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### SOME THOUGHTS CONCERNING THE SCOPE AND FUTURE WORK OF THE AMERICAN MICROSCOPICAL SOCIETY

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It is no doubt sufficiently evident to the members of the Society that it is at present in a particularly critical period of its history. It is equally evident that something decisive should be done in the near future either to provide for the perpetuation and growth of the society, or its dissolution in some manner that shall be consistent with the important and dignified position it has occupied in the past.

To those who have followed the fortunes of the society from the beginning, there is doubtless a profound sorrow in any thought that the organization can have outlived its usefulness; but they are not alone in such feeling for I believe it strictly true to say that many of the members who have come into the society in later years, and who have become at all acquainted with its history and achievement of the third of a century, cherish a deep regard for it and a hope that it may continue in its honorable career.

That the society should have outlived the particular sphere of service for which it was founded is but a consequence of growth and changed conditions, part of which are largely due to



the activities and success of the society itself. It does not follow, however, that the society cannot take on new activities or adapt itself to new forms of service in the interest of the subjects it was organized to promote. To do this, however, may involve a candid recognition of the changed conditions and a willingness to adapt its work accordingly.

It seems, under the circumstances, not only proper but perhaps a duty that, as President of the Society, I should open up the question as it appears to me and at least suggest some lines along which the thought and discussion of the members may be directed. In doing so, however, I trust I may not be understood as urging any particular policy in an official capacity but as presenting certain facts and conditions as they have been forced upon me in the time during which I have been a member and officer in the society.

Of the different factors which have conspired to weaken the society in recent years, two I think should be considered as of special importance since they are the two which have a continuous effect. First, the specialization of many branches in which the microscope is used as an instrument and the consequent diversion of members (and the papers resulting from their work) into other societies and, second, the great multiplication of technical societies which has made it increasingly difficult and burdensome for scientific workers to retain membership and to present the results of their studies in the different societies in which they might be interested. The American Microscopical Society is not alone in being affected by these conditions and in fact has suffered less than some which might easily be compared with it in scope of activity and length of life.

The microscope, as we will all admit, is an instrument for service in many varied lines of research and instruction. During the years of its development it formed in itself a great field for investigation and experiment and no one can measure the service to science at large, or to human industries and human welfare in general, by the societies which stimulated to the utmost the improvement and perfection of the instrument. While this improvement is still in progress we have reached such a degree of perfection that the new developments are extremely technical and for



the most part interest the general microscopist only after becoming available in his work. We are working with a highly perfected tool and most of us are much more concerned with the results of our work than with the instrument with which we work.

In the early days of this society the microscope was a fad and microscopical clubs flourished in many places. Comparisons of work and tests of favorite instruments was as great an item to its votaries as that of airships today for the aviators.

In the same spirit there arose hosts of camera clubs with the camera as the basis, and these flourished and declined in due time and now photography is as much a servant of all branches of science as microscopy.

So too, the bicycle had its day of development and exploitation with hosts of clubs and societies the most of which have disappeared with the universal use of the vehicle and the appearance of other attractions for the amateurs. The automobile shows the same course and doubtless the societies for promotion of aeronautics will likewise have their day, serve their purpose and in time follow the course of mundane things.

It is certainly no discredit to the microscope that its position has changed from that of a scientific toy or a basis for the excitement of the wonder of the multitude, the gratification of the "Oh my!" instinct in humanity to that of any every day tool for the use of the world; that it should have become the necessary basis for innumerable lines of work and occupy its place in the laboratory, the school room, the physician's office, the laboratories of the experts in geology, chemistry, mining, bacteriology, entomology, and in fact, almost every branch of study or activity that one can name.

This general utility is just what its devotees claimed for it in its period of development, and just what they wished for and expected from their knowledge of the practical value of the information to be gained by a proper study of the minute things of nature that were to be understood only by such enlargement to vision as was accomplished by the microscope.

The scope of this society, however, was broader than the mere exploitation of an instrument, in fact has covered the different



fields of scientific research in which the microscope and microscopical methods have been a factor.

While a large part of its early life may have centered in popular displays and exhibition of different types of instruments and in the accomplishment of spectacular feats possible with different makes, it has also stood for solid progress in microscopical technique and for results of scientific value in the special fields of science in which it must be used.

Then if the society has accomplished the purpose for which it was organized, is there any reason for its continuance? Some argue that having done so, the best policy is for it to gracefully admit the logic of events and die and take its burial in the most dignified manner possible.

But are the objects for which it was organized fully accomplished? Is there no more work which it may legitimately and successfully pursue? Does its membership feel that the time has come for it to permanently disband and turn its strength and vital forces into other organizations which just at the present time appear blessed with greater vitality? These are questions confronting us and which demand candid and fair consideration not only in justice to the present organization but for those who in future years might find in this society the most favorable conditions for their scientific progress.

