

November 1, 1950

Mr. H. W. Elley, Director,
Organic Chemicals Department,
E. I. Du Pont de Nemours and Co.,
Wilmington 98, Delaware.

Dear Mr. Elley:

I am pleased to report to you herewith on the status of the experimental study of the inhalation of lead.

Recognizing that the respiratory chamber would be completed in ample time for our observations and that various other developments had reached a point in which successful outcome was predictable, I obtained an experimental subject in April and started on the preliminary observations necessary to set up a background for the later experimental observations. In an experiment of this type two very important considerations revolve around the experimental subject himself. First he must be intelligent and second he must be entirely reliable. His intelligence relates to his ability to follow through on the instructions, despite quite a variety of situations that have to be met in a long experiment. His reliability involves his willingness to obtain precise duplicates of everything that he eats and drinks, as well as all urine and feces passed during the entire experimental period, without falling into the lines of least resistance in simply going through the motions. It is believed that the experimental subject is both intelligent and reliable. On the other hand, in an experiment of the significance of this, one cannot depend on that entirely, as an experimental fact, and therefore the matter has to be put to test. In addition there is always the question of whether an experimental subject is a normal and more or less typical human being. This also had to be tested in an experiment of this sort. As a consequence I have considered it desirable to have approximately six months of preliminary observations, using these as a base line for the further experiment, but using them also as a crucial and critical test of the normality and reliability of the subject. If there should be any important deviations from the normal picture of the lead metabolism, one could conclude that the subject is not a good one for our purposes. For obvious reasons it is not possible to study a large number of subjects in the manner in which we expect to study individuals in these experiments. The expense would be prohibitive, and we would also, to some extent, be "gilding the lily." My purpose, therefore, is to take every reasonable precaution, so as not to have to duplicate a specific experiment.

Everything was in readiness for the completion of the preliminary

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observations, when I left the country on August 1. It seemed evident that ample information was compiled. Also the means of supplying the conditions to be tested had been worked out, and it seemed that we would be ready to start our observations as of October 1. Unfortunately, we did not take into consideration the vagaries of human behavior with respect to intercurrent disease. Our experimental subject developed an acute tonsillitis in September. This did not interfere with the observations on him, but it did make it necessary to consider the advisability of the removal of his tonsils. Obviously, I did not ^{want} to begin the crucial experiment with this in the offing, and therefore thought it desirable to wait until the tonsils had been removed before beginning the exposure to lead. This would still have resulted in very little delay, except for the fact that tonsillectomy is now more or less habitually suspended during the period of active spread of poliomyelitis. The latter is now at an end in this community, and arrangements have been made to have the subject's tonsils removed, after which he will resume his observations, and the experiment will begin.

Thus in order to make it reasonably certain that the observations will be well under way at the time of your coming, I suggest that we plan tentatively for your visit to the Laboratory during the week of Monday, November 27. We may well be ready sooner, but by that time we should have had any difficulties well behind us, and the experiment should be continuing in normal fashion. If there is any hitch in this, I will let you know in advance, but at present writing I do not anticipate any difficulties in meeting this schedule.

Sincerely yours,

Robert A. Kehoe, M. D.

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