Cambrian rocks of the Encampment region, with east-west axes, were reduced to a peneplain at a time as yet undetermined, and the warping of this old surface by post-Mesozoic disturbances produced the arches of the present mountains, with their axes north and south. This peneplain is recognizable on the continental divide and the long spurs and parallel ranges to the east and west in the Encampment region. The sedimentary strata occupying the flanks of the mountains and valleys and 'parks' of this region doubtless once covered most, if not all, of the peneplain, but it has been laid bare over large areas of higher ground by subsequent denudation and more or less deeply incised by the streams. Brief reference was made to the dissection of the floors of some of the 'parks' by the streams draining them; to the systems of terraces occurring along nearly all the larger streams of the region and the diverse hypotheses accounting for their origin, and to the minor glacial phenomena. The paper was illustrated by a considerable number of lantern slides and maps.

F. S. SHIVER,
Secretary.

DISCUSSION AND CORRESPONDENCE.

CONVOCATION WEEK.

TO THE EDITOR OF SCIENCE: I heartily agree with the views expressed in your editorial of January 8 in regard to the affiliation of the various national scientific societies. If scientific men in this country are to exercise the influence they ought to exercise in educational matters; if they are to influence legislative action when it concerns scientific work; if they are to hold the place in the country which is due to them and their work, they must come together; they must learn to know each other and to act as a unit. It seems to me that it is very important to bring the scientific bodies together at least once a year. The American Association for the Advancement of Science has taken the initiative because it is the largest of all of the scientific societies. Its policy has been to hold a meeting during convocation week and invite the other scientific societies to meet at the same time and at the same place. The greatest freedom has been granted these bodies, and all the privileges which the large membership of the American Association for the Advancement of Science secures have been granted to them. There seems to be a feeling on the part of some of the societies, however, that the large association is trying to influence their action and force them into affiliation with it. I am confident that the only desire of the American Association is to bring the scientific men together for the good of all.

I would suggest that each national scientific society be asked to send a representative to a meeting to be held at some central point before next summer, where this whole question can be discussed in all of its bearings, and see whether it is not possible to arrange for meetings of all of the societies at the same time and place once each year or at other stated intervals. Such a committee could discuss the advantages and disadvantages of such gatherings, the influence which could be brought to bear upon scientific education and research and many other matters which would naturally suggest themselves. I believe that SCIENCE might take the initiative and request the various scientific societies to send representatives to such a meeting.

CHARLES S. HOWE.
CASE SCHOOL OF APPLIED SCIENCE.

AS the editor of SCIENCE has pointed out, the advantages of the winter meetings of the American Association and of its affiliated societies are evident, and they certainly are desirable for those who can afford to attend them. The council, it is to be presumed, would be glad, however, to hear and to consider objections. Those of us who live on the Pacific slope have some that are peculiarly our own.

1. In order to attend a winter meeting we are obliged to rush off at the beginning of our very short Christmas vacation, and to spend a large part of that vacation crossing and recrossing the continent.

2. The trip is one of several thousand miles that requires from six to ten days on trains.

3. For this long trip we are unable to obtain

any considerable reduction of railway rates.

4. The season has certain objections for some of us who would like a few days of quiet with our families during the Christmas holidays.

The second and third objections may seem to hold also against the summer meetings of the association. But as the summer meetings fall in the long vacations a trip to the east is generally utilized for other purposes as well as for attending the scientific meetings, while the short Christmas vacation does not leave us time for anything else.

We of the Pacific slope, however, fully realize that this question should be settled with a view to the interests of the majority of the scientific men of the country, and that the majority lives east of the Rocky Mountains. We hope, though, that it will not be forgotten that the association has always tried to do a little missionary work whenever it has been possible. J. C. Branner.

To the Editor of Science: Replying to your request for an expression of opinion relative to scientific organization in this country, I would say that the reorganization of the medical profession seems to me to offer an example which we might well follow.

Let the present American Association for the Advancement of Science be taken as basis, forming the national organization; let the present council be supplanted by a house of delegates, composed of representatives from each state society, the number being in proportion to the state membership; let all business affairs, questions of policy, etc., be transacted by this house of delegates; let the national association hold its meetings in convocation week, and be divided into as many sections as seems necessary or desirable for the purpose of presenting papers, but let it be divided into state associations for the purpose of representation and government. The national association can prepare a model constitution for the use of the state and local associations and have such constitution cast so that only the state or local names need be inserted, thus saving considerable expense, work and worry.

The state associations should hold independent meetings or two or three adjoining states could unite for joint meetings, preferably in summer. A division into sections could obtain for presentation of papers, but the business affairs could best be conducted by a state house of delegates, composed of delegates from the local associations. Such meetings would doubtless be attended by many college assistants, college students and especially high school teachers who can not afford to attend the national meeting and who might feel lost if they did attend.

