After receiving the above letter from Professor Hatcher, we wrote to the Laine Chemical Company as follows:

"CHICAGO, August 17, 1906.

"The Laine Chemical Co., New York, N. Y.:

"Gentlemen:—We recently sent a representative to see you for the purpose of obtaining certain information regarding your firm. Our representative writes that he called at your office, that you refused to give him the information requested, and that you stated that you would furnish us the information if we would write to you.

"As you are advertising to physicians a medicinal preparation known as 'Sulpho-Lythin,' and as THE JOURNAL of the American Medical Association is the official organ of the American Medical Association and published in the interest of the profession, I hope it will not be considered impertinent to ask for the information called for by the following questions. The information is for use in THE JOURNAL, if at any time it should be deemed to the interest of the profession to discuss your product in its columns:

"1. Who are the members of the firm, or corporation, known as the Laine Chemical Co.?

"2. Is either of the members of this firm, or corporation, a registered pharmacist, a chemist, or a physician?

"3. What, if any, other preparation does the Laine Chemical Co. manufacture or sell?

"4. Is 'Sulpho-Lythin' made by the Laine Chemical Co.? If so, where is the laboratory or factory? Please give street and number.

"5. Is 'Sulpho-Lythin' a definite chemical compound, or a mixture? If a chemical compound, what is its chemical formula? If a mixture, what are the ingredients, and the proportion of each ingredient to a given amount of the product?"

When we wrote the above letter we were aware that it was a presumptuous thing to do, but nevertheless the information asked for would be willingly furnished by any legitimate pharmaceutical house, and, for that matter, by any business concern, no matter what the business might be. Some might object to furnishing the names of all persons connected financially with the firm, but none would object to giving the names of those in direct and responsible charge. However, in a few days the following letter was received:

"NEW YORK, Aug. 21, 1906.

"Dear Doctor:—The officers of our company are at present absent on their vacation and immediately on their return we will send to you a full reply to your communication under date of August 17.

"Trusting that this is satisfactory, we are, yours very truly,
"LAINE CHEMICAL CO."

After waiting nearly three months—a rather long vacation for the officers to take—the following communication was received:

"NEW YORK, Nov. 9, 1906.

"Dear Doctor:—Reverting to your communication of August 17, receipt of which was acknowledged under date of August 21, we will state that the Laine Chemical Co., is a corporation, incorporated under the laws of the State of New York; that Sulpho-Lythin, exploited to the medical profession exclusively, is the only product now manufactured by the Laine Chemical Co.; that Sulpho-Lythin is manufactured under the immediate supervision of the Laine Chemical Co. by a regular graduate in pharmacy; and that the active constituents of sulpho-Lythin are combined in a Sulpho-Phosphate of Lithium and Sodium. Very truly yours,
"LAINE CHEMICAL CO."

It looks as though each of the above letters is signed by the same individual, and the writing bears a similarity to that of W. S. Sohl; at least, his signatures to letters which were written to physicians and druggists and forwarded by them to us, bear an extremely marked similarity to the writing of one who signed the letters quoted, all of which make it appear that "the officers of our company" were taking their vacation in the City of New York. It will be noted that the important questions in our letter of August 17 were not answered.

Possibly we ought to apologize for devoting so much space to such an insignificant nostrum. If any apology is necessary, we offer the following:

Sulpho-Lythin literature carries testimonials written by men of influence and standing in the profession—not many happily—and it is advertised in medical journals supported—only in part, it must be admitted—by educated and thoughtful members of our profession.

Sulpho-Lythin is a sample of hundreds—shall we say thousands—of so-called "ethical proprietaries" that are being used by physicians; it is no worse and no better than most of the others. It illustrates beautifully various phases of the "ethical proprietary." They are not made under responsible and intelligent supervision. The vast majority of them are made, or at least sold (for not a few have their preparations made for them by others, as do many of the "patent medicine" vendors), by men who have absolutely no knowledge of drugs or of medicine, but who not only presume to sell medicines of their own compoundings, but also arrogate to themselves the right to tell physicians how to treat their patients, advice which

every physician with any self respect would scorn to accept, did he know who gave it.

Most of these preparations are simple mixtures of well-known drugs that physicians are prescribing every day, and which require as much skill in compounding as can be found in a drug-store bottle washer.

But granting that some of these mixtures may possess good qualities and be convenient, their secret nature and the irresponsibility of their makers give the physician no guarantee that their composition will remain uniform, and that the materials used will be of good quality. If these preparations are to be used, it is evident that some control is necessary by some authority acting in the interests of the medical profession. It ought to be evident by this time that the Council on Pharmacy and Chemistry had an important mission to perform, and that such a body was created none too soon.

Correspondence

The Danger of X-Ray Exposures.

CHICAGO, Nov. 28, 1906.

