

March 18, 1953

Dear Jim:

Thank you for sending your ms., just received. I have given it a hasty reading; Unfortunately, I am so confoundedly tied up with other mss. and the like that I will not be able to study it closely for some few days.

I am not sure that I have caught all of the assertions that might demand ~~strict~~ critical review, but by and large I found nothing I could disagree with violently. As you will see from the enclosed abstract, we have already abandoned the single-linkage group notion, on essentially the same criteria as you require. I am not sure whether one is obliged to reject the M-S linkage, at least from our own data, but am willing to accept this is not unreasonable. The crosses mentioned in this abstract involved the use of M-S, M-TL, and S-TL as selective markers, respectively.

What I am less certain of is the timing of elimination. Again, I accept our conclusions as hypothetical, and the suggestion that it occurs prior to zygote formation has not been conclusively disproved. In the 1951 CSH paper, however, it is mentioned without emphasis that Mal-S crossovers have been observed in the incomplete diploids which are, as a rule, hemizygous for this region. (See table 6, p.421). Such crossovers would suggest that one can obtain hemizygosity following synapsis [i.e. opportunity for crossing over], and I have more or less constructed the general picture of post-elimination on this basis. I have tried to set up an explicit theory based on post-elimination of an entire chromosome that could reconcile all the facts, but the chief stumbling block has been the finding that, despite the correlation of Mal and Xyl of the kind illustrated in table 6 and figure 4 (and representing additional assorted experiments as well), Mal come out hemizygous, while Xyl is usually heterozygous. This is not compelling evidence, and it may be that Mal-S represents an independent chromosome. These factors have also behaved as a linked set in segregation from "complete" diploids. This would seem to favor ~~as~~ a regular, post-elimination of the Mal-S but not the Xyl-Mtl segments of a single group. From this hasty reading, I think I could endorse your paper much more whole-heartedly if it were more explicit about the evidence concerning pre- vs. post-elimination of the Mal-S segment. It would be fairer, too, I think if some more of the reserved tone of your letter were to be transferred to the paper as qualifications on the hypothetical scheme. It puts your colleagues at an unfair disadvantage to have to keep in mind all of the facts (good bad and indifferent) if you choose to submit a hypothesis which purposely ignores some of them. This course is not controvertible, but the less so the more circumspectly it is stated.

I am really very sorry to have to write this so hastily, and am sure my thoughts have not been put down in good order-- I hope you can make due allowances.

Sincerely,

Joshua Lederberg