formation of the new committee, because of Sir Michael's assurance that all evidence would be sifted and because of his faith in the validity of the evidence he had to give. Others probably voted in the affirmative for the same reason.

Without asking for evidence from Sir Joseph Hooker, Sir W. Wharton, Sir George Nares, Sir A. Geikie, Captain Creak, Captain Tizard or Mr. Buchanan, the new committee proceeded to cable to Melbourne the modifications which have led Professor Gregory to resign.

In bringing a condensed account of the negotiations before the Fellows of the Royal Society I desire to call attention to certain special difficulties which the Society has had to encounter in the struggle.

(1) The fact that nearly the whole of the money voluntarily subscribed was obtained through members of the Geographical Society and from its funds.

(2) The fact that Sir Clements Markham, President of the Royal Geographical Society, a man of remarkable energy, resource and resolution, was the chief antagonist of the amendments passed by the Joint Committee.

(3) The fact that the Junior Secretary and Sir John Evans were absent from England during the most critical period.

(4) Professor Gregory's appointment to the Chair at Melbourne, involving his absence from England during a large part of the negotiations.

Making all allowance for these difficulties, I believe that the majority of the fellows will consider that the claims of the scientific chief in an expedition undertaken to do scientlfic work have not received from the Royal Society that unflinching, undivided and resolute support which they would have expected and desired.

EDWARD B. POULTON.

OXFORD, May 15, 1901.

FIRST REPORT OF THE LIMNOLOGICAL COMMISSION OF THE AMERICAN MICROSCOPICAL SOCIETY.

THE initial report of a body so recently organized as this can hardly be more than preliminary in character, all the more so that the field entrusted to it is as extensive as untried. When, by the action of this Society a year ago, the Limnological Commission was organized and its members asked to assume the duties laid upon them in connection therewith, they accepted, not without some hesitancy at the extent of the work before them. The study of fresh-water bodies is indeed a great field, barely touched upon at one or two points in this country, and nowhere in the world even superficially covered as yet. Nevertheless it was the original field of biologic study; it was and is accessible to public and private workers practically everywhere, and affords opportunities for extended or limited work in any particular department of biologic research towards which the student may be drawn. Furthermore, to this work attaches an undoubted interest for all who come within its territory, while its problems have not only great biologic importance, but are also of economic value as well as of decidedly practical character, touching as they do upon the important questions connected with fish culture, municipal water supply and sewage disposal.

In this first report it will not be possible to do more than outline succinctly what has developed from our correspondence and discussion thus far regarding the object of the work, to make a brief survey of the field under discussion, of the ends to be reached and of some of the means for attaining them, and finally to invite propositions concerning the methods and problems under consideration and cooperation in proceeding toward their solution.

It may be fitting at the outset to state briefly the outlook before the Commission. Such a venture as this is not entirely unheard of and consequently venturesome. A similar body was appointed some years ago by the Swiss National Society of Natural Sciences. As a Swiss investigator,

Professor Forel, of Geneva, was the pioneer in the study of fresh-water lakes, and, as the investigators of this beautiful mountain republic have retained their supremacy in this field of research through more than thirty years, so also Switzerland was the leader in organized effort towards the development of limnological investigation. The plan of the Swiss Limnological Commission in assigning work in various regions to different students has met with such success as to inspire those who follow in its footsteps with hope for the outcome of their efforts, and as to hold up a high standard for their attainment. Similar results cannot be expected in a brief period of time, but we hope that they may be reached here eventually.

The study of limnologic questions affords abundant opportunities for workers of every type and of every grade; but if the results of such varied activity are to be of permanent value or of general import they must be correlated and unified. Therewith gaps in the records will become apparent and new problems will be suggested, so that the lines of work will be extended and at the same time joined together into a symmetrical system. The fundamental objects then of this Limnological Commission we believe to be:

To coordinate the results obtained by different investigators into a united whole, to enlist new workers and to encourage new work along lines already marked out, to suggest new lines of work and methods of research, and to aim at uniformity of procedure, so that the results may be compared and correlated.

For convenience in discussion and in the organization of the work, the field of limnologic study has been cut up into a number of main divisions and some of the chief subdivisions under each indicated. These are as follows:

1. Bibliography: A general historical review of limnological studies to date; periodic summaries of work done in the world at intervals thereafter.

