

T. W. Galloway then presented the following paper:

A WORK NEEDING TO BE DONE BY THIS ACADEMY.

I presume we are agreed that the chief function of a miscellaneous association of scientists such as this lies in the synthesis of our work and in the suggestion of cooperation among us. The academy offers the machinery for a kind of *state consciousness* in respect to scientific matters. Another function, partly incidental to this and partly new, has been suggested from time to time:—viz., the encouragement and increased efficiency of the amateur, or *independent isolated* worker, who lacks the guidance both as to method and matter which is possible to students of experience on the one hand or to those immediately guided in the university on the other.

To the latter of these two functions of the academy I want to direct a few remarks; and I will become concrete at once.

In Biology as in other sciences, there are certain lines of work which cannot be pursued to advantage by the student away from laboratories and libraries. On the other hand, there are certain problems of extension, of behavior and relation—i. e. of distribution and ecology—which are quite open to such study. As a matter of fact our present situation calls for thousands of just such scattered or distributed studies.

Furthermore, if we can bring these *needs* clearly to the consciousness of the workers, there are probably hundreds of possible workers who would find it a pleasure to do something, if they only knew what to do and how to go about it.

For these reasons the conviction has been growing on me, since the organization of this Academy, that we can do something in the *conservation* line ourselves; and that the time has come when a wise committee, who does not want a monopoly of the honor of doing the scientific work of the state themselves, could render a tremendous service to the great body of biological workers who may not be quite equal to self-guided work; and at the same time advance the knowledge of Illinois biology.

In my own observation of conditions it appears to me that the lack of initiative on the part of many who might be adding to our knowledge arises from the following things:

1. They do not know what has been done and fear that their efforts would be wasted.
2. Hence, they do not know what are considered the needful things to be done, and where to put their energies.
3. They quite probably are uncertain as to the best mode to proceed to accomplish something which would really contribute to knowledge.

I hasten to say that I am not assuming that the Academy can make finished scientists of these; but merely that a conservation of scientific energy can be secured, and that actual additions may be made to our knowledge which might escape the finished scientists for years.

Briefly, the work that I am suggesting at the hands of such a committee would consist (1) in the preparation of a bulletin which would, in some degree, indicate some of the most significant gaps that exist, in whose closing amateur investigators might readily take part, and (2) the distribution of this bulletin to all teachers of biology and physiography and geology in our high schools and colleges and to interested observers everywhere.

More specifically, such a bulletin should contain:

1. A statement of the fields in which the best work has already been done in Illinois biology of the kind already referred to as suitable to the amateur worker. This would not be a tremendously large task.
2. An analytic display of the fields of work in which the best possibilities now open to such workers. This analysis should go on down even to the statement of some particular problems, of suitable dimensions for unguided workers.
3. A somewhat detailed outline of proper methods of procedure in one or two concrete problems, either of some work already done or of some still needing to be done. Stress should here be put on the attitude of mind necessary to successful scientific work.
4. Citations to some of the very best literature of any region illustrative of proper method and spirit in such work.
5. A good classified bibliography of Illinois titles of biological literature pertaining to the types of work outlined as feasible.

Such a bulletin would prove useful to many people perfectly competent to work, who for one reason or another are not quite equal to wise selection of a field of study or to complete self-guidance after it is chosen. This kind of exploitation of the field would make it possible for many teachers in schools and colleges to use their classes in the getting of needed data, incidentally much to the benefit of the courses they are giving.

This proposition would call, as a second step of course, for a bureau of some sort to whom the results—whether of material or of observations—may be returned and there edited, collated,

and published if need be. The State Biological Survey suggests itself to me as the appropriate agency, for this is largely the very purpose of its existence. In this way the Academy, on the biological side, would become the field representative of the Survey. The Survey would become an executive committee and guiding spirit of our Illinois workers in biology—in so far as our work is geographical.

This Committee would need (1) a member who knows well what has been done and what needs to be done in the state; (2) a member who would be good at an analytic statement of the problems and opportunities, in detail; and (3) a member full of sympathy and knowledge of the limitations and possibilities of the grade of biological workers for whom these suggestions are spoken.

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