

May 30, 1953

Dear Bruce:

Just a brief interim note.

*S. gallinarum* (CDC-74) —x SW-1040 (IX XII a:— from sendai—xH901) gave gm:—. SW-970 and 972 may have been true bills as "aberrant gallinarum". 7 other strains of gallinarum also gave g..., not yet fully types. Nothing from pullorum, though I am still convinced about tracks and swarms —x Ø901.

SW-1048 (from your SL-13) does seem to be more readily trans(in)duced. Swarms have now been obtained in

SW666 —x SW967 (gp)	I think there may be some circumstantial
967 —x SW666 (b)	evidence for the close linkage of these three
967 —x SW1048 (a)	Fla- factors, but it is not at all conclusive.
666 —x 1048.	

*S. paratyphi B java* (N25 and N97) seem to be likely  $H_1^b H_1^{1,2} H_2^-$ .  $H_1^a H_1^c$ , and similar combinations have been obtained by the two step importation of these first-phase antigens; the rate of phase variation is very low and somewhat erratic. I doubt that the 1,2 phases can be mutations from the b, as previously thought.  $H_2^{mix}$  can be transduced to a:c. Unfortunately, the critical result, a triphasic a:c:emx, has not yet materialized, perhaps only for technical reasons, and the very sluggish rate of a:c in the parent anyhow.

Anderson visited us during last week— we had a good time with him. He quoted a story that you are possibly moving to the Lister. If so, the very best luck to you. Talking over the ms. with him, a few points came up, which I present as my own, not his.

In the text, aside from references, "Felix" "Taylor" etc. should be prefixed Dr.(A) or (Joan)... The firstnamed especially might be rather stiff about it. Anderson's name should certainly be adjoined to Felix' in the acknowledgments; I gather he was directly responsible for doing the lab. tests, for arousing interest in having them done, and for communicating the preliminary results to you informally. Similarly, I would add Spicer to Benstead on the serums.

The following comments are of varying importance. I think that might add to clarity.

p.16 23-24. ESA could not be sure whether this implied that gallinarum had also been transmutilized.

p.21 on "foreignness"— this remains a difficult section. Logically, it is not excluded, actually, that "foreignness" is a sufficient, if not a necessary condition for transmutilization. I.E., either "foreign" phage or Fla+ homologous phage might function. But more to the point, I think lines 6-14 could be deleted as repetitive of the previous argument (and as carrying the awkward construction "foreignness"), and that you can proceed directly to the facts after "However, phage grown on a spontaneous motile reversion from the Ø-strain, SW-534, evoked numerous early swarms from SW-534. Also, a swarm.... (this last section is also particularly wordy, ~~the~~ in repeating "this motile derivative of SL-15", as could be averted by a simple recasting, but I don't want to go into such details now). At any rate, I suggest that "foreignness" be either deleted or replaced by an adjectival construction with "Foreign". On the whole since the evidence is not decisive a brief summary statement that phage from spontaneous reversion

There is, in fact, an extensive series of experiments along these lines, referred to for other purposes on p.28. SW666 —x SW666 gives, of course, nothing. SW666 (spont. Fla+) [ 2 different strains ] —x SW666 is effective, as were several motile transductions (—xSW666) —x SW666. The SW666 case is especially convincing, in view of the very low rate of the spontaneous reversion. But even with SW534, it is scarcely necessary to repeat the qualification (on p.9, 10 and table 2.) on spontaneous late swarms.

20-19 (not to cancel previous comment) B ~~VI~~ for Vi B

21a (Begins Flagellar Antigenic Phase Latent in cells....)-15 lysates/

-20 often mutates (not always)

7-11 "phage treated area"— this does not sound so smooth. — try? area exposed to phage.

9-6 commas are confusing. I think they are needed after strains, and after agar, to set off the qualifying clause. I can think of a better, more drastic reconstruction:

The growth of most of the non-motile strains ~~was~~, without ~~phage~~ exposure to phage, strictly on semisolid agar, was confined to the site of inoculation, even after 48 hours or longer. ~~incubation at~~

37° (Fig. 1) [Conditions of incubation already specified, p. 8]. (One can argue for keeping "without phage treatment"; I would regard the title, just previous, as a sufficient reminder that the experiment is just as described). What I am afraid of, here and elsewhere, is that too many qualifications detract from communicating the main point. Later in this paragraph, you refer to induced swarms. This might better be transposed to the end of p.11; actually, it is repeated on p. 14, where a single sharper statement could be made.

13-- Olitzki

31-10 simultaneous 32-27 however

33 organelle

-20

I hope this irruption does not unsettle you. Anderson read the paper carefully while he visited, and, I may say, quite independently came up with much the same general comment as was in my last letter. I am just a little afraid that the luster of the scientific content might overshadow the usual editorial criticism at the hands of the referee. In writing now, I am assuming that the ms. will have been submitted for publication, but that you will still have an opportunity to revise before it is sent to the printer (and may be encouraged to do so by the editor). I am too deeply indebted to you for your editorial comment on "Cell Genetics..." for me to doubt your own critical judgment (or to propose my own as preferable), but if my experience with that particular paper is any precedent, you will be so thoroughly tired of the ms. as to wish to be rid of it. If Andy hadn't come by, I would have had the ~~feeling~~ same feeling about it, but the comment he made (with which I could not disagree) was rather unsettling. I might add that he concurred with my argument about species/serotypes. I gather that the International Subcommittee uses the latter advisedly, and as my last letter indicated many turns of phrase are simplified by type. Have you discussed this with Joan Taylor?

We had our first real summer weather today. It reminds me of a happier time nearly a year ago when the sub content of our exhilarating argument was substantial rather than verbal.