*Personally I feel that there is advantage in numerous independent agencies for the encouragement of scientific research, in order that every earnest, honest, scientific worker may, if possible, find his opportunity and a medium for his recognition in the world of science. One reason why a great amount of the scientific product of the past has come from the universities has been that they have, throughout their history, represented the greatest freedom of activity, and that in some one or another of them the ardent seeker for knowledge has found opportunity and a hearing. So then I would regret to see any organization which can offer opportunities for independent action and the encouragement of scientific research cease its efforts or relinquish its control of its resources.*

As a practical means of continuing its activity, there is the plan of publishing an annual volume, or the papers available in a quarterly as may be deemed most expedient, which would avoid



the suspension of a publication now numbering 29 volumes, and which includes in these volumes a great number of valuable contributions to science.

Whether a special effort should be made to convene the society in a regular annual session may be open to discussion. Certain it is that the history of the last ten years has shown the improbability of securing any such attendance on these meetings as marked the earlier gatherings. Nor do I believe that much change in this respect can be expected. The day for spectacular displays in the line of microscopy is past. We are working as microscopists on problems in which the tool is subordinated to the subject and while triumphs of microscopy are numerous and illuminating, they appear in the light of triumphs of some special field in which the microscope is an essential and recognized necessity.

But meetings and the reading of papers in public are by no means an essential function of a society. In these days of rapid publication the printed page is more potent than the spoken address, at least for most of scientific contributions, and a well edited journal with a varied range of articles, such, for instance, as the admirable number just from the press, can serve a most useful purpose to science and at the same time serve to keep our membership in touch and enthused with the opportunities open to all.

There is further the question as to the Spencer-Tolles Fund which the Society is in duty bound to preserve and administer in such a manner as to promote the objects for which it was founded and toward which so many individuals have contributed. Whether the fund could be disposed of in any creditable manner so as to relieve the Society of this responsibility is a legal question which I do not undertake to discuss, but this much is certain, that it was given with the expectation that it be administered by this Society and until it is proven that the Society is unequal to the task it is safe for it to do this to the best of its ability.

With the income now available from this fund it is certainly possible with the earnest effort of devoted officers to encourage research along a number of lines appropriate to the sphere of the Society.

Among the lines of work particularly open for this Society, it appears to me there are especial opportunities in Parasitology and



Aquatic Biology. Neither of these subjects has as yet any official publication in this country, and both are subjects in which there is great activity and need of encouragement in the way of avenues of publication.

In the field of Parasitology there has been a marvelous growth in knowledge of those organisms which are related to disease, and investigations in this matter will certainly be greatly multiplied in the years to come. On account of the minuteness of the forms and their modes of transmission, the problems connected with them are essentially microscopic and they involve a great deal of special technique which can be most appropriately developed by means of this Society and its publications issued in its journal. Even among the parasitic forms included in the group of insects, there is wide opportunity for investigation, and while much of this matter might be issued through the Entomological journals, there is much investigation in this field, especially that which involves particular microscopic technique, which might very appropriately be considered as belonging within the sphere of this Association. Certainly papers in this line would be most welcome to the Society and reach a very appropriate audience. Perhaps no better emphasis of this point could be asked than the excellent summary of Prof. Ward just issued in the *Transactions*.

For the development of Aquatic Biology which has already been a considerable feature in the Society, there is no really special journal in America, and as has been already suggested, the Society may very properly give itself particularly to this line of work. The questions for investigation in this direction are of such varied character and involve a development of so many different phases of Biology, that they do not in many cases fall strictly within the limits of any of the common fields of investigation. While the organisms themselves may be assigned to particular groups of plants or animals, the relation they bear to each other, the ecologic conditions of their existence, and the particular technique in their investigation, furnish a very distinct series of problems, and in these there seems to be a most attractive and important field for the members of this Society.

Further, there is a large field still open in the matter of develop-



ment of technique and particularly of the special methods of work in certain fields of microscopical investigation which will for a long period yet offer abundant opportunities for investigation. That such work belongs essentially to this Society I think no one will question, and the contributions and discussions in such lines, and especially of reviews of progress in various fields of Biological research will give ample room for many workers. A special department of Technique will I believe still prove a very popular feature.

Perhaps one particularly useful feature of the Society may be to bring together workers in the more special branches, and furnish a common basis for the comparison of methods of work and conditions for progress in their separate fields. This is particularly true of those lines of investigation which for their progress must depend upon the bringing together of data from quite varied fields of work. Altogether it appears that there is still abundant room and a distinct field of endeavor for the Society.



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