References: Kernaghan, P. and L. Ehrman 1970 Chromosoma 29:291-304; Williamson, D., L. Ehrman and P. Kernaghan 1971 P.N.A.S. (in press); Brinton, L.P. and W. Burgdorfer 1971 J. Bacteriol. 105:1149-1159; Tamara, A., Matsumoto, A., G.P. Manire and N. Higashi, 1971 J. Bacteriol. 105:355-360.

P. Kernaghan acknowledges support of Nih Grant #AI09945.

Lefevre, G., Jr. San Fernando Valley State College, Northridge, California. Crossing over in an insertional translocation.

A cytogenetic analysis of some EMS-induced sex-linked lethals unexpectedly revealed an insertional translocation in which a segment of X extending from 1D1-2 to approximately 5C5-6, i.e., from su (w^a) through cv, was inserted in direct order near the tip of 3R, just before 100E1. This translocation, designated as T(1;3)SFV-70k, is illustrated in Fig. 1. The aneuploid deficiency segregant is lethal as a heterozygous female; the duplication segregant survives as a fertile female, but is lethal as a male.

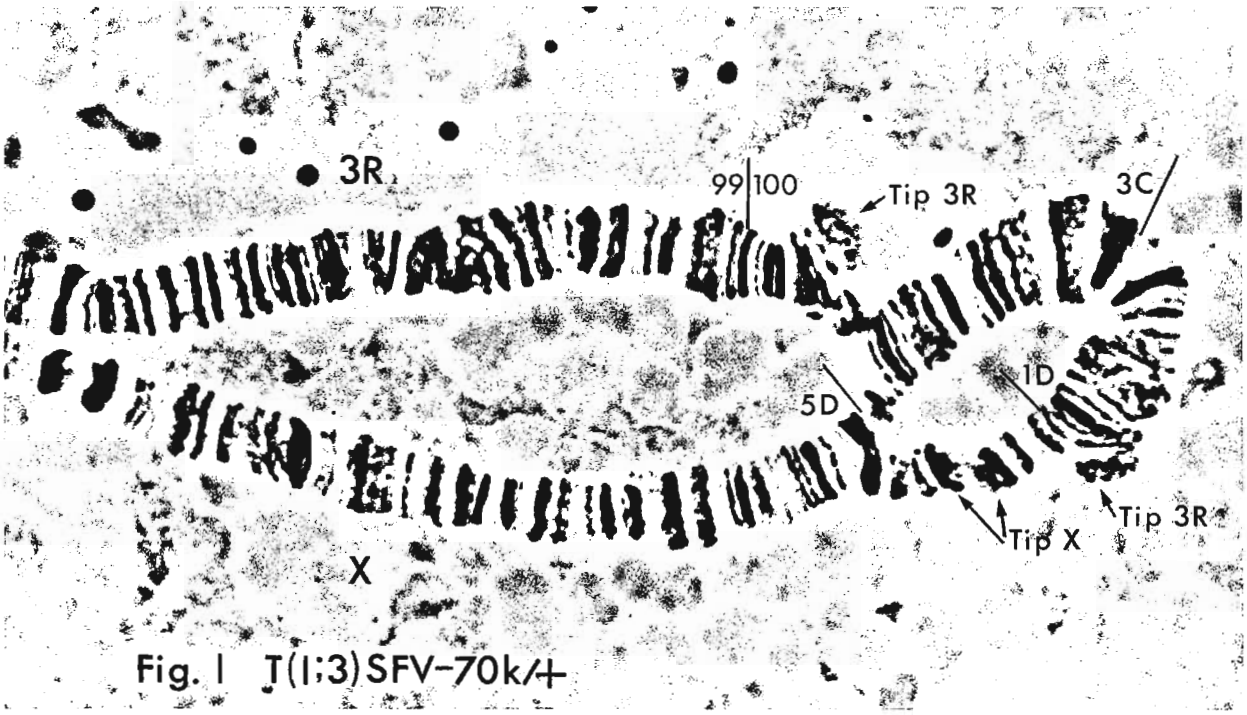

Fig. 1 T(1;3)SFV-70k/+

Because of the favorable orientation and location of the inserted material, an attempt was made to recover a single crossover between it and a normal, marked X. Although only a portion of such crossovers should be identifiable, a total of 4 were found among 2,551 daughters of $T(1;3)/y^2$ w^a ec cv ct f females. Each of these recombinant daughters carried one T(1;3) chromosome in which the original insertional translocation had been converted by the single crossover into a reciprocal translocation. However, only a half-translocation was recovered in each recombinant fly. (Although the full reciprocal translocation can be recovered in a single individual, it should not be recognizable as a recombinant.)

The successful recovery of these crossovers demonstrates that effective synapsis does not require a zipperlike action initiated only at the telomere or centromere, but is compatible with the view of von Wettstein (PNAS 68:851-855, 1971) that precise synapsis between homologous elements can be initiated at any point.