March 6, 1947

Mr. T. R. A. Bevan,
The Associated Ethyl Company Limited,
Artillery House, Artillery Row,
London, S. W. 1, England.

Dear Ray:

On the question of the case of [redacted] referred to in your letter of February 28 and discussed in the attachments thereto, there is very little that I can say that will throw any further light on the problem. As I see it, the matter has been given careful consideration by both Cassells and Davison, who have considered the information we have made available previously.

It has been pointed out in our informal discussion, and specifically in the article by Machle in the J.A.M.A., that the nature of the mental disturbance associated with tetraethyl lead poisoning, is determined to a very considerable degree by the mental make-up of the individual. We have seen several instances of persistent nervous instability, the pattern of which has been based upon the mental characteristics of the individual as seen in terms of his previous behavior. I think it is merely a matter of good fortune of perhaps of very excellent psycho-therapy,* that we have not had a case characterized by more or less permanent abnormality of behavior, since the period beginning around 1934, when we have had ample facilities for following cases of tetraethyl lead poisoning. Prior to that date, in connection with the operations of the Dayton blending plant (in which tetraethyl lead was mixed with the halogens, in the early days of marketing), we had one case in which the differential diagnosis was difficult, but in which at this time we may conclude tentatively that we were dealing with tetraethyl lead intoxication, a case of acute mental disturbance occurred. This man was given institutional treatment over some considerable period of time, and was finally dismissed from the institution after a long period in a state of permanent mental disability. This man had an inherent nervous instability and inadequacy, was definitely schizophrenic, and should not have been employed in the occupation involving a lead hazard. Nevertheless, he was able to work until after this episode, since which time he has never been able to do any useful work because of his existing mental instability. One may argue as to the nature of this situation, but too many assumptions have to be made in justifying a well-defined conclusion. One additional case occurred in New York State, in which after a time we believed that the mental aberration following in the train of acute lead intoxication would be permanent. This man too had a history of well-defined psychic inferiority. Eventually, however, after many difficulties this man eventually got back to work, and to the best of our present know-

(* for which we have not been responsible)

ledge he continued in a manner not very different from that of his original behavior. He had never been a very satisfactory employee, but under the circumstances his employer was willing to make every concession that was compatible with the advice of physicians, who considered that a return to a normal occupation constituted the only hope for this man.

All in all I can very well see that the problem of the unstable individual in relation to a disease of this sort is a difficult one, and that under suitable circumstances there is neither the incentive not the opportunity to supply a stimulus from the outside which will completely overcome the effects of a serious incident of the type represented by acute tetraethyl lead intoxication. The subconscious effect of such an incident may well be sufficient to finish off an inferior and unstable nervous equipment. In any case, while I can not pronounce on the status of this man, I can say that we have not obtained any evidence that would lead us to believe in the existence of an irreversible organic disease of the central nervous system as a sequel to acute tetraethyl lead poisoning. I am not prepared to say that such a thing might not occur in a suitable instance, but we have not had evidence of it, and certainly in view of our series of cases such an outcome must be rare indeed. If it is possible to do so, it would be well in this case to make the assumption that adequate psycho-therapy and occupational therapy may well yet be successful in restoring this man to useful life.

Sincerely yours,

Robert A. Kehoe, M. D.

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