

January 23, 1964

Harry V. Warren, Professor
Department of Geology
The University of British Columbia
Vancouver 8, Canada

Dear Professor Warren:

Please accept my thanks for your letter (and enclosure) of January 8th. I offer no criticism of the work. I would be less than frank if I were not to say that in my view, the somewhat repetitive reference in your talk of the relationships between the geological phenomena to such diseases as cancer and multiple sclerosis tends somewhat to subtract from the virtue of the specific scientific inquiry, but I do not agonize over this, and in fact, I consider it more or less inevitable as speculation. The work itself, however, should be directed toward the understanding of the matter in its actual setting.

You may have encountered the observations of Patterson and his associates on the occurrence of lead in the oceans and the significance of the findings. This is a good case in point, for while these men are properly excited about the meaning of their findings in their own field, and are very cautious in their interpretations, they go at once boldly and without anything approaching caution, in their consideration of the meaning of their observations in the field of the public health, and what should be done about it. Certainly, everyone should be concerned about these matters, but science and wisdom are served ~~not~~ by jumping to "important" conclusions, but by the patient observations that may go far afield but lead to clear relationships.

In reply to your previous letter, I must comment further on the alleged toxicity of the inorganic compounds of lead. I have not checked into Professor Vernes work (I haven't the time now to look it up, but I have asked the help of our bibliographic staff in doing so) but I should consider this statement, however, made and in whatever context, to be irrelevant. It is quite possible that he is talking of intravenous injections, and if so, one can expect dramatic results from embolism (which has nothing to do with toxicity as such, but is rather a mechanical result of the intravenous clumping of erythrocytes or the coagulation of protein or a combination of both). In any case, when the inorganic salts of lead are absorbed into the tissues of the common experimental animals, the lethal dose is of the order of 35 mg. (as Pb) per kilogram. An absorbed dose that is well tolerated, periodically (daily or two or three times per week over a considerable period of time) may be of the order of 0.1 mg. per kilo (or more dependent upon the duration of the experimental regimen). There are quite a few publications on the toxicology of lead compounds,

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and you seem to have been unfortunate in referring to one which, to me, at least, has a very strange sound. I shall find out about this "strangeness" when time permits.

Sincerely yours,

RAK:vr

Robert A. Kehoe, M.D.