Local associations could be formed in any community in which a given number of scientific workers could be organized. It is but natural that the universities and colleges would form the centers of the local societies and by interesting all senior students in the local societies, the national association would eventually practically represent a national alumni organization. At least all scientific students in colleges and universities would, upon graduation, enter the post-graduate national organization. In places like Boston, New York, Washington, Chicago, etc., there would be a differentiation into sections, according to subjects represented and members enrolled.

Such an organization would unite all American scientists into one strong body, which upon occasion would be an important factor in national or state legislative and other public matters. It would give every member of a local scientific society representation in the national organization. It would decrease expenses in local and state societies, and thus decrease the number and amount of annual dues, which are already too large. It might enable us gradually to assume control of and responsibility for technical publications. It might result in the union of several existing publications with the plan of distribution by signatures, so that it would be possible for a zoologist to subscribe for all of the zoological papers issued without his purchasing four times as many papers on other subjects, and the same advantage would accrue to the botanist, the chemist, the mathematician, etc. And to the great delight and relief of the bibliographer, such a plan would probably re-

sult in the early death and future prevention of the numerous struggling, ephemeral publications issued by various local organizations.

There is nothing original in the suggestions made above. The plan has been inaugurated by the medical fraternity and its good results are already evident. Would it not be wise for the scientific organizations to consider the same plan seriously, even if it should involve the demise of several existing organizations?

CH. WARDELL STILES.

WASHINGTON, D. C.

TO THE EDITOR OF SCIENCE: The problems connected with convocation week may be approached from the point of view either of that which is in the abstract most desirable or of that which is best adapted to present conditions. The latter question can not be treated properly without some consideration of the former, but it is idle to confine our attention to the ideal.

Few men of science can fail to recognize the enormous advantages resulting from the unification of all the scientific interests of the country under a single organization. The main question seems to be whether it is practicable to effect such a unification without the sacrifice of other and more important interests.

Objection is made on the part of the technical societies to any form of affiliation which would tend to degrade the professional standing of the membership of the societies. The objection certainly is a valid one, and reference to the editorial of January 8 will show that no such effect of affiliation on the professional societies is necessary or desired.

The objection to joint meetings growing out of the great extent of territory covered by the national organization and the resultant expense in time and money involved in reaching distant cities is common to any form of national society, however limited in scope, and may be met practically in a variety of ways. It certainly is not greater with the affiliated societies than with those entirely separate.

Another difficulty not so easily disposed of grows out of the crowding together of many programs in the short space of one week and the interruptions due to the numerous public lectures and social events of general interest. This situation presents a problem of the first magnitude and one better solved by a process of natural growth in experience than by academic discussion.

We have already had experience with three chief methods in the conduct of our mid-winter meetings. (1) Each society has met independently, with no attempt at correlation with any other organization. This was the method until very recently, with the result, perhaps, that three societies with which one might wish to keep in touch were meeting simultaneously in three widely separate cities, a situation so intolerable as to have provoked the agitation for convocation week.

(2) A second method is for the independent societies by mutual agreement to meet at one time in the same city. In the biological sciences we had a practical illustration of this at the last Washington meeting, where several sessions were held simultaneously offering programs covering substantially the same field. This situation was far from satisfactory to any of the membership, some declaring that it were better to return to the former plan of wholly separate meetings. Others considered that the resultant social advantages more than compensated for the distressing conflict of desires by which one was torn during the hours devoted to the reading of papers.

(3) The third method is for all of the societies to meet together and for those dealing with related subjects to combine their programs so as to have but one series of papers on the same subject running at one time. An inordinate length of program on any subject may be obviated by a further topical division of the program into smaller sections for all or part of the time. To be sure, it is a very difficult matter sometimes to find a natural line of cleavage in a program, but a separation of papers in accordance with any principle, however defective, is better than a separation based on no principle save the accidents of membership in the several societies; and if the programs are published in advance and are as closely followed as possible and espe-

cially if the paper in course of reading and the paper next to be read are posted outside each section room during the sessions, then it will be possible for any one at least to choose intelligently between papers appearing simultaneously, instead of leaving this largely to chance, as was too often the case at Washington.

That some such plan is not impracticable is shown by the very recent history at the St. Louis meetings, as illustrated by the program in zoology. Section F and the Central Branch of the American Society of Zoologists, by previous arrangement of their executive committees (these societies, by the way, not even being affiliated), combined for program purposes. This arrangement provided that all of the papers submitted and approved by the respective program committees should be considered by a joint program committee just before the meeting and that all papers approved by this joint committee should be pooled and arranged in a single program classified by subjects, with the proviso that if this made too long a program they should be divided into two groups on the basis of subject matter, not on the basis of the societies presenting them, and that simultaneous sessions should be held for such time as might be necessary. Conference with the executive officers of both societies after the meeting shows that this plan worked out to the satisfaction of all concerned with no friction or other unpleasant features save for some inconvenience to the secretaries growing out of a tardy beginning of the negotiations. A critical examination of the joint program shows, as it happens, that the two societies represented were very evenly balanced, both in number of papers submitted and in their scientific worth.

The plan here outlined is not recommended as an ideal, nor even a practicable, solution of the problem for every case, but it is mentioned as another illustration of the fact that the problem can be solved in a concrete case. Doubtless a different solution would have to be worked out for some other case.

