

July 17, 1969

PERSONAL AND CONFIDENTIAL

Robert T. P. deTreville, M.D.
President, Industrial Hygiene
Foundation of America, Inc.
5231 Centre Avenue
Pittsburgh, Pa. 15232

Dear Bob:

I have been seemingly negligent in replying so tardily to your letter of June 19, and now you have returned from your vacation, no doubt, to find no reply on your desk. I regret very much the necessities which have intervened to give my behavior in this the appearance of discourtesy. Such an appearance is misleading, however, for I've been very busy contending with a number of editorial duties and other demanding tasks which kept my correspondence in obedience. Perhaps, however, I may take refuge in the old saw that it is "better to be late than never."

If my delay in writing has retarded your efforts in the direction indicated by your correspondence with medical organizations and your proposal that I write, somewhat as you have indicated, to the Kettering Alumni, I do not find myself too unhappy about it. In fact, I must express myself here bluntly. I think your letter to Henry Howe was naive and unwise; I consider that Duane Block was expressing the views that could have and should have been anticipated fully. You are, I believe, starting at the wrong end of this matter and backing "the wrong horse," or perhaps, "a lost cause." Moreover, there is hardly an idea in the letter to the Alumni that I could possibly espouse. I am not prepared to write to President Nixon about much of anything, and I do not consider that "industrial hygiene" is the name of the professional activity which we should undertake to develop. I say this not because I am not enthusiastically behind all efforts to improve the situation of industrial health, but "industrial hygiene" in the U.S.A. is not its name. There is a deep-seated tradition in this country which defines "industrial hygiene" as environmental control by technical and engineering means. This is indeed the Washington, D.C. idea, but even more it is the settled conviction of all of the medical organizations. You cannot buck it, and you cannot even make your views of it understood. Certainly we need "industrial hygiene" as it is labelled currently, but we desperately need the coordinated efforts of well-trained physicians with well trained technical people in industry. We do not have the physicians, not even their understanding, and you are talking sheer nonsense (as far as the A.M.A. and most of the I.M.A. will view it) in promoting this idea. By so doing, you will defeat not only your own efforts in this direction, but those of any other person or group, by your proposal. For example, in the face of the formal procedure within the A.M.A. hierarchy for the appointment of members of its official Councils, your suggestion that Dave Fassett be appointed will be regarded (probably silently) as either a piece of effrontery or in matter of naivete. Or, again, that the President of A.M.A. should write such a letter as your propose, is to suggest that he is prepared to ignore the role of the physicians of the country in the field of industrial health, and to back the industrial hygiene engineers in taking over this responsibility. You will not believe this, but I tell you that it is literally true. This is what he cannot fail to believe is the meaning, to him, of "Industrial Hygiene."

What I have said about his matter in the foregoing remarks is blunt, hard doctrine,

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and the Industrial Hygiene Foundation in this position, which will be regarded as foolish. One can be eccentric or mean or opinionated and troublesome, but he cannot be ridiculous and survive.

May I make one additional remark which might well be misunderstood by a less devoted and conscientious person than yourself. You, professionally, are in no position to initiate or achieve a reform in this field. This is true, in part, because you are not old and gray, but it is the more true because the Industrial Hygiene Foundation, for many reasons, is not the organization of leadership from which to sound the clarion call to the professions involved. This must be done, either by the professions themselves (which would be the desirable way), or by a virtual revolution from the ranks of those whom the professions are so weakly (in terms of numbers and geographic scope) undertaking to serve. Speaking from the sidelines, especially through the political avenue, will not now or (I think) ever turn the trick. I advise you to drop this, therefore, before it reacts on you to chill your ardor.

And now, happily, I can speak kindly and approvingly of your program for the Annual Meeting of the Industrial Hygiene Foundation. It is good, and it continues the good (and eventually productive) educational program in this field. This is what each one of us, in his particular field - university education and training, research and guidance organization (university groups, Industrial Hygiene Foundation, and private professional groups), formal professional organizations (Academy of Occupational Medicine, AIHA, IMA, etc.) - can do to bring about an attitude of mind and an understanding of the task, which, one day, will make it possible to do what you want to do now. The fact is that we do not have the backing from our own profession to make much of a splash in the medical community. But time and circumstance are on our side. Sheer danger to the life and health of the people, as it grows in the present situation, will compel the physicians - who will probably be the last to learn, because of their intense preoccupation with what they are now doing increasingly well - to recognize that their present efforts are not being expanded in the right direction. Although we (as physicians in various roles) simply cannot write under a credible masthead to view the present scene and meet it with appropriate action, it will not be long before we shall have to do this, unless we are (as organized groups) prepared to find our influence diminishing more and more and giving away to other groups which will be more responsive to the needs of the country.

