and 75A. In(3R)TC is a large paracentric one which is located between 84D and 91E. The break-points of this In(3R)TC are similar to those of In(3R)Antp^{LC} which were induced by neutrons.

The relative frequencies of occurrence of these inversions are as follows, in percentages:

In(2L)t = 14.5 In(2L)T = 0.3 In(2R)NS =20.9 In(2R)TA = 0.3
In(3L)P = 19.1 In(3L)M = 1.0 In(3L)TB = 0.3 In(3R)TC = 0.3
In(3R)K = 0.3 In(3R)P =38.2 In(3R)C = 3.9 In(3R)MO = 0.3

The total of the genomes extracted by the Cy/Pm; Ubx/Sb method was 233.

Benner, D.B.* University of California, Riverside, California. Some evidence against the presence of suppressors of variegation on the Y chromosome.

Brosseau (1964) reports that the localized regions of the Y chromosome near the kl-2 fertility factor on Y^L and proximal to ks-1 on Y^S act as position-effect suppressors. I would like to present some evidence that suggests that there is no suppression of variegation by these localized regions.

The first evidence comes from an analysis of the Y-4R fragments reported by Parker (1965, 1967). The Dubinin effect (a position-effect variegation of the cubitus interruptus gene on the fourth chromosome) is observed only in those cases where 4R is located distal to kl-2. In these cases Y^S is intact and the break in Y^L is distal to kl-2 and therefore the presumed suppressor. The second evidence is of like nature and comes from a similar analysis of twenty Y-4R fragments that were produced using an unmarked Y obtained from a wild population. Sixteen of the fragments do not show the Dubinin effect and show no evidence of any of the KL fertility factors. The four remaining fragments have at least kl-1 and kl-2 present, and all four show the Dubinin effect.

The third bit of evidence that these specific regions of the Y may not be responsible for variegation suppression comes from an analysis of X detachments in which 4R and some portion of the Y from Parker's fragments have been attached to the X chromosome. C(1)RM, y v bb; ci ey^R ♀♀ bearing the Y-4R, y$^+$ ci$^+$ ey$^+$ fragment were irradiated with 3Kr of X-rays within twelve hours of eclosion, mated to In(1)sc^{S1L} sc^{8R}+S, sc^{S1} sc^8 w^a B/Y; ci ey^R ♂♂, and allowed to lay eggs for four days. y v; ci$^+$ ey$^+$ ♂♂ were recovered and put into stock by mating to C(1)RM, y v bb/Y; ci ey^R ♀♀. In all cases where the fertility factors that were present in the fragment have been lost the Dubinin effect has been lost. This suggests that the loss of variegation is accompanied by loss of the region adjacent to kl-2 and the region proximal to ks-1. In those cases where the proximal region of Y^L, and therefore the regions adjacent to kl-2, have not been disrupted the Dubinin effect persists. Likewise, in those cases where neither Y^S nor Y^L have been disrupted the variegation persists.

These results suggest that there is no region of the Y that specifically acts to suppress the Dubinin effect. The effect is absent when all or most of the Y is missing. It has been previously reported that the Y chromosome does not always act as a suppressor of the Dubinin effect and in fact may act as an enhancer of the effect (Panshin, 1938; Altofer, 1967). The results reported by Brosseau were obtained using a variegating B^S.

The results reported here are consistant with Brosseau's conclusion that the heterochromatic Y does not suppress variegation. The discrepancy in the results concerning the action of specific sites on the Y as variegation suppressors may mean that suppression of a particular variegation is the result of an effect on that specific rearrangement by the Y and not the pecular property of a specific region. In other words, the Y may have different effects on different rearrangements because of modifications in spatial associations within the nucleus (as suggested by Muller, 1935) not because of the special influences of specific regions

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*Present address: Dept. of Biology, East Tennessee State University, Johnson City 37601