

premeiotic interphase. Attempts to induce incorporation of label into sporocytes of excised whole or chopped up anthers submerged in medium containing  $H^3$ -TdR have been unsuccessful.

Carolyn Cronenwett  
Marjorie P. Maguire

3. Further studies on disjunction at anaphase I of the chromosomes of a trivalent configuration.

It was reported in the 1965 M.G.C.N.L. that progeny of 21 chromosome plants carrying reciprocal maize-Tripsacum interchange chromosomes appeared to show a deficiency of 21 chromosome plants from non-disjunctive distribution for the distal region of the maize chromosome 2 short arm. The preliminary results were consistent with the interpretation that a tendency existed for trivalents destined to have non-disjunctive distribution to orient so that only the 2<sup>I</sup> chromosome was directed toward the basal position. After addition of data from the 1966 season there is no significant difference in numbers of 20 and 21 chromosome progeny from non-disjunction as compared to disjunction and, therefore, no cause to suspect non-random metaphase I orientation of trivalents:

<u>disjunction</u>	<u>non-disjunction</u>
20 chrom. progeny - 430	260
21 chrom. progeny - 448	251

(Correction for estimated 8% non-disjunction of maize centromeres is included).

Frequencies of disjunction and non-disjunction for distal chromosome 2S from the trivalent described above have been studied from two lines of descent, one which had been outcrossed to L289 and the other repeatedly backcrossed to a Coop chromosome 2 tester. These have been found to differ significantly in non-disjunctive frequency (19% and 37% respectively) although each was internally homogeneous.

M. P. Maguire

WASHINGTON UNIVERSITY  
St. Louis, Missouri  
Center for the Biology of Natural Systems

1. Evidence for the inheritance of acquired characters.

The R gene conditions aleurone pigment in the endosperm of maize. When R is removed from a heterozygote with its allele R<sup>st</sup> (such R alleles are symbolized R<sup>1</sup>, one generation with R<sup>st</sup>), less pigment is produced. This phenomenon is called paramutation and has been reported on by the Wisconsin Maize Laboratory over the past ten years.