

November 8, 1960

Dr. Robert M. Wilson  
Dental Research  
Division of Oral Surgery and Dentistry  
Henry Ford Hospital  
Detroit 2, Michigan

Dear Doctor Wilson:

Thank you for your letter of October 20. I have taken time to discuss the contents with my colleagues and students here. We would be very hesitant to assume that the frequency of the maltose marker was uniquely determined by the sequence of transfer of genes during conjugation; for example, linkage to selected markers could give a confusing result. In any case, there is no important difference between the segregation ratios from L form and from bacillary recombination. We have no doubt about the capacity of L forms to recombine, if they are of appropriate mating type, as we had done this experiment many times at Wisconsin. What we were hoping for, but never did find, was evidence of another mode of recombination between two  $F^-$  mating types. Perhaps you will have also noted the brief report that appeared in Nature for which the reference is appended.

Your results do, however, show an empirical discrepancy with our own, particularly with respect to the frequency of  $mal^+$  recombinants. May I assume that you have checked the purity and homogeneity of the two parental cultures as some of these markers do tend to revert with confusing frequency. On the other hand, it is by no means implausible that your culture of W 1922 is now in a quite different state from what it was when we worked on it. Miss Cook will have sent you a culture of W 1895 that you might wish to compare with W 1922, which is presumably an  $S^-$  derivative of W 1895. If you do find a discrepancy between the two strains I think it is quite reasonable that you will have run into a new state, perhaps an  $F'$  type like those analyzed by Hirota and by Adelburg and Burns (see reference below).

If you do find a substantial discrepancy in the behavior of W 1895 and if your culture of W 1922, I would appreciate it if you could send me the latter, not that we have any present plans for doing anything with it but so that we may have it on file for other eventualities.

Yours sincerely,

Joshua Lederberg  
Professor of Genetics

Hirota  
Adelburg  
Hagiwara

Wilson R. M.