Mr. H. R. Higly, Pennsylvania College: 'Suggestions for the First Twelve Lessons in Demonstrative Geometry.'

Dr. John S. French, Jacob Tome Institute, Port Deposit: 'Some Essentials of the Successful Mathematics Teacher.'

Dr. H. A. Converse, Baltimore Polytechnic Institute: 'The Teaching of Geometry.'

The association was disappointed at not being able to listen to a paper on 'The Teaching of Pure and Applied Mathematics,' which the program announced was to be read by President R. S. Woodward, of the Carnegie Institution, Washington.

The following officers were elected for the coming year:

President—Professor E. S. Crawley, University of Pennsylvania.

Vice-President—Dr. John S. French, Jacob Tome Institute, Port Deposit, Md.

Secretary and Treasurer—Dr. J. T. Rorer, Central High School, Philadelphia, Pa.

Members of the Council—Professor W. H. Metzler, Syracuse University; Miss L. G. Simons, New York City Normal College; Dr. J. L. Patterson, Chestnut Hill Academy, Philadelphia, Pa.; Professor W. H. Maltbie, Woman's College of Baltimore.

At the meeting the following resolution was adopted:

Resolved: That this association approve of the organization of a national federation of existing associations of teachers of mathematics in which each association shall preserve its own organization and individuality and which shall have among its objects the joint support of publication. In the federation should be included only societies representing territory as extensive at least as one state.

DISCUSSION AND CORRESPONDENCE.

THE RELATIONS OF MUSEUMS TO EXPERTS AND SYSTEMATISTS WHO ARE ENGAGED IN WORKING UP AND NAMING COLLECTIONS.

From time to time the writer has met those who have maintained the view that a scientific expert is entitled out of collections, whether submitted to him by individuals or by museums, to retain for his own use whatever portion of such collections he may desire to reserve for himself, after having described them. Some years ago a rather well-known entomologist in correspondence laid down the proposition that 'it is the unwritten but universal law that an expert to whom scientific material is submitted for study is entitled to retain therefrom anything he pleases,' and further added the statement that 'it is the indefeasible right of an expert to retain for his own use anything which he may wish to reserve out of the collections submitted to him for study.' These statements being wholly contrary to the teachings of his own experience and observation, the writer was moved to address a circular letter of inquiry to a large number of the most eminent scientific men charged with the administration of the affairs of museums in America and in Europe, inquiring whether they knew of the existence of any such 'unwritten law' or recognized any such 'indefeasible right' on the part of experts to whom they might entrust material for study. The persons to whom this circular letter was addressed are men who stand in the very foremost ranks of science, among them the heads of the greatest museums in Europe and America, and a score of the most eminent investigators along biological lines now living.

The writer received not merely a series of replies upon the blanks provided in the circular letter for answers, but in a number of cases lengthy and interesting letters, which showed that some of the gentlemen addressed had encountered those who held this view, which they reprobated as strongly as does the writer himself. Others expressed unmitigated astonishment that any one should have the temerity to propound such propositions, declaring them to be altogether unheard of and monstrous. Answers were received from forty-four gentlemen in America, who are recognized as the highest authorities in their respective lines of research. Only three of these appeared to claim that usage demands that the expert should be allowed to retain for his own use what he may desire. Two of these were entomologists; one was a botanist. The others most unqualifiedly denied the truth of the propositions and treated them as ridiculous. Twenty replies were received from the

most eminent scientific men of Great Britain. Only one of the number declared the view of my correspondent to be in his judgment correct. The other nineteen utterly reprobated his propositions, declaring them to be in their judgment wholly untenable. Sixteen of the leading scientific men on the continent of Europe replied, all of them rejecting the propositions as unheard of, and contrary to all experience and usage.

It appears from the eighty replies received by the writer that only four, or five per cent., of those whom he addressed, three of these being Americans, had ever heard of the propositions laid down by his correspondent, and the rest all reprobated the doctrine.

What then is the attitude which should be taken by a museum toward the expert who is requested to work up scientific material in the custody of an institution? That he has the right to endeavor to enrich his own collections, if he happens to be a collector, at the expense of the collections submitted to him for study, I think will be almost universally disallowed. That he should, however, be recompensed for his labors, if he desires to be recompensed in any other way than by the pleasure and honor he may derive from being permitted to write upon the material entrusted to him, will be conceded. In case an expert desires a financial return for his service in the way of a *honorarium,* to grant this in accordance with the ability of the institution seems to the writer to be eminently proper. Furthermore, if he desires to retain for his own use and for aid in future study *duplicate material* where such duplicate material exists, it is the opinion of the writer that he should be allowed to do so, and in fact it may be said that it is the almost universal custom to allow experts to retain a reasonable amount of duplicate specimens from collections where such duplicates exist. But *all types of species and genera* based upon collections which are submitted to experts *should be invariably returned* to the owner of the collection, unless a previous arrangement to the contrary has been made. And this is particularly true in the case of the collections of great museums, which are founded for the purpose of recording and preserving for future generations the results of scientific research. The writer has had considerable experience in this matter and has never felt himself at liberty, when called upon to study and examine collections other than his own, to do more than to suggest to those who have had the kindness to submit them to him for examination that he would be pleased in case duplicates existed in the collection to be allowed to retain of this duplicate material sufficient to enable him in coming time to work to greater advantage.

The museums of the country should be cautioned against dealing with any individual who holds the view to which the writer has called attention, and as the head of one of the greater museums of America the writer desires to say that the authorities of this institution will never consent to allow any portions of the collections in their custody to pass out of their keeping into the hands of those who may wish to study them without having, preliminary to such act, reached a clear and distinct understanding to the effect that all types shall be returned to the museum, and that only duplicate material shall be allowed to remain in the possession of the expert, the amount of such duplicate material which is to be granted to be determined by the authorities of the museum themselves. This is in the judgment of the writer correct usage. He knows, however, that there are a dozen or more men of more or less reputation in scientific circles who hold the opposite view. He believes, however, that they are in a hopeless minority, and that their opinion in the matter is unsound from the standpoint both of science and of good morals.

W. J. HOLLAND.

CARNEGIE MUSEUM,
PITTSBURG, PA.

A LECTURE EXPERIMENT IN HYDRAULICS.

TO THE EDITOR OF SCIENCE: The phenomenon of the diminution of pressure in a contracted portion of a water pipe, as exemplified by the so-called jet pump and by the Venturi water meter, always seems paradoxical to the student in physics, and it is important, there-