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Yale University *New Haven, Connecticut 06520*

DEPARTMENT OF CHEMISTRY

*Sterling Chemistry Laboratory  
225 Prospect Street*

20th November 1969.

Professor J. Lederberg,  
The Medical School,  
Stanford University,  
Stanford,  
California.

Dear Professor Lederberg,

I enjoyed our conversation this afternoon though I am naturally disappointed that you don't think it will be possible for you to attend our meeting in Aspen this coming July 21st to 23rd. I can certainly understand your reluctance to push still another meeting into your schedule, but I retain some slight hope that on further consideration you may, after all, find it possible to attend. My own reaction to meetings on Chemical Education has always been rather negative. But I am persuaded that this one may have results of some considerable significance.

Turning to another subject, I very much appreciate your pointing out to me the recent paper by Weinstock in Science, and am glad to give you my opinion of the matter. I must say I was very surprised to see this paper. In effect Weinstock reviews some aspects of the subject of atmospheric CO. He accepts a model that we proposed for the path of C<sup>14</sup> in nature and particularly through CO. Furthermore he uses our data and, in effect, substitutes it into a formula which we had also published, and thus obtains his value of 0.1 years for the residence time of carbon monoxide. We had, of course, done such a calculation at the time we obtained the relevant data - some seven years ago. (It is outlined in a letter I wrote to Dr. Louis Jaffe sometime ago, a copy of which is enclosed).

The reason we did not ourselves publish the results of this calculation, is because we believed that the data was not adequate for providing a reliable estimate for the CO lifetime, other than saying that it was of the order of a year. There are several reasons for this uncertainty. One that is pointed out in our paper, is that the air from which our samples were collected appeared to be atypically high in carbon monoxide. This would not be unusual in an industrial location and we pointed out the need for making further measurements in remote oceanic and stratospheric locations. A related uncertainty is that we did not, and do not, know the C<sup>14</sup> content of carbon monoxide as generated on earth, which then mixes with the C<sup>14</sup>O which has been freshly produced in the atmosphere by reaction of C<sup>14</sup> with O<sub>2</sub>.

....continued....

Mr. Weinstock apparently felt that he was making an original contribution by combining our data with our model, but ignoring our caveats. The situation is all the more strange in that Mr. Weinstock wrote me and also made some long telephone calls to us: in these calls I explained our reasons for proceeding with care. Obviously he did not accept these reasons, yet he apparently was still somewhat mindful of our feelings in that he did not tell us he had any intention of publishing such a paper.

I am enclosing marked copies of our papers on which Weinstock based his article. I suppose one should be somewhat indignant about this business, but since it concerns work which is old and which was never more than a sideline, I find that I can't get very excited about it.

Enclosed also is a copy of my Viking proposal. As I mentioned in our telephone conversation I was rather strongly encouraged to submit this by Wolf Vishniac and Norman Horowitz. (I met these gentlemen at the Washington meeting where I discovered that my proposed life detection instrument was not an original idea!) I am obviously diffident about pushing this matter, and while I would enjoy being associated with the project feel that it is certainly not essential. My main concern is that a capability for detecting life based on carbon monoxide metabolism be included in the package. If this is feasible, given the constraints of the mission, it could certainly be done by the original team.

Best regards,

A handwritten signature in cursive script, appearing to read "Richard Wolfgang".

Richard Wolfgang

Encs.

rw/bg