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CHEMICAL PUBLICATIONS IN AMERICA IN RELATION TO CHEMICAL INDUSTRY[1]

THE American Chemical Society holds a unique place among the chemical societies of the world. It combines functions and activities which could, heretofore, be found only in separate organizations. It is the only large chemical society in the world which includes both those who are engaged in the application of chemistry to the industries and to chemical engineering and those who are engaged in teaching and in researches with no immediate practical bearing and which provides adequately for the interests of all classes of chemists. There are two reasons which justify this policy. In these days of intense specialization one of the greatest dangers to a professional man is that he will become so intensely absorbed in the field in which he is working that he loses all interest in other lines of work and falls out of touch with the rapid advances which his science is making in every direction. This tendency is almost as marked and fully as dangerous for those who are engaged in pure research as for those working in applied chemistry. Both classes of our members find that contact with chemists having a radically different point of view is exceedingly stimulating and useful. The advantages of an Abstract Journal which covers both fields are so self-evident as scarcely to require remark.

The second reason which justifies the

[1] An address delivered at the New Haven meeting of the American Chemical Society, July 2, 1908.

union of all classes of chemists in a single society is that only in this way is it possible to provide at moderate expense those publications which are needed by every chemist. The chemists of the world seem to have realized only very dimly the advantages in economy which result from combination for purposes of publication. The fundamental principle is that for a small circulation the original cost of gathering the material and setting the type forms a large proportion of the total cost of publication. After the matter has once been accumulated and printed the cost of printing and distributing additional copies is relatively small.

The German Chemical Society, when it began to publish, officially, the *Chemisches Zentralblatt*, adopted the plan that the journal was to be sent only to those who will pay for it. The result is that those who take the *Zentralblatt* must pay nine dollars a year for it in addition to the dues of the society and the journal goes to about one half of the members. The total circulation of the *Zentralblatt* is only about 2,000. The American Chemical Society in establishing *Chemical Abstracts* has adopted a different plan. While it was recognized that a few of our members might not care for the journal, it was seen that by increasing the dues of all the members it could be sent to all at a comparatively moderate expense. Accordingly, the dues were increased by three dollars for all members. While *Chemical Abstracts* costs, at present, between five and six dollars per member, it is securing such support among the chemists of America and of the world that the permanent success of the enterprise seems to be assured. In adopting the budget for 1907 the council considered that if enough new members were gained during the first year to make up for those who fell out on account of the increase of dues we should do well. Instead of that the society had a net gain of 310 members. When *Chemical Abstracts* was started in January, 1907, we had a membership of 3,079. We now have 3,800 members.

In establishing *Chemical Abstracts* it was recognized that the funds available would not permit of the publication of as large a journal as the *Chemisches Zentralblatt*. It has, however, approached much more nearly to the size of that journal than was anticipated and, while the abstracts in some divisions are relatively brief, it may be fairly said that *Chemical Abstracts* covers the whole field of chemistry better than any other similar publication. To illustrate, *Chemical Abstracts* gives abstracts of American, English, German and French patents, while the *Zentralblatt* gives abstracts of German patents only. The number of abstracts in biological, mineralogical and geological chemistry greatly exceeds the number in the same lines in the *Zentralblatt* and the same is true of all lines of technical chemistry. The total number of abstracts, even in the first year of publication, is also greater in *Chemical Abstracts*, although the total number of pages is less.

The fields covered by *Chemical Abstracts* are so varied that at the low subscription price of six dollars a year it should secure many subscribers among persons whose primary interest is in other sciences than chemistry. Physicians and biologists will find much that is of value to them under biological and pharmaceutical chemistry, physicists will be interested in physical chemistry, radioactivity and electrochemistry and geologists in mineralogical and geological chemistry.

As an almost necessary result of what has been stated about publication, the American Chemical Society has accepted the principle that it can afford to extend the benefits of its membership to any one

who is willing to pay the dues. The statement has recently been made that this has resulted in a membership which is largely non-professional. Such a statement is wholly misleading. While the fact that a man is a member of the society is no guarantee that he is a trained chemist, there are very few members who are not engaged in chemical work and I think I am safe in saying that ninety per cent. of the members have had a good chemical training.

The American Chemical Society is about to establish a *Journal of Industrial and Engineering Chemistry*. This journal, too, is to be sent to all members of the society. The objection has been raised that it should be sent only to those members who are especially interested in it. Such a course does not seem wise for two reasons. First, in accordance with the ideal of the society, which is to care adequately for the needs of all classes of chemists, we wish to continue to furnish all of our members with original papers as well as with abstracts in all fields of chemistry. Second, if we were to adopt the other plan, we could afford to give as a rebate to any one who does not care for the journal only the amount which would be saved by printing a smaller number of copies. This amount is so small as to be scarcely an object. We seem to be justified, therefore, in adopting for the *Industrial Journal* the same plan which has met with so much success in the case of *Chemical Abstracts*.

We already have some members in nearly every civilized country in the world—in England, Germany, South Africa, Australia, New Zealand, China, Japan, Chili, Brazil, Argentina and many others.

The broad policies which have been adopted by our society can succeed only on the basis of a very large membership. We need the loyal support of every American chemist.

W. A. NOYES

THE THEORY OF THE PARASITIC CONTROL OF INSECT PESTS

ALL who have recently discussed the question of the possibility of controlling insect pests by the use of parasitic or predaceous insects or by fungous or bacterial diseases, have failed to consider the subject from a very important point of view.

The conditions determining the life or death of insects are much more complicated than is usually appreciated, and the individual factors in the problem are far from independent. The correct estimation of this interdependence of the causes of death in insects is of vital importance in this connection. The efficiency of each factor is so influenced by the efficiency of the others that the elimination of one cause of death or the addition of an entirely new natural enemy will usually have but a slight effect upon the rate of survival or none at all.

The reproductive powers of most organic beings are very great. Were not all creatures liable to die prematurely, that is, before they reproduced themselves, reproduction would of necessity have been limited to two offspring from each pair. Whenever reproduction is at a more rapid rate it is a *prima facie* evidence that the chance of premature destruction requires it and the greater the reproductive power the higher this normal death rate. Were conditions otherwise, rapid extinction or enormous increase would result. The fact that species maintain themselves for ages with the ratio between the birth rate and that of premature death not varying an appreciated fraction of a per cent. is very evident.

This balance between birth- and death-rates is much greater than the numerical stability. For instance, in the case of a species increasing a hundred fold in a generation, an average disturbance of only a