The States Government found it necessary to advise the shutting down of a large phenol plant working on government orders, because it seemed impossible in any other way to relieve the very slight pollution of the water supply of a large city. The actual amount of phenol present in this water was too slight to taste but after the water was disinfected by chlorination a taste was imported to it which aroused serious resentment throughout the city.

This illustration also serves well to show the influence of the specific uses of a stream upon the character and extent of the permissible pollution, and the accepted principle of preferential use in the case of conflict.

A fact of especial interest to the manufacturing chemist in connection with studies on the treatment of industrial wastes is that such studies may frequently lead to the recovery of valuable by-products. The early history of hydrochloric acid is, perhaps, not as well known to the present-day student of stream pollution as it should be. This important commodity was at one time an extremely undesirable waste product, which was disposed of only at great expense and under continuous pressure from legislators and the courts. The necessities of the case led to investigation and ultimately to the development of a market for the acid. A similar history might be recited concerning many by-product recovery processes, one notable case being that of gas-house wastes.

In just so far as the chemist is a broader man than the chemical manufacturer, so this problem of stream pollution has to him a broader significance than is included in its legislative or remedial phases. It is a part of the problem of the maximum development and utilization of our waterways. It is bound up with such matters as water power, navigation, public water supplies, sewage disposal, the fish and shell-fish industries, scenic beauty, and the recreational activities of the people. The subject of waterways and their development and utilization is one of the important economic subjects now before us. It is broader than its public health interests and the continued control of stream pollution matters by health authorities, having no appreciation of the magnitude or diversity of the problem, cannot long be tolerated. The subject is broader than state jurisdictions, for the great rivers and river systems of the country are interstate. It is essentially a Federal problem calling for the broadest possible viewpoint and especially for uniform treatment. Of what avail, for example, is a law for the protection of the Ohio River, enacted in the state of Ohio, when the communities of Kentucky, just across the stream, may pollute without restriction. An economic discrimination would in fact be imposed upon a manufacturer in Ohio in favor of his business rival across the stream. These and kindred shortcomings of state control have actually delayed the progress of the whole movement, and, as in the case of Ohio, resulted in the exemption of an interstate stream from the operation of an otherwise fairly satisfactory pollution law.

The present writer has previously suggested and wishes here to emphasize the desirability of Federal control of stream pollution under conditions that permit of adequate scientific study of the problems involved and of correlation of these problems with those of public health, navigation, fisheries, and all other matters related to waterways. To this end there might well be formed an interstate Waterways Commission, such as has already been proposed by a committee of the American Society of Civil Engineers. That committee has quite naturally considered in greatest detail the requirements of navigation and water power and has not fully presented the importance of Federal control over the public health and industrial phases of stream pollution. The former is in good hands and will not be neglected. It would seem, however, to devolve upon the membership of this Society to keep advised of these developments and see to it that any Federal agency that may in the future be created for the general control of waterways shall take proper account of the problems of industrial wastes and their disposal and of the importance of protecting valuable streams from pollution which will affect them adversely with regard to their use in the chemical industries. It will also be of ultimate benefit to those industries if the chemists and the chemical organizations of the country lend the weight of their influence, whenever they may properly do so, in favor of the centralization of stream control under some form of Federal authority.

The Chemical Laboratory as a Publicity Factor


Not long ago the chemical laboratory was considered by many industrial concerns merely as an expensive luxury, and while this viewpoint may still be held by a very few concerns, it has largely been supplanted by genuine respect for the accomplishments of the control and research laboratories directed by chemists. American industries: are convinced that the chemist and the chemical laboratory are valuable assets, that they have enabled the industries to develop new products, make standard products more economically, find outlets for by-products, eliminate waste, and have helped to place industries on a more substantial foundation.

Undoubtedly, the chemical laboratory will play even a greater part in the industries from now on and its place with respect to other subdivisions of business organizations will depend largely upon the effort, personality, and accomplishments of chemists.

Advertising men have their ear to the ground and know the trend of public thought and opinion. They direct their advertising along the line of least resistance, that is the line along which the public has already been educated to think. Those who are engaged in advertising the chemical industries to-day are in a position to take advantage of the vast amount of education that has been carried on by the public press. Due to these efforts, the public no longer looks upon chemistry as a dry, uninteresting subject and one to be avoided. There has been a transition from a feeling of indifference toward this science to one of intense interest. The advertising man will take advantage of this transition. If there is anything "chemical" about any business which lends itself to popular publicity, it will surely be made use of in promoting the sale of merchandise.

It seems almost paradoxical to state, in an address to chemists, that the chemical laboratorv should receive greater attention on the part of the advertising and sales organization of the businesses with which they are associated, yet a glance over the advertisements in various publications will convince one that such reference is not at all out of order. There was a time when the chemical laboratory was considered the least important place in the industry, as far as sales and advertising were concerned. To-day the laboratory is continually being sought out by the wide-awake advertising and sales manager for talking points and specialized information about products. When the question of discontinuing a research laboratory came to the attention of the management of one of our large corporations, not long ago, the advertising manager offered to pay the expense of the laboratory out of his advertising appropriation because he considered it the most valuable asset, from an advertising point of view, that the firm possessed. This is getting to be the attitude of most wide-awake business men and it should be fostered on the part of the laboratory man.
The American Chemical Society is spending considerable money, through the A. C. S. News Service, to disseminate knowledge regarding the science and art of chemistry throughout the country. This is of benefit to every one connected with the industry and the ground work thus performed for the industry as a whole offers an excellent opportunity for follow-up work by large commercial institutions in the interests of their own products.

