November 25, 1953

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Dear Dave:

Your breezy, optimistic and informative letter was most welcome. I especially appreciate how promptly you replied to my questions on the motility of line 28. This has been a rather puzzling matter, but I think I now understand at least some of the discrepancies. The original line 28, that is, W1258, the culture that was used in your experiments, is certainly motile now as it was then. I checked this only since receiving your letter. For the purposes of crossing and other reasons, however, we have been using in place of W1258 a culture described line 28A. 28A is evidently not motile. It differs from the original W1258 also in being typically prototrophic and resistant to streptomycin. We are investigating the other properties of 28 and 28A in order to come to some sort of definite decision as to their genetic relationship. W1258, original, characteristically grows very poorly, even on complete media. I think this must be the explanation for your comment four, paragraph three.

It is unfortunate that we have no good quantitative method of estimating motility. I have often noticed among various Salmonella cultures that there might be very little correlation between obvious microscopic motility and the ability to swarm through soft agar. For example, Salmonella abortus-equi is generally very motile indeed by microscopic examination and yet scarcely swarms at all in motility agar.

In a way I am sorry to hear that you are going into competition with Cavalli on this matter of B by K12 crosses. I assume, however, that Szybalski cleared this with Cavalli when he visited him at Rome. It is very difficult for me to make any comment about your B by K12 results until I get a little bit more definite information from you. For one of your experiments, however, I am sending you W1305. This is a multiple auxotroph m-t-l-

from line 1. We had found it useful here as a source of the F+ agent which was not effectively crossable with either of the other main crossable lines, but I think you may have some difficulty in recovering and then proving new mutations in B which might be allelic with t- and l- in line 1. As soon as I can get around to it, I will send you the cultures that you asked for. As you know, we do not have very many singly deficient stocks, and for the purposes of your reverse mutation studies, you probably would be just as well off to make your own mutants. I will, however, dig out what we do have. I am afraid we cannot help you out on your first request for a multiple marker strain from Y10 that will be sensitive to T1. Unfortunately, this was just about the first marker put in before all of the others. I can, however, give you W1 which is Y10 lac- mal-.

I did not realize that you had had an opportunity to file the retirement form. Other people who have been here had managed to over-look this detail. I guess that's all for now, Dave. I am still waiting to hear from you concerning a long over-due report.

Yours sincerely,

Joshua Lederberg

JL/gw