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Dr. Joshua Lederberg
Dept. of Genetics
Stanford Univ. School of Medicine
Palo Alto, Calif.

Dear Dr. Lederberg:

At times one reaches for a bit of information which he assumes is handy and it is not....

In my studies seeking to understand the genetic system of blue-green algae, ways have been sought to distinguish between a system of high linkage (conventional), and one of high replication (as suggested by Gabriel, 1960) - or something in between. A Russian report (Federov, 1962) noted a constant rate of cell death/ generation in two blue-green algae, but did not describe details of the study. Perhaps during my coming visit there (National Academy exchange, to begin in May) I can find out what Federov did. Meanwhile, I have discussed the matter with microbiologists (Allen Campbell and Wolf Vishniac) and with Freddie Sherman, who studies yeasts. Sherman referred me to Ogur, St. John and Ogur(1959) - a generation death of less than 1%, but also mentioned conversations with Dr. Seymour Lederberg in which it was said that the explanation might be unequal division of cytoplasmic elements.

When I looked to find something on the subject relative to bacteria, I came up with nothing. Perhaps it is assumed (and probably correctly) that the phenomenon can be explained by nothing more than the production of a certain number of lethal mutations per generation? Do you have any thoughts or references on the matter?

With best wishes,

Herman Forest
Herman S. Forest
Research Associate

FOREST

non sequiter?

4-7-64

? you've left something out here.
Powell has studied the statistics of generation times in bacteria.
Don Gleason knows a good deal about it now.
Some remarks on the distribution of cell deaths in Genetics 41: P. 861

cf.