March 5, 1953

Dear Dr. Edwards:

Under separate cover, I am sending the indicated cultures. I will save more detailed comment for the completion of some experiments in progress.

SW-973 = 1,2:— [#157] —x a:1,5 [S, miami , 6500-51] to give 1,2:1,5... Included are three similar occurrences, from separate experiments, in each phase. [SW-973, 973B, 973C]

SW-974,(977)*978 These are the results of S. zega —x ;1,2 phases,

follow

your #91, "Hines VAH" and 5594-51, respectively. I type 974 and 978 as d:1,2. This makes it likely that the :1,2 phases are, after all not like 157 but phase-2 homologues. This result may be analogous to another one (SW926) where abony —x #157 gave a diphasic 1,2:enx. It leaves for further study the possibility that z_6 and other second phases can be transduced to these monophasic stocks.

SW-976 = a phase selected from "Hines VAH" after considerable delay in 1,2 serum. Not yet typed: can you?

SW-975 S. sendai —x SW 993, i:enx to give group B, a:enx. Just another combination, incidental to some other experimehts. ("bispebje

The remaining cultures, masked M, are the "motilized" transductions using PLT-22. The correspondence with your numbers follows:

y	Your	Typing (partial)	Remarks
62	1568-51	i	Swarmed through SS agar without FA, in control.
63	4936-50	1,2	)
64	4937-50	i	) How are these related?
965	??-50, "Zwilly"		
66	3010-49	b	How related to 3012-49?
67	1521-	)	Could you confirm single factors? These, of course, are
68	1522-	) "gm"+	the rest ofvthe Guatemala dublins. I've written to
69	1525- 51	)	Davila.
70	3821-52		
1	5465-	"gm"+	If also dublin, could it have an epidemiological connec tion with the above?

The two remaining non-motile D in your collection, 3821-52 and 1553-52 (K.'s aberrant gallinarum) have not yet moved. Nor have any of 12 pullorums or 13 gallinarums. FA has just been grown on these to see if their potential H content can be determined from the converse experiment.

The d phase of S. zega has been agglutinating very poorly in my (typhi) serum. I don't know whether this is another case of poor motility of one phase, or just a matter of "partial antigens".

Another example of serums' having different efficacy showed up with S. javiana 732-49, initially in 1,5 phase. In berlin 1,5 and in 1,2,3 [illegible] ("binns") swarms initiated, but never moved very fast or far. In 1,5 (morehead), they went right through to give the $1z_{28}$ (i.e., lw+) phase. In view of the known cross-reactions, these are assumed to be responsible.

Sincerely,

Joshua Lederberg