In view of this history, the present writer, who is a loyal member of both Section F and the American Society of Zoologists, fails to see any reason why the societies should not have the advantages which would accrue to both by such an affiliation as was referred to above, uniting their forces for certain executive functions of national import, but leaving each free to work out the details of its organization in its own way. Either branch of the professional society would be able to meet independently at any time, but when the American Association meets in its region it should, as a rule, secure the advantages of joint sessions.

For my part, to be perfectly frank, I do not go to the national meetings primarily to hear papers read, much as I enjoy that feature, for these can generally be studied at leisure afterwards. As a comparative neurologist I, of course, want to get the first word of every advance movement in my specialty in this way; but I prize not less highly the opportunity possible only in a gathering of many different societies, of meeting my colleagues in related fields, by attending the Physiologists' and Anatomists' smokers, the Naturalists' dinner, and in other ways keeping in closer personal touch with the men who are doing the work in related departments of research on which I must so largely build. This is for me one of the most important gains that I win at the national meetings and one that can not be fully realized in any meeting of a single professional society, no matter how high the scientific standard or how wide a territory may be represented.

To secure this gain I, for one, am willing to make considerable sacrifices, though, as indicated above, these sacrifices do not necessarily include any loss in the efficiency or interest of the programs of convocation week. My own feeling is that in the final adjustment we shall probably come to a summer meeting of the association, with field excursions made prominent, some of the sections perhaps meeting in different places, and a convocation meeting in the winter devoted mainly to the reading of technical papers, with a due proportion of the time devoted to public discussions and lectures on themes of general scientific interest and to social intercourse. There should

be no difficulty in maintaining in these programs a scientific standard of papers read as high as that now presented by the professional societies. Indeed, there would be no impropriety, particularly in the case of any section which holds summer meetings, in relegating the reading of technical papers at the convocation meeting to the affiliated professional societies, the section, if possible, offering, in addition to the vice-presidential address, one or more set papers or discussions of more general interest.

The solution when finally wrought out will no doubt come by a process of evolution rather than by revolution, and the present trend is clearly in the direction of reserving the time of convocation week very largely for the reading of papers by the technical societies. Any attempt to force these societies into the summer months is foredoomed to failure.

C. JUDSON HERRICK.

THE CASE OF WILLIAM J. LONG.

TO THE EDITOR OF SCIENCE: The criticism of William J. Long's published observations on the habits of animals inaugurated so vigorously by John Burroughs in *The Atlantic Monthly* for March, 1903, and continued no less forcibly by William Morton Wheeler in your issue of February 26 arouses no little interest in the personality and methods of a writer whose work has met with so unfavorable a reception by naturalists.

Are we to believe the accusation that the author in question, to put the matter squarely, is a 'liar,' or have we in Mr. Long a naturalist whose powers of observation, discrimination and interpretation are so far beyond those of any other student of nature, living or dead, that he is in effect a Galileo among animal psychologists?

It can not be denied that Mr. Long, in spite of his youth, has placed upon record more remarkable statements regarding the behavior of the birds and mammals of New England and New Brunswick than can be found in all the authoritative literature pertaining to the animals of this region.

The story of the crows and their game with a china ring; of the kingfisher that stocked an isolated pool with fish in order that it might easily teach its young the art of fishing; of the partridge that repeatedly drummed a roll-call for the two missing members of a brood of eleven; of the red squirrel with cheek-pouches; of the porcupine that coiled in a ball before rolling down hill; of the loon that hatched its eggs, not by sitting on them, but by gathering them close to her side with her wing; of the woodcock that placed its broken leg in a plaster cast; of the ducks that have learned to drown salt-water mussels in fresh-water pools; of the great blue heron that scattered a pollywog in fragments on the water as bait to draw fish within spearing distance: these and many other equally remarkable observations and experiences are recounted with a circumstantial detail that carries conviction to all but the informed.

Indeed, one has not to read far in any of the half a dozen or more volumes which Mr. Long has produced to discover some more or less remarkable description of the actions of animals.

The nature of their contents and their undeniable literary merit furnish abundant reason, therefore, why Mr. Long's works should claim not only the attention of naturalists, but of the public generally, and again it may be asked, is the unsparing criticism to which they have been subjected warranted?

An apparently satisfactory reply to this query is furnished by a defense of Mr. Long published in the Boston *Evening Transcript*, March 7, 1903, and by Mr. Long himself. The writer of the *Transcript* communication seems to have been acquainted with Mr. Long at Andover Theological Seminary. After saying that Mr. Long prepared himself for college by 'solitary' study and that in entering the sophomore class he had not experienced that year in an undergraduate's life 'when a young man learns to take himself for very little,' he continues:

> From both these circumstances it comes about that we have here a man easily tempted to overrate his personal knowledge, a man tempted to superficiality, a man likely to draw rash and ill-considered conclusions. It is also to be remembered that Mr. Long is of Irish extraction—inflammable, poetic and volatile in temperament.