

YALE UNIVERSITY  
OSBORN BOTANICAL LABORATORY  
NEW HAVEN, CONNECTICUT

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Dear Mather-

It was very gratifying indeed to receive your recent letter; Your discussions with me have had a very beneficent effect in clarifying what I must do, and I hope your interest in this problem will continue. The results so far have satisfied the criteria a, b, and c which you mentioned. I had just completed my own analysis of the data which I had sent you with substantially the same results. In addition, I have estimated the homogeneity of the various samples. Parts of Sets 2 and 4 give 'p's of .04 and .06 respectively, for reasons which I am at a loss to assign, so that it is if anything remarkable how well the data for 'coupling' and repulsion phases fit; for sets 1-4 respectively (with some new data) the 'p's are .005, 0.3, 0.18, .02, which are commensurate with the homogeneity of the data.

While the 4 sets were chosen from the point of view of the cycle: BM, B $\emptyset$ C, TP, TLB<sub>1</sub>, I had been so pessimistic about the possibility of an effect of both B $\emptyset$ C/BM and TP/TLB<sub>1</sub> that I had not gotten to sit down and analyse the data. The lack of effect of the first substitution is surprising, but seems to be authenticated by the data; thank you very much for pointing this out to me, and for showing how the frequency of the 4th rare recombination class <sup>of set 4.</sup> can be used to estimate the absolute distance (although inefficiently) On the basis of the comparison of the number of colonies which appear on minimal and and TL agar in the BMTLB<sub>1</sub> cross, I had come to the conclusion that the distance BM--TL was from 70-90 units.