2. Physiography: The inanimate environment, including the physical and chemical study of water bodies; types of such bodies, distribution; temperature, color, circulation; lake areas; composition of water, etc.

3. Biology, (*a*) Taxonomy of water organisms: Systematic tables, description and sketch of each on cards to form eventually a faunal catalog for the United States. (*b*) Morphology of organisms: Anatomy, histology, embryology of individual forms. (*c*) Distribution of organisms: Geographic; regional; littoral, limnetic, bathybic species; quantitative: General, numerical, proportional. (*d*) Physiology, experimental studies. (*e*) Ecology.

4. Applied limnology: Water supply, sewage, fish culture.

After this preliminary statement, the Limnological Commission has the following recommendations to make for the purpose of advancing this work:

First, it is expedient that as soon as suitable persons can be found who are willing to undertake the work, there should be added to the Commission a physicist, a chemist and a bacteriologist, in order that these phases of the environment may be adequately studied.

Second, the influence of the Society should be directed towards the production and publication of accurate systematic accounts of the fresh-water organisms to the end that the various workers on limnologic questions may have at hand taxonomic summaries of the organisms with which they come in contact. It is not too much to say that such treatises are non-existent for American forms and inaccessible to the majority, even for the few groups which have been partially worked out. This must be the first step in the inauguration of the proposed movement. The publication of a series of

catalog cards, each devoted to a single species, appears as a desirable method of putting such data into accessible form and keeping them in shape for frequent emendation or addition.

Third, in the interest of a complete knowledge of the distribution of fresh-water organisms, the Commission plans the keeping of careful faunal records. It is proposed to appoint one or two investigators for each group, who shall undertake to enter and collate all faunal records of this group which may be sent them and conversely to furnish workers with information concerning the distribution of such organisms. This plan will ultimately yield data for the discussion of the geographical distribution of fresh-water genera and species. It will also enable the elimination of such data as are common, leaving for publication by the student those facts which are important for one reason or another.

Fourth, the Commission is of the opinion that an occasional summary of progress in the field of limnology will serve to keep students in touch with the subject by giving them knowledge of the work of the world in general. This is that subdivision of the field which stands first in the outline given above. It has been covered sufficiently for the present by the summary and review printed in the *Transactions of the American Microscopical Society*, Vol. XX., bringing the subject up to January, 1899.

Fifth, the Commission would most strongly advise that individual work should be limited to a single body of water or to a definite problem studied with reference to a series of such water bodies. The results will be most useful for all purposes when they bear upon the thorough treatment of a single phase of the subject rather than more indefinitely upon a wider field.

There is naturally involved in the effort to carry out such plans as have been outlined some expenditure of money, even if the services of various investigators are freely and gratuitously placed at the disposal of the Commission. Accordingly, an appeal is made herewith to the generosity of those interested in the movement and in the development of biological study in our country for contributions, large or small, for the prosecution of this work.

In conclusion, all students interested in this subject are invited to participate in the work. It is by general and generous cooperation that success will be attained. The student who is working alone cannot advance far, unless brought in touch with others in the same field. It may be noted that the opportunity is peculiarly advantageous for those teachers in smaller colleges who can make use of a corps, even of untrained assistants, in the collection of various data. We feel it a privilege to invite kindly criticism of this report and suggestions as to the best means for carrying out the aims in view and for securing the cooperation of the largest number of workers.

(Signed) A. E. BIRGE, *Chairman.*
C. H. EIGENMANN,
C. A. KOFOID,
G. C. WHIPPLE,
H. B. WARD, *Secretary.*

NORTH CAROLINA SECTION OF THE AMERICAN CHEMICAL SOCIETY.

THE regular meeting of the North Carolina Section of the American Chemical Society was held in the State chemist's office, Agricultural Building, Raleigh, on April 27, 1901, at 11 A. M., with Professor Kilgore in the chair. Twenty-seven members and visitors were present.

The annual election of officers for the ensuing year were:

W. A. Withers, President; W. J. Martin, Jr., Vice-President; C. B. Williams, Secretary-Treasurer; Charles Baskerville, Representative in Council of the American Chem-