

August 30, 1960

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Dear Phil:

To yours of August 11th.

Thank you very much for the cultures which have been received in good order.

Your letter reminded me to read the paper by Velaudapillai. I had heard a few minutes of his presentation at the SGM in London and was not very deeply impressed. It is not unusual to find that motility and the phase<sub>1</sub> antigen are transduced-linked to one another. There seems to be a cluster of markers rather close together which includes H<sub>1</sub> and some, but not all of the motility mutations. Iino and I have gone into this in our paper in Genetics, Sept. 1956 at page 747; it was also discussed in the paper by Stocker et al., J. Gen. Microbiol., 1953, Vol. 9, p. 410.

To answer your first question about technique in transduction: We would usually use from one to ten phage particles per bacterium. But I do not think this will greatly affect the result in antigen transduction unless you use very dense bacterial suspensions, which should be avoided. I have not noticed any particular difference between the yield on plates or in tubes except, of course, that it is much easier to count individual swarms in plates. It may be important <sup>not</sup> to use an excess of antiserum, and we generally put in as little as we can get away with.

I am glad to hear that you are set up now in your new laboratories and hope that they are a definite improvement over your long-term temporary quarters at Chamblee.

Have you met the Lanni's? They are very accomplished in phage work and I'm sure you would find much of common interest with them.

Yours cordially,

Joshua Lederberg  
Professor of Genetics

JL/jh