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JOSHUA LEDERBERG
PRESIDENT

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Mr. Gordon C.F. Bearn
207 Hemlock Brook
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Dear Gordon:

Thank you for your manuscript on Avery, MacLeod, and McCarty: Revolutionaries or Puzzle-Solvers?

It would be easier to go over it with you orally, and I would be happy to do that. I make a few comments now:

1) In the early part of your paper, you tend to put the entire community in one pigeonhole. Later you are more discriminating.

2) You make too much of "directed mutation" versus gene transfer. "DM" can hardly be other than an information transfer, as we would now say. I was able to write of "DM" and "transfer of bits of chromosomes" in the same breath (in 1947). "Chemical mutagen" is a post-1944 construct.

3) I did/do tax Avery's colleagues for taking until 1951 (Hotchkiss) to study other markers, linkage... in the pneumococcus transformation. Card-carrying geneticists would have done that first thing! The technical difficulties of pneumococcal transformations were the main reason this was "not more actively pursued" after 1944. Certainly I pursued it promptly, with other systems. Boivin tried; but he lost the E. coli strains; Tatum and I could not reproduce his findings.

Boivin's and my motives were the future mainstream of molecular biology. Until there was a solid conviction that DNA=genes, there would have been little attention to the double helix. So 1944-1952 did lay the groundwork for that

conviction. Double helical structures then laid the groundwork for plausible mechanisms of heredity. The "revolution" was less sudden and more of an evolutionary progression than you make out. And it was hardly "incommensurable" with pre 1953.

(Page 25) Neurospora has been transformed, circa 1982.

You have done well in sorting out the diverse questions.

Yours sincerely,

Joshua Lederberg

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