

NH 54 C3

THE UNIVERSITY OF WISCONSIN
COLLEGE OF AGRICULTURE

Madison 6

DEPARTMENT OF GENETICS

November 30, 1956

Dear Dr. Heidelberger:

Thank you for your answer of the 28th to my inquiry about the pneumococcal polysaccharides. In the interim, I have gotten to see the Macy Foundation Symposium, and have learned worlds of details from the discussion there. I am also looking forward to studying the articles you cited in your letter.

There is every reason the geneticists should understand the structures of the compounds they are dealing with in the pneumococcus transformations. Until now, this has not been looked at as a typical problem in "biochemical genetics" perhaps because of the difficulties of defining the synthetic steps. But I am hopeful that the genetic approach can be tied in with other chemical methods. First we should have some sort of in vitro system for polysaccharide synthesis. Bernheimer made a start at it some time ago, but without much success. Any chance of your getting into that? if there were any way of encouraging that, I would.

Yours sincerely,


Joshua Lederberg

Dear Joshua:

I'm really surprised, after poor Mark Adams' devastating blast at the Macy Foundation Symposium, that you found anything worth reading in it! ^{very active and complete}

The pneumococci must have some ~~system~~ ^{system} of transferases in order to build up so many type-specific substances from only a very few sugars. It ought to be possible to use such enzymes in vitro, perhaps with a little of the appropriate DNA to give direction to the process. I would gladly encourage you to go into it — it would take an experienced enzyme chemist, but with good bacteriological technique, for the bugs are virulent.

Sincerely,