



THE ROCKEFELLER UNIVERSITY

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JOSHUA LEDERBERG

PRESIDENT

Dr. William D. Donachie
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Dear Dr. Donachie:

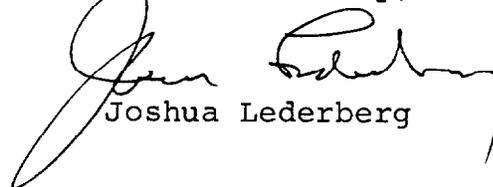
My writing is to comment on your very interesting paper in the September J. Bact. (171:4633-9) on nucleoids in rod-shaped and spherical cells of E. coli. It brings to recall some rather antique reflections about polyteny in bacteria.

Depending on the details of further segregation of the polytene structures that you invoke, there could be some very interesting genetic consequences that would be revealed in conjugal crosses and transduction. I wonder if you had thought of experiments along those lines with cells maintained in spherical versus rod-shaped form.

Less interesting now, than used to be, would be the question of radio-sensitivity of the different forms; but I think there are still some relevant questions to be pursued in that direction as well.

The experiments that I did some 30 years ago on single cell pedigrees from conjugal pairs in E. coli were conducted with an F- genotype that I recorded as "non-motile and plumper". It had not occurred to me then (as your paper now reminds me) that some of the peculiarities of continued segregation might have been related to polyteny in that "plumper strain".

Yours sincerely,



Joshua Lederberg

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