

April 29, 1971

Mr. Matthew Kolodney
1930 Ivy Road #1
Charlottesville, Virginia

Dear Mr. Kolodney:

The questions which you raise in your letter of April 24 are of the type that can be raised at any time concerning almost any type of postulated threat to the population, or segments of it, in this and every other nation which has made fairly large strides in the applications of technology to its life. We are threatened, theoretically, at least by a very large number of biological by-products of our technological activities, which in the past have not been accompanied by the necessary accompaniment of biological research. A large proportion of the managers of our industry, large and small, and of those who have profited productively and financially, or in the achievement of comfort or speed, are just beginning to realize that the price which we must pay for this may be too high unless we find out in advance somewhat more about what the price may be.

To return to the problem of lead in the air, as derived from the exhausts of automobiles, here is one of those problems, which has been under careful study since 1926, in order to determine what the risks might be to the dissemination of lead in the environment of man, especially that which is centered in the areas of heavy automobile traffic. The technological advantages of the use of lead are considerable, but is it advisable to achieve these advantages at the cost of danger to groups of persons in the population? This is the question, which has been raised time and time again during the past forty-odd years.

The question is no nearer to an answer now, in the final sense, than it was forty years ago. What has happened, is that, as more and more leaded gasoline is used by more and more cars, and, particularly, in certain badly ventilated (naturally) areas of the country, the exposure to lead seems to increase, and the supposition is (as it was in the third decade of this century) that at some point it will become dangerous. There is nothing except this supposed growth of the exposure, to indicate that it is dangerous. I am as certain as I am of anything else, in this welter of uncertainties, that no one has been, or is being, damaged. The garage mechanics are a case in point. (The latter are exposed to lead in a variety of ways which have nothing to do with leaded gasoline, as they have always been. They have an occupational exposure to lead, and the extent of their total exposure to lead has not altered, as measured by lead in their urine and blood, for at least 30 years.) The question of pregnant women and children always comes up in any theoretical stress as applied to the public. There is simply nothing (but apprehension) to justify the statement that they are especially at risk. We have much lead poisoning among children in our older American cities, but we know why this occurs, and we could prevent it entirely within a year or two if we were to spend the effort (and money) required to accomplish this desirable purpose.

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Now this is not at all to say that there is no problem here. What is true, however, is that there are very many other environmental threats which are much more likely to have serious consequences than is this one, and that the great emphasis on this one is simply stupid, from the aspect of public health. Technologically, however, there are serious problems, and the removal of lead from gasoline is now being promoted, for such reasons. There are ways of greatly reducing this threat, however, which can be accomplished, and in my view, this should be done. For example, the congestion of automobile traffic in our cities (some in particular) can be greatly reduced, by providing other and more effective means of transportation. This must be done, in any case, since if we double our population, and continue to draw them into the cities, their transportation simply cannot be provided by automobiles. One cannot, as a private citizen, operate an automobile effectively in Manhattan, because there are now too many for the streets.

I cannot write more extensively in this matter in a letter, but I believe I have indicated that the answers to your questions are not simple, and that the issues which you have raised are not really the important ones in this matter.

Sincerely yours,

Robert A. Kehoe, M.D.
Professor Emeritus of
Occupational Medicine

RAK:wb

1930 Ivy Road #1
Charlottesville, Virginia
April 24, 1971

Dr. Robert A. Kehoe
Kettering Institute
Cincinnati, Ohio

Dear Dr. Kehoe,

I am a fourth-year chemical engineering student at the University of Virginia. In a required course outside of my major, I am trying to write a term paper on environmental lead and health. You are one of the country's senior researchers in this area.

In the September, 1969 issue of the Journal of the Air Pollution Control Association there was an article written by you, "A Toxicological Appraisal of Lead in Relation to the Tolerable Concentration in the Ambient Atmosphere." In this article, you indicated that you don't feel that lead at normal environmental levels poses a serious hazard to human health.

In the meantime, a good deal of additional research has been done in this area. From what I've read, atmospheric lead poses no serious threat to most of the population; at least no major, visible symptoms. However, there was some concern for groups such as pregnant women, children, and groups with high exposure to environmental lead (traffic policemen, garage attendants, etc.)

However, as you have far more familiarity with and expertise in this field than I do, you have seen more of the recent data and can better interpret it.

Do you still feel that environmental lead poses no real threat to health? Do you feel that some groups such as those mentioned above might be harmed somewhat by lead? There has been evidence to show a great rise in atmospheric lead in the past few centuries, and especially the past few decades. Some people feel that there might be "insidious," hard-to-detect effects of lead on health. Do you feel that there are any effects of this type?

Your answers would be very much appreciated, as would any very recent publications of yours.

Yours truly,

Matthew Kolodney
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