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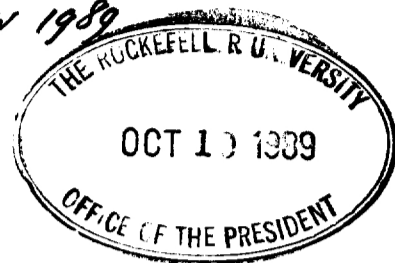


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From: William D. Donachie

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Dear Dr Lederberg,

Thank you for your letter (Sept. 7) about possible genetic consequences of the apparent "polyteny" of large cells. I probably puzzled over your papers at the time they appeared, because I was then an undergraduate Genetics student and we spent a lot of time discussing your work! We had wondered, in a desultory way, whether we should pursue the possible genetic consequences of being spherical, such as persistent heterozygosity, or even whether it would be possible to maintain heterozygosity by selection. It would also perhaps be interesting to follow the course of sister chromosome segregation in such cells. I assume it would be random with time but perhaps there would be some order in the way sisters and "cousins" segregated at the time of nucleoid partition.

Unfortunately, there probably is not world enough and time (not to mention money!) to pursue this here. I would like to know however whether "natural" gram-negative cocci are also polytene. This might have some consequences for the genetic structure of their populations.

Yours sincerely,

Willie Donachie