

September 30, 1938

Dr. May R. Mayers
Department of Labor
Industrial Commissioner
80 Centre Street
New York City
New York

Dear Doctor Mayers:-

Thanks for your letter of September 2nd which brings me to recognize the necessity of doing something immediately about our report at the next meeting of the A.P.H.A. I am not very prompt in replying and even now I am not convinced of the necessity or advisability of issuing a report. However this will depend on the attitude of other members of the Committee and on what they have to report. In as much as the meeting begins on the 25th, it will be necessary to have the material in my hands not later than October 10th with such recommendations as you may choose to make as to its use in the form of a report.

With reference to your question about the use of milk among industrial lead workers, I am very glad to make my position clear. I have not said, nor do I have any reason to believe that the use of milk is disadvantageous. There are a number of reasons for believing that it is useful. My only point in discussing this question was that I do not for a moment believe that the reasons which have been advanced in explanation of the benefits of using milk will hold water. That is to say, if milk is good for workers in general, and for lead workers in particular, I accept the fact but I do not believe that we have any explanation of the fact beyond the mere recognition that milk is in many respects a very useful food. That its high calcium content does anything significant in relation to lead absorption or lead excretion has not been proven. Moreover that phosphorus bears any significant relationship to the rate of lead absorption or lead excretion is equally in doubt. I have merely pointed out that we should not deceive ourselves by the blind acceptance of the current hypothesis with respect to calcium and phosphorus since there is a great deal of contradictory evidence among the experimental observations which have been reported. Recent experiments which I can not be even skeptical about, have shown that a high calcium diet fed to animals along with known quantities of lead results in a very great diminution in the lead content of the tissues of animals. I have my

own opinion as to what the explanation of this may be, but there is no sound proof of the correctness or incorrectness of my own ideas on this subject or those of others. It will be necessary to work out this problem with the utmost care through experiments which completely control the calcium and phosphorus metabolism. This has not been done and until it has been done, we are dealing with conjecture in these matters.

You state that the administration of calcium and phosphorus promptly relieves acute lead colic. I can agree that the intravenous administration of calcium often relieves lead colic. This does not always occur. As to the influence of phosphorus in this direction, I can not make any statement. However it is quite clear that the relief which occurs promptly after calcium administration is not due to a change in the blood lead or the urinary lead. It is, in fact, almost certainly due to the well recognized influence of calcium on smooth muscle spasm. At least this is my interpretation of the beneficial effect.

My only complaint about the use of milk as a palliative was based on the belief and practice of some who would apparently be willing to substitute its use for the proper rectification of dangerous lead exposure. This, I believe, together with the practice of periodic deleading under similar circumstances of dangerous lead exposure, is a pernicious consequence of the too literal acceptance of the Harvard hypothesis with respect to the agencies which promote mobilization or demobilization of lead. I do not blame my Harvard colleagues for this application of their hypotheses since I do not believe they are in any way responsible for it. It is unfortunate, however, that this state of affairs has come about.

With kindest personal regards, I

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Cordially yours,

RAK:is

Robert A. Kehoe, M.D.