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STANFORD UNIVERSITY SCHOOL OF MEDICINE
Department of Genetics

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See automata

Dr. Martin Pollock
Department of Molecular Biology
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Mayfield Road
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Dear Martin,

Thank you for exhuming the reference in Nature 1953 on "bacterial information".

That phrase about no material exchange of substances does have a peculiar ring today,doesn't it! But I think we have to be careful not to overinterpret it. What I think they may have had in mind would be the modification of a self-sustaining reaction state in one cell line by stimuli, be they chemical or electrical, that are not necessarily themselves part of a self-reproducing particle. You may remember that Delbrück had some fun with such discussions, and I am enclosing a few archaic remarks of my own, although I have to say that the criterion of the number of bits of information which are sustained by the self-reproducing system is still an effective criterion.

However, the model probably went a little deeper. Harriett Taylor was quite reluctant to talk about transforming substances rather than transforming principles. Boris I have to say was a little bit upset that I had left out much reference to her in my note to Nature and I had to tell him that I thought that she really did not believe that material recombination was playing a role in the pneumococcus tranformation. You can get some idea of this from her paper in the Cold Spring Harbor Symposia, this was reinforced in her personal conversation and correspondence with me. While Boris thinks I am all wrong about my interpretation of her attitudes about this I certainly do not want to pour any salt into old wounds.

I wonder if you could get Jim Watson to explain what he thought he meant by that note.

Sincerely yours,

Joshua Lederberg
Professor of Genetics

JL/rr
Enclosure

① Remember, e.g. Novick - PNAS 7/57; Delbrück 1949 discussion of Sonneborn + Beale was widely quoted;

Pollock, !

I saw Gunther Stent yesterday. He "never intended to imply "that Avery was ignored like Mendel." "Nageli and Hitler were both dictators" - doesn't mean they're the same. So he overstates as his misunderstood. J.