The results obtained for the first groups of families available are as follows:

c.o. between P and tr-Mp in parental family.	% of progeny families showing no moves	moves	no. of families
0	73	27	55
0-5%	72	28	68
5-10%	58	42	33
10-30%	38	62	34

In the case of the families showing 5-10% and 10-30% crossing over, 43% and 39% of the moves, respectively, were to positions closer to the P locus.

Thus, it would appear from the data that transposed-Modulators located at positions close to P on the first chromosome are less likely to undergo further transposition than ones located at a greater distance from P. The data are still too limited to indicate clearly if the direction of move (closer to or farther from P) is also dependent on proximity to P.

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5. Uneven development of maize seedlings.

Symptoms very similar to those described by Koehler (Pericarp injuries in seed corn. Bulletin 617, University of Ill. Agric. Exp. Sta.) on maize plants originating from pericarp injured seed, also occur on young maize plants in the main maize growing areas of the Union of South Africa.

During the 1960-61 season three different experiments were planted with seed having different classes of pericarp injuries. These seeds were selected from commercial SA4 (a yellow hybrid) seed, by using the staining technique described by Koehler. Two of these experiments were planted on ground which had been planted with maize many times before and was known to be infected with certain root rotting fungi. The other experiment was done in a greenhouse in unsterilized soil from a maize field where 100% root rot infection had occurred during the previous season.

In all three experiments the plants grew well and plants originating from the different classes of pericarp injured seeds could not be distinguished from plants in the control plots. Thus it was impossible to correlate the Koehler symptoms with pericarp injury.

Under the South African climatic conditions and with the particular microbiological constitution of our soils it seems, therefore, as if pericarp injury of maize seed is not of such paramount importance as described for American conditions. The South African problem therefore calls for further investigation.

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1. The Wx/wx Locus.

A. Evidence of a different physical basis for intragenic and intergenic recombination in maize.

Heterozygosity for Dp 9 has been reported by Rhoades in these News Letters (32 and 34) to have a marked suppressive effect on recombination between loci in the short arm of Chromosome 9. Because of this pronounced effect on intergenic recombination it has seemed most desirable to test its effect on intragenic recombination in the Wx/wx locus. If, as some geneticists have suspected, there are different mechanisms for intra-and intergenic recombination, it might be possible to find agents which would affect one type of recombination without affecting the other as markedly or at all.

Accordingly, the heterozygote + + Dp + +/c sh N wx Gl_{15} as received from Rhoades was crossed by c +sh N wx^{90} + gl 15 in the 1960 greenhouse. In the 1960 growing season + + Dp + + gl 15/c + N wx^{90} + was crossed by c sh N wx^{s} gl_{15}. The colored waxy kernels which are crossovers should be + wx^{90} +/c wx^{s} gl_{15} and should nearly all carry Dp 9 (see Rhoades, M. N. L. 32). Such kernels from 3 ears were planted in the greenhouse in the late summer of 1960 together with colorless waxy c wx^{90} +/c wx^{s} gl_{15} kernels from the same ear as a control population. Subsequently, the C wx crossover class from other ears were planted without a corresponding control population. Pollen was collected on all plants, and the plants were pollinated by the c sh N wx^{s} gl_{15} stock, if possible. If such a pollination was not possible, the plant was selfed.