of males produced crossovers also in a nonrandom manner appropriate to spermatogonial crossing over. The implications to the collection of data for standard maps are considered.

WHITTINGHILL, MAURICE, University of North Carolina, Chapel Hill, N. C.: The non-random distribution of spontaneous crossovers from Curly inversion heterozygotes of Drosophila melanogaster. — Eighteen Cy lt L^4 heterozygotes having 7,477 offspring in two-day coded cultures produced 28 spontaneous crossovers non-randomly. There were too many similar pairs and triplets. Considering only families missed and one family having four region-one crossovers, a joint probability of 1.6×10^{-8} was computed. Recombinations decreased greatly with age indicating that the age effect is created in oögonial cells rather than during meiosis.

WITKIN, EVELYN M., Carnegie Institution of Washington, Cold Spring Harbor, N. Y.: Effect of nucleic acid on phenomic lag in Escherichia coli. — When a series of 50 tubes of broth containing 0.5% sodium ribonucleate (Schwartz) is inoculated with strain B/r of Escherichia coli, the cultures obtained after 48 hours of incubation contain, on the average, a significantly higher number of mutants resistant to bacteriophage T1 than a similar series of cultures grown without nucleate. The higher number of mutants is not due to an increased rate of mutation during growth in nucleate. Nucleate cultures and broth controls do not differ in frequency of phage-resistant mutants at the end of the logarithmic growth phase. The difference appears only as the cultures are incubated in the "stationary" phase. The effect is not due to differential stimulation of the division of phage-resistant mutants, nor to more active total division of the nucleate cultures. Analysis of the data suggests that nucleate brings out the phenotypic expression of spontaneous delayed mutations, which would ordinarily be detected as resistant only after passing through one or more divisions. This hypothesis is supported by experiments using ultraviolet-irradiated populations known to contain large numbers of induced delayed mutations. Under certain conditions, nucleate can take the place of division in bringing out the phenotypic expression of ultraviolet-induced delayed mutations. Similar results have been obtained with high concentrations of casein hydrolysate.