it has seemed that perhaps there might be, after all, such a subject as "biology."

But now when it seemed that the word "biology" might really have a meaning there is issued from Washington this report, which even at very first glance belies its title. The real nature of the publication is indicated in the "Letter of Transmittal" in which it is stated that

> The report consists of three parts. The first characterizes the five life zones which traverse the state, defines their extent and limits and discusses their agricultural possibilities. The second consists of a complete list of the mammals of Colorado with brief notes on their habits, distribution and economic relations. The third is a list of the principal trees and shrubs of the state observed by the assistants of the biological survey during the progress of work in the state, with annotations as to their distribution and abundance.

Just why such an ambitious title as "A Biological Survey of Colorado" should be used for this report is nowhere stated and certainly is not apparent from internal evidence.

If this were the first study of the kind ever made in Colorado it would be a most excellent work. The material here presented, however new to the author, is very little of it new to science. Warren's "Mammals of Colorado," published in 1910, covers the mammals quite fully and numerous publications on ornithology and botany go far beyond the present report in most of the things mentioned in those branches. There are references to various publications on mammals and to one single botanical report, but apparently all the other information given by the author is from his own work. It is little short of marvelous that a young man with so little knowledge of the state, of its climate, its flora and its fauna has been able to prepare so good a report.

The discussion of life zones is conspicuous for that perfect independence of thought characteristic of those who know nothing of the writings and opinions of others. It would seem worth while, before writing about the native animals or plants of a state, to consult the published works of men of science resident in the state. Thus many laughable mistakes might be avoided.

It is a question worth considering whether the writer of "a biological survey" of any state would not do well to visit the museums within the state and make himself known to the naturalists who might help him in his work. The writer of "A Biological Survey of Colorado" according to his own account made his start from Boulder, but apparently did not take the trouble to visit the university there nor the museums in Denver, only 30 miles away.

From a reading of the report under consideration one would imagine that his was the first biological work ever undertaken in the state, save certain previous work on mammals, to which scant reference is made. Even if "a biological survey" means an account of one's own personal experiences in collecting mammals it would seem the part of candor to let the reader know that other men of science have at least looked upon the plants and animals of the region visited.

It is to be hoped that the next time the Bureau of Biological Survey at Washington authorizes the prosecution of "a biological survey" of any state, provision will be made to make the body of the report agree with the title. It would be interesting to know of naturalists generally whether they conceive "biology" to be synonymous with "mammalogy" and also to know whether an account of field trips made by one man is really "a biological survey" of a state.

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PHYSICAL LABORATORY INSTRUCTION

THE article in the December 15 number of SCIENCE, p. 823, by G. W. Stewart on "An Opportunity for the Spirit of Research in Laboratory Instruction in Physics," seems to be a move in the right direction. One aid towards securing this spirit of research is to be found in dispensing with detailed instruction sheets, and with apparatus that is set up and in adjustment. The best way in which to give instructions is in the form of a lecture,

in which the underlying principles are explained, and the object of the experiment is clearly pointed out. In this way a student is permitted to approach the experiment in the same way in which the first person who did it approached it, *i. e.*, as a research problem.

The lecture system necessarily involves the use of some kind of grouping of the experiments. This last, however, is an advantage, as it permits running the laboratory and classroom work parallel to one another.

Another aid with the same object as above, is not to insist too strongly on precise measurements by elementary students. The elementary student is oftened frightened by the task of measuring a thing down to one one-hundredth of one per cent. with a strange piece of apparatus. Only after the student has acquired confidence in himself as an experimenter should great accuracy be insisted upon. However, from the very first the student should express the percentage of error of his observations. By accepting all work at first, with a percentage of error simply indicating poor experimental ability, the student is encouraged to try the experiment. This last also does away with the incentive to "doctor the results." On the other hand, the student dislikes to pass in an experiment with a larger percentage of error than that obtained by the best experimenter in the class, so that he tries his hardest to get a correct result.

The foregoing are simply aids to the spirit of research, the principal thing being the "attitude of the instructor" rather than any particular method.

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The Meetings of Affiliated Societies

To the Editor of Science: I feel like seconding all that Professor Morse has said in a recent (December 22, 1911) number of Science in regard to the custom that has arisen among some of the "affiliated societies," especially the zoologists, of holding the winter-meeting at a different place from that in which the American Association meets.

As I stated before the zoologists at the recent meeting at Princeton, there was a very strong feeling expressed by a number of prominent zoologists at the Washington meeting against the present method of meeting at different places, especially when the meetings are at the same time.

I should like to see a general expression of opinion, through these columns, or otherwise, upon this subject, especially by those zoologists who are members of the American Society of Zoologists. Such an expression of opinion might serve, in some measure, as a guide to the committee that was appointed by the Society of Zoologists to look into the matter.

Albert M. Reese

Quotations

The British Insurance Act

"Buying men's all right—the trouble is they won't stay bought." Such was the reflection of a disillusioned political boss. In the same way it is often easy enough to "do" men. The trouble is they won't stay "done." Mr. Lloyd George is finding that out in the case of the doctors. The members of the medical profession are notoriously bad men of business. They are very busy, and they find it impossible, unlike most other professionals, to divide their lives into water-tight compartments of work and leisure. They are harassed at all hours by calls upon their time and, still more, upon their mental energy. Hence they can attend very little to their professional interests. This fact made them and their leaders an easy prey to so astute and persistent a diplomatist as Mr. Lloyd George. Early in the game he saw that from the point of view of public agitation and public opposition to his measure, it was far more important to conciliate the friendly societies and prevent their rising in revolt than to make concessions to the doctors. Accordingly he "put his money on the societies," and merely put a little chloroform on a handkerchief in the case of the doctors, whispering to them at the same time that it would be all right when they woke up. The suggestion was that they would be