Considering first the <u>Wx</u> recombinants observed among the standard chromosomes, it is evident that the map derived from these data is roughly equivalent with Nelson's map, i.e., H21 is distal to C, 90 is proximal to C, while B and 90 do not recombine. There is an inconsistency in these data in that the 90/H21 heteroallele yields a value of 37.22×10^{-5} <u>Wx</u> recombinants, which is lower than expected in view of the relation between B and 90. B and 90 appear very close together and give equivalent values with C.

In the "relocated" <u>wx</u> series, the recombination values are reduced. The <u>wx</u> intragenic recombination value with T 5-9 4871 is less than one-half of that of the standard chromosomes, and in T 5-9a, one-quarter. Apparently, there is also an effect of season as is obvious in a comparison of the results from two different years (1967 and 1968). The data show that the shift of recombination values over seasons is unidirectional for both of the translocations in the consecutive years.

<div align="right">Ming-Hung Yu
Peter A. Peterson</div>

2. The synchrony of the mutation event.

One of the most obvious features of unstable loci in maize is the prevalence of states that are distinguishable in the time and frequency of the mutation event, i.e., phenotypically observable as size and distribution of colored spots on a colorless background. In a screening test for the origin of unstable a_2 alleles (a_2^m) from A_2, one unstable allele was found in which the mutation event occurred very late in the ontogeny of the corn kernel. It has been identified as $a_2^{m(4\ 1629)}$ and in this report will be referred to as a_2^m.

In order to measure the size and distribution of the mutation event (colored spots on a colorless background), counts were made of the various sized spots in designated quadrants at the crown of the kernel. Under a dissecting microscope, colored aleurone cells can be clearly and individually distinguished and the mutation events that cover one, two, three, four, etc. cells can be separated into classes. The kernels

examined were derived from testcross progeny with the $a_2{}^m$ allele in the female parent.

The lines were divided (for other reasons) into two groups and the distribution (in %) of sizes is given:

	A	B
1 cell	92.00	93.50
2 cells	5.40	3.85
3 "	1.25	.12
4 "	1.05	.10
5 and more	.30	2.43

It appears from the examination of the above abbreviated table that the mutation event takes place most of the time following the last cell division, since most are of the one cell type. This supports the allegation of the synchrony of the mutation event both within the kernel and between kernels on the same ear. The similarity in values even between different crosses (i.e., in a comparison of sib lines) shows a striking uniformity here also. At this time, it is hypothesized that the particular physiology associated with the terminal division of the aleurone triggers the event.

This particular $a_2{}^m$ cannot at this time be ascribed to the En system since it is unable to give positive results in the standard test for En. This may be a consequence of the lateness of the event for which the standard test for En is not sensitive enough.

<div align="right">

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1. <u>Phenotypic and genetic analysis of a new endosperm mutant y_9.</u>

In 1961 Dr. Kermicle gave me a new pale yellow endosperm mutant. The temporary symbol $w_{-Kermicle \#3}$ was given to it and this symbol has