Please forgive me for lecturing you.

Sincerely,

Robert A. Kehoe, M.D.
Professor Emeritus of
Occupational Medicine

RAK:wp

P.S. I shall devote a brief memo, attached, to the article of which you sent me a reprint.

RAK

MEMORANDUM

On an article from a recent number of Annals of Internal Medicine, by Fromke, Lee and Watson of Minneapolis on "Porphyrin Metabolism During Versenate Therapy in Lead Poisoning."

This is one of a number of articles which have appeared in the literature recently, on the chemical aspects of hematological phenomena in lead poisoning, both with and without and before and after the use of chelation therapy.

Since the authors are not wholly familiar with the clinical significance of certain of their findings, in relation to current considerations of preventive medicine in industry, it is well to call attention at the outset to a statement in the case report, which might well be misinterpreted in relation to the significance of the determination of lead in the urine and in the blood. In the third complete paragraph in the second column on page 1008, it is said that "The blood was consistently normal before and during therapy, while the urine lead was considerably increased before and much more during the Versenate therapy." Examination of the data (Table 1 on the same page), discloses the fact that the concentration of lead in the blood on September 1, (1966?) was 0.049 mg. per 100 ml. This was, at the least, a full month after the date of an admission to a hospital, which is the first indication of the time of onset of illness (in all probability some time before July 30, 1966). This value is, indeed, within the normal range, but at its upper limit. Following Versenate therapy, this level decreased in 4 days to 0.029 mg. per 100 ml. of blood. Disregarding, for the moment, the potential errors of the analysis, this decrease is considerable, and when taken with the results obtained in the urine is a reasonable expectation. The urinary lead concentration initially (September 1) was 0.146 per liter, which is not grossly abnormal, but is rather at about the same point in the normal range as is the blood value of 0.049, that is, at the peak of normal findings. The response of the excretory apparatus to Versenate therapy, in both instances, i.e., blood and urine, is in no sense remarkable. One may properly interpret these findings, therefore, in the following manner: This patient absorbed modestly abnormal quantities of lead (whether the daily dose was moderate or the duration of the daily dosage was relatively brief), became ill and discontinued the exposure, in whole or in part, with his first admission to the hospital. From that time on, his body burden of lead, having been increased by a moderate amount in a brief time, diminished appreciably, lowering the concentration to 0.049 mg. per 100 ml. from its previous level, which, in terms of our extensive experience in these matters, had been of the order of 0.08 mg. per 100 grams or a little bit higher or a little bit lower.

By reason of these events, the only evidence remaining at the time of the detailed clinical investigation, of a toxicologically significant degree of occurrence of lead absorption in a previous period was the chemical hematological findings, which are known to return to their normal state only after the lapse of a longer time than is required to diminish the lead content of blood, urine and soft tissues to essentially normal levels.

There are two unusual features in the report of this case which should be taken into account for the future recognition of cases of lead poisoning in the general population. In other respects this is a clear presentation of a clear case of mild lead poisoning. The most unusual feature (in reasonably close time relationship to the onset of frank plumbism), is the failure of the concentration of lead in the blood to show that there had been a clinically significant absorption of lead. This is readily explained on the basis of the known facts about the time and dose relationships of lead intoxication, but it is important and informative to know that the full information, including that of the behavior of the precursors of hemoglobin, can

reveal the truth of the exposure in certain instances after an interval of freedom from exposure to and absorption of lead.

The other "unusual" feature is the origin of the exposure to lead which induced the intoxication. While this is unusual, it is not unique. We have seen two cases of lead poisoning from this type of exposure, which was brief but fairly severe, lasting only one month, at a level of dosage which has been estimated with fair accuracy to be somewhat more than 10 milligrams and somewhat less than 15 milligrams, per day. In this instance, the concentration of lead in the blood of one of the victims, at the time of the sampling of the blood, 2 to 3 weeks after the termination of the exposure, was ± 0.07 mg. per 100 grams, while the other was ± 0.08 ; both undoubtedly had been somewhat higher. It is of some importance to know that the rate of the decrease varies greatly with the duration of the exposure, being very rapid where the duration is brief.

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