While the newspapers are ready to accept general publicity about chemistry in their editorial and news pages, these pages are not open to the advertising of specific articles, but the advertising pages of these papers are of much greater value while the news and editorial pages are carrying chemical stories. The two go hand in hand and the chemical industries, while profiting indirectly from the news service, cannot hope to profit directly without making use of the advertising pages. Furthermore, public interest which has now been aroused in behalf of chemistry cannot be maintained unless the application of chemistry to every-day life is kept before the public in new and varied form and this can only be done through the advertising pages of the magazines and newspapers of the country.

There has been a general feeling among chemists that their products must be advertised through the technical press. Chemical and other trade journals have their place, of course, but when an advertising medium is to be selected, one must consider the persons who are to be reached and sold. The question is not how much circulation has your paper, but rather who reads your paper? Is the purchasing agent, superintendent or president of the concern, to whom you want to sell chemical apparatus, quantities of chemicals or other merchandise apt to pick up a technical paper and come across your announcement and ponder over it, or is he more apt to be attracted to a less technical proper presentation, will have a chance to sink in? This is not for technical use, that is what he has his control and research laboratory for, and when he speaks to the chemist of a certain type of equipment or product which has been called to his attention, the chemist must be able to answer by having at his command information that is drawn largely from the advertising pages of the technical press. Few concerns in the chemical field have thus far added the lay press to the technical press as a medium for announcing their products, but those who have taken the step are continuing such advertising. What further proof is needed of its effectiveness?

Advertising is largely a work of education, in fact, pure advertising is nothing but education. It is the education of the public to the use of something new. As soon as competitive brands of the new product appear, the advertising takes on a sales aspect. That is to say, it not only educates the public regarding the use of a new product, but also speaks of the superiority of a given brand of that product. This is where the chemical laboratory has a wonderful opportunity to show its usefulness to the business organization as a whole. Who but the chemist can pick out the fine points of superiority in quality of one paint over another, the greater value for some purposes of a pig iron which contains vanadium over one which does not, the superiority of one source and kind of asphalt over another, the greater value of certain chemicals for specific uses over the same chemicals which, though quite as pure, may not have the same physical characteristics? These are points which even the most imaginative advertising writer, without a knowledge of chemistry, would never think of, and yet they are so much more telling in their business-producing value than the products of the imagination of the advertising writer, that the advertising man will recognize their value in a minute and put them to good use.

It is generally recognized that the outside point of view or the customer's viewpoint is absolutely essential for the success of any business. The chemist in the past has confined his thought to the laboratory. His point of view has almost without exception been an inside point of view. He has seen the laboratory day by day and watched its increasing importance to the plant, but as an insider he felt that the laboratory was a thing apart from the general organization. This feeling no longer portrays the attitude of the modern chemist. He has seen the light, and while the chemist still deals largely with atoms and molecules and the business man deals in dollars and cents, recent events have pointed out very plainly that our success in building chemical industries requires a combination of atoms and molecules with dollars and cents. Continued publicity, general and specific, is the catalyst needed to bring about this very desirable reaction.

**SYMPOSIUM ON ANNUAL PATENT RENEWAL FEES**

Papers presented before the Division of Industrial Chemists and Chemical Engineers, the Division of Pharmaceutical Chemistry, and the Section of Dye Chemistry at the 58th Meeting of the American Chemical Society, Philadelphia, September 2 to 6, 1919.

**AN ANSWER TO THE PROPOSAL OF ANNUAL PATENT RENEWAL FEES**

By Edwin J. Prindle, Chairman, American Chemical Society Committee on Patent and Related Legislation

I desire to submit the following reply to the open letter of Dr. B. C. Hesse, proposing annual renewal fees for United States patents as the price of their continued validity. Before taking up the precise question proposed by Dr. Hesse, I wish to state that I am quite as much opposed to Germany's peaceful penetration and quite as desirous of seeing her prevented from using unfair methods as he can be. We should, however, consider any such proposal in the light of all its reactions, as well as of the one purpose in view, and its effectiveness to accomplish that purpose.

Any amendment to our patent law should conform to the fundamental purpose of that law; and that purpose is to secure the production of inventions. The assumption and the fact are that inventions would not ordinarily be produced if it were not for the inducement of the monopoly provided by the patent system. Under the stimulus of that inducement, inventiveness was first developed to any considerable extent in the United States, and it has become much more common here than elsewhere, so that we lead the world in the volume and importance of our inventions. This has not been due to any natural difference, because we are all descended from Europe.

From the standpoint of the public (which is the one which must be considered), it would be ideal if inventions would be produced without any patents and were free as soon as made, but experience has shown that under these conditions very few inventions would be produced. Neither an individual nor a corporation can afford to spend the time and money and incur the overhead expense usually necessary to produce an invention of any value, unless he is assured of an opportunity to reap a return directly or indirectly from a monopoly of the invention.

The inventive faculty has been slowly developed, and any change in our law which decreased the incentive to invent would cause it to atrophy. This condition could not be corrected by