CORNELL UNIVERSITY

Center for Radiophysics and Space Research

SPACE SCIENCES BUILDING Ithaca, New York 14850

Telephone (607) 256-4971

Laboratory for Planetary Studies

February 19, 1974

Dr. Timothy Leary B 26358 Box 2000 Vacaville, California 95688

Dear Tim:

Thanks for your last note and the book TERRA II. I have no problems on chance mutations and natural selection as the working material for the evolutionary process. In fact, with what we now know about molecular biology, I see no way to avoid it. But I loved your remark about the "transgalactic gardening club." Of course, if extraterrestrials are powerful enough, they can do anything, but I don't think we can yet count on it. I'm enclosing an article on "Life" that I did for the Encyclopaedia Britannica which you might like. On the basic requirements for interstellar exploration, I doubt if a manned expedition to Mars could be done within the next 25 years for less than \$300 billion. Try really costing your spacecraft and see what it would cost. In fact, maybe the reason we haven't been visited is that interstellar spaceflight, while technically possible, would beggar any planet which attempted it.

If we can do it, how would you like a visit from us in the last week in February? I have no idea what the visiting privileges are, but if your and my schedules permit, Linda and I would love to visit you in Vacaville on the morning of Thursday, February 28. Frank Drake has also expressed an interest in such a visit, as has our mutual acquaintance, Norman Zinberg of Harvard Medical School. What's your feeling about it? Write to me at the St. Francis Hotel, San Francisco, where I'll be staying beginning Sunday, February 24, and I'll try to firm up the visit, if it seems possible, shortly thereafter.

With best wishes,

Cordially, Cant

Carl Sagan

P.S. The enclosed poem, "The Other Night" by Dianne Ackermann of Cornell, is something I think we both resonate to. It's unfinished so it shouldn't yet be quoted publically.

Carl Sagan

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Searched

MO.

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March 20, 1974

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Dear Tim:

I also am very much enjoying our exchange of letters. Note that the noble gases were called noble in the mistaken belief that the nobility did not "mix" with the peasantry. My view on interstellar spaceflight is not the one you quote. That was a statment originally made by Purcell at Harvard. Frank did repeat it in his AAAS speech. I think it's possible for a society only a century or two more advanced than we, but "out of sight" for us. Here I'm talking about relativistic interstellar spaceflight: that is, at speeds more than 99 percent the speed of light, so that the Lorentz time-dilation becomes important. I don't know of any scheme — including Orion — which gets us up to relativistic velocities with any feasible technology of the immediate future. It's a glorious dream — just a century or two too early.

I loved your sentence "You are a true profit". I'm not sure if that is a conscious or accidental pun, but I'm trying to figure it out!

I think you're probably right about the mixture of elements in the last proposed visit to Vacaville. It was just too complex, plus the fact that I had been, the few days before, flat on my back with some particularly unpleasant virus.

In any case I hope to be able to see you on the morning of April 1, either alone or with Frank. I'll be in Berkely the night before, and intend to call Joanna then to arrange for the trip.

I have shown your letters to Linda, and she would very much like to meet with you and Joanna. Sometime soon, I hope. See you on April Fool's day....

Cordially.

Carl Sagan