serve the objects and interests of the association. Another tendency, of more recent origin, the underlying motive of which I confess I have not been able quite to understand, is the tendency to separate on geographic lines. This is more or less an uncertain quantity and, therefore, its importance may be underestimated, but it is a factor which has to be taken into consideration.

Assuming that this course of reasoning is valid it would seem as if the association should make every possible effort to encourage the formation of new sections whenever the necessity arises and to make the scope of its influence as broad as possible. Many earnest workers in educational and economic subjects find no place open to them in any of the sections and hence the formation of many independent societies entirely out of touch with the association. Many of them meet at other times and places and both time and energy are wasted. On the other hand, the affiliated societies, which have sprung naturally from the influence of the sections, are a source of strength to the association and this could be further augmented by intelligent cooperation.

Much has been accomplished in this direction already, but it has not been systematically pursued. I have elsewhere proposed, and I take advantage of this opportunity again to urge, that an effort should be made to call a meeting of delegates from all societies which

could properly be affiliated with the association in order that some uniform basis of cooperation might be secured.

The main province of the association in the future would seem to be that of organization and popularization of science. Let the summer meetings be continued, with the understanding that they are for the purpose of arousing and maintaining popular interest and to serve as a common meeting ground for professional and non-professional scientists, where the social element is to be encouraged and where beginners and amateurs may become acquainted with those whose names and works are known to them, but with whom they have never had the opportunity to become personally acquainted. I know of many instances in which embryo scientists obtained their first inspirations and their first insight into the possibilities which lay before them, through the medium of these meetings.

It may, perhaps, be an open question whether winter meetings in addition are advisable. The tendency seems to be to make these more technical and, perhaps, it might be wiser to encourage this idea. In other words, that at these meetings the affiliated societies should assume the leading position.

It ought to be feasible so to arrange the programs that at the summer meetings the societies could meet with the sections and have the association assume the greater prominence, while at the winter meetings the association could act more as a medium for bringing the societies together at one time and place.

Personally I do not believe in the advisability of meeting in regional sections. The less separation we have on geographic lines the better, although if this tendency is obvious I realize that it would be folly to oppose it. Before expressing any further opinion on this point, however, I should prefer to hear something more definite than has yet been brought forward by those who favor it, not only in regard to reasons for the proposed change, but also, approximately, the details of the arrangements which could be made for such meetings.

It should also be borne in mind that the

members are discussing the policy of the association more or less in the dark, as to the manner in which any changes would or might affect the finances and administration of the association. It would seem as if the discussion ought to include some words from the standpoint of the administration in order that all sides may have a hearing.

ARTHUR HOLLICK.

NEW YORK BOTANICAL GARDEN.

THE American Association for the Advancement of Science accomplishes a great work in making it possible for large numbers of scientific men to come together from year to year, and in this way alone does much for the promotion of science. The association can well afford to make generous concessions to affiliated and other scientific societies, even though they do not contribute directly to the financial support of the larger organization. We can not help feeling that these other societies are important to the welfare of the general association, and we are decidedly in favor, if possible, of making conditions such that the various societies will see material advantages in affiliating or coming into even closer relations with the older organization, and it would, therefore, seem to us wise to give the affiliated societies a larger representation in the council. We are not afraid of their exercising too much power in that body. They have come into existence to supply a need. Specialists have increased so rapidly that the original sections are not adequate for present conditions. We do not believe that special papers should be read before the sections, but they should either be referred to subsections or special societies.

It is much easier to suggest than to carry out, yet the last two meetings have emphasized the advisability of a more general classification of meetings and papers than has heretofore obtained. This is possible only through the cooperation of all societies meeting at the same time, and one of the great gains from a closer connection between affiliated and other societies and the association, would be the possibility of harmonizing programs. The many branches of science and the multiplicity

