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August 29, 1956

Dr. Joshua Lederberg  
The University of Wisconsin  
Madison 6, Wisconsin

Dear Dr. Lederberg:

I thank you for the reprints. As you guessed, I was especially interested in your observations with protoplasts. In fact, Dr. John T. Sharp has started some work here to connect them with the L forms. Most observations with protoplasts have been made with bacteria from which L forms could not be isolated thusfar. Only a few strains of colon bacillus produce L forms and they produce only a few colonies. It is possible that the L forms are nothing else but protoplasts which are able to multiply in our media. On the other hand, the formation of large bodies as is visible in certain cases is a result of a reproductive process and not only the result of the elimination of cell wall. Typhimurium exposed to penicillin broth grows to large bodies. These as you observed are destroyed by distilled water, and transplanted to fresh media without penicillin return often to the bacterial form. Survival without a rigid cell wall is common to the protoplasts and the L form. Whether the presence or absence of multiplication in this form is only accidental depending on the environment or whether it indicates an essential difference remains questionable.

Dr. Sharp will be in Madison for the Electron Microscope Meetings from September 9 - 12 or 13. He will bring the cultures with him from here and would like to have a talk with you concerning the protoplasts in which he is greatly interested. He will be free Sunday evening when he arrives or on Wednesday afternoon (Sept 12) or Thursday forenoon. I hope you will find time to see him. He asked me to send the enclosed manuscript which we hope to publish soon.

With kind regards,

Sincerely yours,

*Louis Dienes*

Louis Dienes, M.D.