To the Editor:—Dr. David L. Edsall's article in THE JOURNAL, Nov. 3, 1906, so overstates, in my opinion, the dangers from x-ray exposures that it should not go without reply. Dr. Edsall's article begins with several paragraphs devoted to an implied criticism at the tardiness of the recognition of deep-seated effects of x-rays and at the purely empirical use of x-rays as a therapeutic agent. His opening sentence is: "In its relation to medical practice, one of the most remarkable things about the x-ray is the tardiness with which there was any realization of its power of producing very marked changes in other tissues than those superficially situated. 'X-rays were discovered November, 1895. To cite no other illustration, as long ago as the summer of 1897, W. Stone Scott reviewed the cases in which deep-seated effects were thought to have occurred from x-rays without corresponding effect on the overlying tissues. As a matter of fact all through the literature of x-rays from the start appears the idea of the possibility of deep-seated x-ray effects."

As to the empirical character of the therapeutic use of x-rays: A favorite pose of scientific men in criticising new therapeutic agents is that of a superior sort of regret at the empirical character of the knowledge of these agents. Dr. Edsall, without doubt, sincerely, assumes this attitude of criticism towards x-rays. He says for example: "With the x-ray, on the contrary, the method that has been adopted has been to try its effect for both diagnostic and therapeutic purposes on all manner of conditions, and only gradually, largely by painful experience, to learn that it may have dangerous effects." As a matter of fact this attitude of criticism for empirical therapeutic knowledge is wholly unjustified by the history of therapeutics. If one will except the organic products, like thyroid extract, and the therapeutic sera, like diphtheria antitoxin, he will be hard pushed to give any illustration of therapeutic agents whose value has not been first established empirically. There is one lone brilliant example of the first therapeutic application of a drug on the basis of a previous study of its physiologic properties, and that is the use of amyl nitrate in angina pectoris, suggested by Lauder Brunton. I think Dr. Edsall will have difficulty in finding any other useful therapeutic agents that are not open to the criticism of empiricism which he has brought against x-rays. But if the real facts be considered, we find that the physiologic effects of x-rays have been studied from the beginning about as carefully as those of any other agent now used in therapeutics. And x-rays will nearly furnish another illustration of a therapeutic agent whose use has been based on a previous study of its physiologic effects. Almost as soon as the first x-ray burns happened, and that was synchronous with the first use of x-rays, the study of the physiologic effects of x-rays began. In evidence of this fact reference may be made to the studies of Kibbe in 1897, Gilchrist in 1897, Oudin Barthelemy and Darier in 1897, Unna in 1898 and Scholtz in 1902, to

quote no others. I doubt if any more careful studies of the effect of any therapeutic agent can be produced than the studies of Oudin, Barthelemy and Darier, and of Scholtz on the effects of x -rays on tissues. And all these studies were made by 1902, that is, previous to the time when the use of x -rays as a therapeutic agent became general. As a result chiefly of the study of the effects of x -rays on tissues, Freund in 1900 offered a classification of the rational therapeutic indications for the use of x -rays and in 1902, on the basis of Freund's classification, I made a statement of the therapeutic indications for the use of x -rays, which I believe can be well defended at the present time, and which has certainly given one or two operators a basis for rational use of the agent. That classification left out of consideration practically none of our present knowledge except that concerning the effect of x -rays on the blood.

I may claim to have been one of the early workers with x -rays in therapeutics, and I never made an application of x -rays which was not based on indications that were reasonable deductions from the existing knowledge of their physiologic effects, and which was not in accordance with the therapeutic indications which I have published. I treated with x -rays the first reported cases of Hodgkin's disease and leukemia. The treatment was undertaken because of the logical indications furnished by a knowledge of the effects of x -rays on cells of low resistance, like those of sarcoma, so that even in these conditions the treatment was not blindly empirical. I mention these facts not to claim any particular credit, but to show that the work has always been based on rational indications which may be found by anyone who studies the literature. But this part of my criticism of Dr. Edsall's article is by the way; it is offered in the interest of historical accuracy and to suggest that his sweeping criticism of x -rays is not founded on a full consideration of the literature.

