

July 3, 1956

Dr. Francis M. Pottenger, Jr.
609 N. Canyon Boulevard
Monrovia, California

Dear Pottenger:

Dr. Stewart L. Rankin of E. I. Du Pont de Nemours and Company has forwarded to me a copy of your letter of May 10 and one of his reply. This puts me in the way of writing to you, which I am glad to do, with or without any special occasion. On the other hand, I do not wish to push the matter beyond your wishes and that of your Committee. As you are probably aware, the sources of lead absorption on the part of our population have been under investigation in this Laboratory for many years. My recent discussion of this subject in Los Angeles has been made available to you and others of your Committee in the form of a transcript, I believe. Despite the narrative character of this discussion, which was designed for a mixed audience of medical men and laymen, it was, I believe, a fair and reasonably comprehensive presentation of the problem. I am sorry that you could not attend this meeting and raise questions of fact or interpretation, for if you could have done so, I hardly think that you would have concluded that I failed to "touch upon the important subject of the individual who is in the..... areas (of congested automobile traffic)." Some general information was made available as to the concentrations of lead at the street level, and it could easily have been given in more detail, if there had been reason to do so.

As to the catalysis of chemical reactions in the atmosphere by lead, there is little but negative information. This, no doubt, is an interesting theoretical consideration, but in view of the presence in the atmosphere of particulate compounds of aluminum, manganese and quite a series of other metals in concentrations of the order of magnitude of that of lead, I find it difficult to regard this matter with practical concern. Moreover, it would be difficult to approach experimentally.

There is one other point in your letter which seems to me to merit some consideration and perhaps a word of caution. I refer to your use of the term "lead danger." I have not indicated in any of our published work, nor did I suggest in my talk, that the lead in our food and drink is to be regarded as dangerous. Instead of this, I merely indicated the quantities of lead which are involved in the two situations, that in the food being relatively large, but both taken together, being actually small. That it could be a source of danger is evident, if our methods of providing food for the American household were to be carried out in

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disregard of this matter. It is a matter of some interest, however, that our food supplies appear to be superior to those of certain other countries in this respect. There is fairly good evidence that the food in the United Kingdom is subject to contamination more frequently and to a greater extent than our own, and that the water, quite commonly, is higher in its lead content than is ours. This situation in Britain has existed almost without doubt for centuries, and it seems very likely that there is less lead in British food and drink now than there was in certain former periods. This is not to suggest that the upward swings in the lead intake of any community have been altogether insignificant, nor that we know what the entire set of metabolic variations may have been. But that we, in this present period, need fear the consequences of minor variations in our intake of lead - and it is only minor variations that we are talking about, insofar as the lead content of the atmosphere is concerned, whether in Los Angeles or elsewhere in the community generally - seems a bit lacking in realism. It is very likely, I should say, that the variations which occur at present in the cross-sectional intake of lead in various American communities and in various other countries, are within the range of variability which has existed over long periods of time in the past, in consequence of variations in the natural lead content of food, water and air on the one hand, and of the numerous and incidental artificial factors that have come and gone, ebbed and flowed, over the centuries. Through modern investigation we have come to be conscious of certain of these factors without being fully cognizant of others, particularly those that no longer exist or are of insignificant proportions. There can be no doubt that the subject is worthy of further investigation, and such investigation will continue. We should know where we are and where we are going. But that there is any present basis for apprehension, I do not believe.

We are investigating the entire pattern and the quantitative relationships of the physiology of inhaled lead with the idea of determining the limits of what may be called, loosely, the normal inhalation of lead, together with the range of safe inhalation of particulate lead in various forms, and the threshold of danger. The criteria here are not so much clinical, although such criteria are not lost sight of, but rather physiological - that is the ability of the human organism to absorb, distribute, excrete and retain lead under a variety of carefully controlled conditions.

I don't know just how I can be of assistance to your Committee, but if I can, I shall be glad to do so.

Cordially yours,

Robert A. Kehoe, M. D.

RAK of

C.C.: Dr. S. L. Rankin

Mr. James E. Boudreau (Blind)

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