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Dear Marcus,

By now, I hoped, you should have returned from your southern travels, which I hope you enjoyed. So, I'm chancing this letter.

Being on the staff of a Genetics Department is enlightening as well as fun. A few years of it and I shall have learned enough from students in seminars to compensate for my lack of any course in it. My only teaching responsibilities are quite voluntary: an advanced graduate seminar, and an informal group mainly from other depts. where we discuss microbial genetics. The rest of the time I do research, under continually improving conditions. I have been spending most of my time on a study of the genetic control of a bacterial enzyme: lactozymase, have been surprised to find that not one but at least eight loci can mutate to give a lactose-negative phenotype. Some of these mutations are specific and phenotypically indistinguishable others are rather complex, with no very apparent simple chemical basis. I have been particularly interested in phenotypic reversions of these mutants which turn out not to be reverse mutations, and have picked up a few. These may represent the development of " new gene forms ". I don't yet know quite what to make of all of this, except that I have developed an acute case of skepticism concerning the "one-to-one" theory. Too bad, because that is such a beautifully simple, neat generalization. If that goes by the board, how are we going to analyse gene action. Sometime, I'll ask Th. D. for his reactions.

In today's seminar we discussed preferential segregations, including that of ab-X in maize megasporogenesis. Do you know whether there is any interaction between the segregation of the "ab" and crossing over between it and the centromere? A little differently phrased, is the biassed spindle the first or the second division? It is a little easier for me to visualize an orientation at the 2d since the lower spindle would then see the other division figure apically and a cell wall basally. E.g., the two "ab" segments might be mutually repellent even at long range. Have you any devastating data? Another query: do you know of any suppressor mutations in maize that might be comparable to the one reported in Neurospora recently by Mitchell?

Esther is getting her teeth into a problem that may interest you: the genetic control of mutability in these Lac- mutants. Different stocks show considerable variation in the rate of spontaneous reversion. We'll be East in April, and hope to see you then. Best regards,