February 5, 1956

Dr. P. D. Skaar
Bio Lab
Cold Spring Harbor, L.I., N.Y.

Dear Dave:

It was thoughtful of you to send the ms., and I was glad to go over it. The simplest way to add my comments was to mark the carbon copy in ink. I spotted a few cases of language that an enterprising student could succeed in misinterpreting, and an equally small number of minor verbosities, all indicated. Frankly, I don't care for the "bipartite" phraseology, as it reminds me too soon of Tracy's shopworn ideas on kappa, a long time ago, and it might evoke similar connotations in others. Why not two-locus, or binary, or dual, or interactions...?

As to the credit line, the authorship is, of course, all yours. However, I think it would be appropriate to indicate where the work was done in the following ways: In the address to add from "Department of Genetics, University of Wisconsin, Madison, Wisconsin" and footnote this to read
1. Paper Number from the Department of Genetics. The work at Madison (1951-1953) was supported by grants from the National Cancer Institute, (C-2157), Public Health Service, and from the Research Committee, Graduate School, University of Wisconsin with funds allotted by the Wisconsin Alumni Research Foundation.

Also, can you arrange for us to have about 100 of the reprints when they come back? We will gladly arrange to pay pro-rata for them.

If you can spare a copy of the final ms., I'd appreciate seeing it.

Esther's reply to your inquiry about Mal-Lp_2 must have crossed your letter in the mails. We're a little behind our work, what with being transplanted in Bact. Bldg— we should be moving back to a remodelled lab in Genetics in a couple of weeks. I'm a little afraid you'll be running down the garden path with the Mal mutants, since so many loci are involved, but as Esther said you're welcome to try your hand at it as far as she's concerned. Wouldn't S^s—S^d be a cleaner system? Or the V_{1t}-Tr^- (which stands on about the same ground as Mal-Lp_2?

After a lot of fuss and feathers, it finally is clear to us that Hfr—1 (Cavalli) and -2 (Hayes) are quite different in segregation behavior. What fooled us so long, or rather got in the way, was that our old stocks (incl, e.g., your K-18) are mostly F+ reversions (sic), but we have that cleaned up now. Alan Richter since picked up two more Hfr's, and I'm well on in a hunt for more, from UV'd W6, using a replica technique. Quite a number of divers Hfrs have turned up, with all kinds of segregation ratios— now comes the work of analysing them. Have you got a clean Hfr-2? (i.e., like the one used by Jacob?) I can now provide this either as Bl-, prototroph, or M-S^r

if you're at all interested. You also said something about a well-marked F- strain that was V_1^s. Will a V_1^r do? If so, I can send a TL^-Th^--Lac-Mal-Ara-Xyl-Gal- S^s or S^r as you prefer. Are you and/or Alan going on with the tracer studies? I'm especially sorry you didn't get on to F+ x F- crosses.

Which reminds me, I got a note from Jacob this week,, they are evidently on much the same trail of the various Hfrs, though we don't agree on every detail, naturally. Now he thinks that all crossing (of F+) is due to Hfr mutants, which seems a little extreme to me, and in fairly direct contradiction to a couple of items of fact we're still working on. He has a fluctuation test (fertility of a series of F+ cultures), but if there ever were a case for Hinshelwoods (environmental) objection this is it, since we know what aeration does to compatibility phenotype/ (I had about the same dispersion in a 1946 experiment, but would put that down to environmental variability too). I suppose one could test the heritability of the fluctuations, but it is a tricky situation, since almost certainly some of the variable fertility of F+ cultures will be due to Hfr mutants.

I am on Richter's tail to finish up those F experiments, so we can due justice to your literary ambitions in that direction. Nothing at all has come out of more chemstatic experiments: there is a marker-selection experiment in the works to see how well F+ and F- inocula compete with one another, and that should end it. We've been busy as badgers, but I'll try to keep in mind the backlog of Skaarian correspondence. Don't let that deter you from keeping in touch with us.

The impressions float out here that you're much better settled now at CSH, even to the point of your deferring some job opportunities. I hope this is both accurate and congenial for you: if not, let me know and I'll discreetly scotch the idea.

Sincerely,