As to the dangers from the use of x -rays: Contrary to the statement of Dr. Edsall that "the dangers of the x -ray have been recognized for only a comparatively short time," I should say that "the dangers of the x -ray" have been the ever-present fear of x -ray operators since the first x -ray burns occurred. This has been chiefly dread of x -ray burns, as it should be, but, as the literature from the start will clearly show, it has included the dread of constitutional effects of one sort or another, including the constitutional effects from the development of metabolic toxic products. In spite of this fact, I think there is not a conclusive case in the literature of fatal toxic disturbance from x -rays without the occurrence of a severe burn. The nearest to such a case with which I am familiar is the case reported by C. J. White, in which a patient suffering from mycosis fungoides became suddenly ill and died while the cutaneous condition was improving. But the symptoms were septic symptoms in that case and on autopsy the patient was found to have a general sepsis, and, as that is a very common cause of death in mycosis fungoides, it leaves the case inconclusive. In a daily experience with x -rays for seven years, I have carefully watched for severe toxic symptoms. They have not occurred. I have seen severe symptoms, apparently toxic, in cases of extensive burns and I have seen mild symptoms, apparently due to the production of toxins, in cases of leukemia and of other diseases in which large masses of pathologic tissue were disappearing under x -ray exposures. But such symptoms occur in these cases independent of the use of x -rays. On the other hand I have seen great masses of tissue disappear rapidly in leukemia, pseudoleukemia, splenomegaly, sarcoma, mycosis fungoides and carcinoma while the patients were rapidly improving in general health; this indeed has been the usual occurrence in such cases. I do not say that toxemia never occurs in these cases and that no effects on the blood are produced which might possibly be dangerous. I know of the studies of Schirmer, Heineke, Dock, Warthin, Morris, Linser and Helber and others and I know that these changes may occur from extreme exposures. What I say is that these changes are not likely to manifest themselves to any grave degree in reasonable exposures with x -rays, meaning by "reasonable," safe as regards the production of x -ray burns. I can say that with an experience with x -rays extending over seven years and with many exposures daily, I have not seen

a single severe case of intoxication or of other constitutional disturbance which was reasonably attributable to x -rays.

Dr. Edsall says: "The effect of an ordinary dose (of x -rays), may, in fact, be more severe than the effect of a similar dose of any other therapeutic agent with which I am acquainted, and may either be extremely useful clinically or so dangerously violent as to hasten death and perhaps even to cause it. . . ." With my experience with x -rays and that of many others, to say nothing of the literature, that statement is incomprehensible to me. If he means by an "ordinary dose" one from which there is no danger of burn to the skin, I am willing to enunciate the opposite proposition, viz., that an "ordinary single exposure is never attended by any danger of constitutional disturbance." I have watched for this closely. Holzknecht in 1903 called attention to an exanthem and a constitutional disturbance which he said occurred in about 1 per cent. of cases of x -ray dermatitis. The condition he described as a very definite clinical entity and he thought it was due to the absorption of toxins from the degenerated tissue. If it occurs in 1 per cent. of cases, I ought to have seen it several times. When the statement appeared I reviewed my own cases with that point in my mind and I have had it in mind since, and it has positively never occurred to me.

Dr. Edsall states further: "I have the records of three cases in which, after one exposure, there was a reaction so severe as to make the patient profoundly ill, and in two of these cases death occurred, while the third patient had a narrow escape." He indicates that at least "in one of these cases it was clinically not clearly evident that the x -ray exposure produced the severe illness," but he does not report the cases in detail. These cases are incomprehensible to me. In view of the absence of such cases from the literature, in spite of the fact that almost every conceivable accident from x -rays has been recorded, and with my personal experience, I can not believe that the results were more than a *post hoc*. It is inconceivable to my mind that any exposure which is safe as regards danger of producing a burn could have such general effects. In this connection reference may be made to the effect of x -rays in producing sterility. This result may undoubtedly be produced, but I would call attention to the fact that according to my experience the danger has been greatly exaggerated. I have records of seven women who had numerous x -ray exposures previous to or during pregnancy. Some of these patients had as many as 100 exposures. They were all given before this danger was recognized and no special care was taken to protect the ovaries, although they were not directly exposed. These seven patients have all had children within 18 months after stopping x -ray exposures.

In the foregoing my wish has not been to minimize the real dangers from the use of x -rays. I am keenly alive to the dreadful accidents which may happen from their careless use, but I would maintain as strongly as I know how that the dangers which we have to fear are those arising from burns, and that if we stay within the bounds of safety as regards burns the other dangers can practically be neglected.

WILLIAM ALLEN PUSEY.

America's Neglect of the Nobel Prizes.

WAKEFIELD, NEB., Oct. 29, 1906.

To the Editor:—Referring to your editorial of April 15, 1905, on "Our attitude toward the Nobel prizes," I would like to ask if any effort has as yet been made to secure any of these prizes for American work?

Believing that the expression of jealousy in the news columns of THE JOURNAL, Dec. 25, 1905, page 1966, shows plainly the existence of misconception or lack of knowledge regarding the method of awarding these prizes, I reproduce the following authoritative description of the "Nobel Foundation" under which name this prize-awarding institution is officially known.¹

"Alfred Nobel bequeathed nearly the whole of his fortune (more than 30 million kroner) to a fund, the interest of which

1. "Sweden, Its People and Its Industry." Historical and statistical handbook. Published by order of the government. Edited by Gustav Sandborg, First Actuary of the Royal Swedish Bureau of Statistics, Stockholm. Government Printing Office.