of interests, renders this extremely difficult, still there are ways in which the matter could be simplified. It seems to us that two general sessions ought to meet every demand; one to mark the opening of the meetings and to permit of addresses of welcome, etc., and another in the evening to give the president an opportunity to deliver his address. The other general sessions amount to little more than a formal confirmation of the action of the council, and it would seem that this body might well be intrusted with all the governing powers, including the election of officers, since its members are elected at various times by the different sections and affiliated societies. Notices for each day could appear upon the program and thus do away with any excuse for a short daily general session every morning. This would allow unbroken forenoons for general meetings, and it would seem as though all the papers in related sciences could be classified. The general and special should receive equal consideration, and we would suggest that morning meetings be devoted to general papers, and afternoon sessions to special papers, which latter should be read before subsections or special societies. Some papers are of general interest to more than one group, and these would naturally have precedence in the morning and could be delivered before a joint session of one or more sections. Some arrangement of special meetings would be necessary for afternoons, so as to avoid conflicts likely to be produced by related subsections or societies holding sessions at the same time. Evenings not already occupied, as stated above, might be devoted to sessions for members of the association, at which two short addresses on topics of general interest could be delivered. Two such meetings might easily be held in different halls, and with proper grouping of subjects, there would be comparatively few who would wish to attend both. In addition to these short, general sessions, which should last an hour or a little over, we would favor continuing the popular complimentary lectures to the people of the city where the meetings are held and for such members of the association as cared to attend. These latter would be longer and more

formal than the short addresses mentioned above. All of these evening meetings could easily finish by 9:30, and give an opportunity thereafter for banquets and social gatherings, which have been a characteristic feature of previous meetings.

We believe that a classified system, such as described above, and including not only the regular papers presented before the American Association but also those before special societies, would do much for the advancement of science in America. The attending scientists would have, in the morning, a series of general scientific papers of interest to most of them, while meetings of subsections or special societies occurring in the afternoon would give an opportunity for the consideration of technical questions. The semi-popular short addresses in the evening would appeal to many of our members, while the more formal public lectures by prominent men would be an important stimulus and result in materially advancing science in America.

E. P. FELT.

THE WRITINGS OF WILLIAM J. LONG.*

THE last quarter of a century has seen a remarkable development of that form of literature which consists of charming popular writings about animals and their doings. A leader in this movement was John Burroughs, whose work combines literary grace with scientific truth to a degree not surpassed by that of any other modern nature writer, and there are several others in this country writing in the same spirit. Recently, however, there have arisen somewhat suddenly into prominence three writers on nature subjects whose works enjoy a popularity far surpassing that gained by any of their predecessors or contemporaries. These three are Mr. Thompson Seton (earlier known as Seton Thompson), Mr. W. J. Long and Mr. C. G. D. Roberts. Of the former I know little, but the two latter have written extensively of New Brunswick animals, and hence I have been much interested in their works, upon which I propose to make some

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comments from the point of view of New Brunswick natural history.

In examining the works of these two graceful writers, two queries naturally arise: First, as to the cause of their surpassing popularity, and second, as to their real scientific worth. The cause of their popularity is easily found. It does not lie in their literary charm primarily, for in this they do not so far surpass other nature books, but it consists in this, that they tell about animals, not as they are, but as people like to think they are. It is the humanization and idealization of animals, which, under the influence of the remarkable literary skill of these authors, has made their animal stories so popular. To accomplish this end, they have had to cut loose from the trammels of fact which hampered their predecessors, and have given their imaginations full play, thus producing fascinating works of fiction disguised as natural history. It is, however, this disguise which constitutes the chief ground of criticism against these works. We all agree that the use of animals as the heroes of romances is perfectly legitimate, but if such works pretend also to be accurate natural history, they unfairly deceive their readers and dishonestly claim a position to which they have no real title. It happens unfortunately that the works of both Mr. Long and Mr. Roberts are widely accepted as accurate in their natural history by the great majority of readers. Mr. Long positively claims that all he writes is accurate fact based on his personal observation, while Mr. Roberts allows an extensive personal knowledge of animals to be inferred, and takes no steps to correct this popular error.

Mr. Long has published five books on animals, containing many references to New Brunswick. The most characteristic feature of these books, especially of the later, is the marvelous character and remarkable number of the experiences the author claims to have had in his observations of animals. The aggregate of Mr. Long's reported observations, both as to quantity and character, is such that if all he reports is true, he has seen more widely and deeply into animal life than all other students of animal habits taken to-