

December 18, 1956

Dear Luca:

Congratulations to Alba and yourself, and best wishes for you and all your family!

I think our correspondence is intact; I have a long letter from you dated Nov. 19 (from Parma) or rather on Parma stationery), and then your present announcement of the 10th.

As to our book, I think we should complete one chapter at a time, and am quite ready to wait as long as you need. I am rather tied up now writing a review or monograph on Recombination (*sensu lato*) which has been long since (1953) promised for Bact. Rev. The penalty for waiting so long is the immensity of the subject, but I think it a worthwhile project, even though it keeps me almost of the the lab for pergaps 3 months.

In that connection, I have made a summary of Demerec' data that may interest you for the perfection of your note on the statistical theory of transduction. This is his total account, about 40 tables summarized here in one. This notation makes it much easier to follow, (and criticize) his argument. I think you will see certain defects. The best-established sequence is supposedly:

cys B45cysB18 try A8 B2 C3 D10.

But the order --B2--C3 ~~depends~~ depends on item 13, which is the comparison 8:?:23. Similarly --C3--D10 depends entirely on item 10, 23:393:26, which hardly is strong evidence against --D10--C3 [26:393:23] especially as the values for 23, 26 come from reciprocal transductions, i.e., different cultures and lysates! The whole case for correlated sequences depends on these ~~two~~ items. However there can be little doubt of the fact of close linkage of the factors for the different steps; some of Hartman's data actually has prima-facie evidence for the overlapping of functional segments, which in turn could give the most rational explanation for the persistence of the linkage altogether.

At any rate, I thought this would be a convenient summary for you. There is also a 4-point experiment(s) which comes out:

cysB12 + cysB18 - try A8 + try D11 -)	a: 29	bd:(1)
x-- complementary)	b+bc:(3)	bcd:(7)
		c+bc+abc: 515	b+ab+donor :2618
			ad+d+abd:(212)

cysB45 + cysB18- tryB2 + try D11 -)	a: 14	ac: 1	ad +acd: 23
x-- complementary)		b+ab+donor: 680	
		b+bc : (3)	bd:(1)	bcd: (38)
			d+ad+abd: (220)	

These results are actually in excellent agreement with the indicated order. I do hope you are polishing your transduction note. We are going to California tomorrow for a week or so. If Adriano is at La Jolla now, we hope to see him.
Sincerely,