+ + ms/wx v + selfed, and similar strands for Ar. Unquestioned orders are Wx-D3-Pg12-Ms2-Gl15-Bk2-Wc-Bf-Bm4 and Wx-D3-Ar-V-Gl15. If Ms_2 is to the right of V and Ar, then Ar, V, and Pg12 are consecutive "non-alleles" and will require special tests for placement. Accepting all presumed orders, the Wx-Bk_2 interval would be as follows:

$$Wx - 3 - D_3 - 2? - (Ar, Pg_{12}) - 1 - V - 1? - Ms_2 - 2 - Gl_{15} - 10? - Bk_2$$

Data for V8587 indicate it to be to the right of wx. It is a yellow virescent, from E. G. Anderson, non-allelic to ar and v1 and phenotypically unlike pg12. Data for Wh8-9b, a dominant white endosperm character with dosage effects, also from Anderson, indicate placement in the distal part of 9L. This is a clear-cut character in strong yellow stocks when segregating in the female, it is unlike Wc, causing uniform dilution rather than white cap.

The correct position for bk_2 is distal to TB-9a (9L.5); previous tests (Newsletter 38:110 note) were inadequate. Four hypoploids from bk_2 bm_4 x +/TB-9a were bk bm.

E. H. Coe, Jr.

Table 1
Recombination data for 2-point intervals in Chromosome 9

XY	Phase	XY	Xy	xY	xy	Total	Recombination Number	Percent
Bf V8587	RS	88	55	46	10	199	-	35.4±6.1
Bf Wh8-9b	CB	236	31	24	204	495	55	11.1±1.4
Bk_2 V	RB	16	139	95	15	265	31	11.7±2.0
D_3 Gl_{15}	CB	348	14	15	306	683	29	4
	RB	0	99	65	1	165	1	1
						848	30	3.5±0.6
D_3 V	RB	7	142	143	2	294	9	3
	CB	118	3	6	111	238	9	4
						532	18	3.4±0.8
Gl_{15} Ms2	RB	5	339	335	5	684	10	1.5±0.5
Gl_{15} Pg12	RB	1	79	70	2	152	3	2
	CB	509	21	22	566	1118	43	4
						1270	46	3.6±0.5
Gl_{15} V	RB	0	20	16	1	37	1	3
	CB	120	4	2	157	283	6	2
						320	7	2.2±0.8
Sh V8587	RS	121	37	31	2	191	-	29±7
V8587 Wx	RS	107	39	45	0	191	-	<17

Table 2
3-point Testcrosses in Chromosome 9

F_1	Parental	Reg. 1	Reg. 2	1-2	Total
$\frac{+\ +\ +}{wx\ d_3\ gl_{15}}$	277 245 / 522	4 13 / 17 / 3.0±0.7	13 11 / 24 / 4.3±0.9	0 0 / 0 / c=0	563
$\frac{+\ +\ v}{wx\ d_3\ +}$	43 46 / 89	1 0 / 1 / 1.1±1.1	0 1 / 1 / 1.1±1.1	0 0 / 0 / c=0	91
$\frac{+\ +\ +}{wx\ d_3\ v}$	114 106 / 220	5 4 / 9 / 3.8±1.2	3 6 / 9 / 3.8±1.2	0 0 / 0 / c=0	238
$\frac{+\ ms_2\ +}{wx\ +\ gl_{15}}$	67 60 / 127	21 7 / 28 / 18.1±3.1	0 0 / 0	0 0 / 0	155*
$\frac{+\ +\ +}{wx\ pg_{12}\ gl_{15}}$	448 528 / 976	38 61 / 99 / 9.4±0.9	20 17 / 37 / 3.8±0.6	4 2 / 6 / c=1.5	1118
$\frac{+\ +\ bk_2}{wx\ v\ +}$	50 88 / 138	4 8 / 12 / 8.7±2.1	11 9 / 20 / 13.3±2.6	0 3 / 3 / c=1.5	173
$\frac{+\ +\ +}{wx\ v\ gl_{15}}$	116 151 / 267	6 4 / 10 / 3.9±1.2	2 3 / 5 / 2.1±0.9	1 0 / 1 / c=4	283

*F_1 used as male; heterofertilizations resolved

2. Recombination and cytological analysis of B'.

Dr. A. E. Longley has obligingly examined sporocytes from plants involving different combinations of B, B', and b. No aberrations in chromosome 2 were found in 3 plants of B B, 7 of B' B, 1 of B' B', 9 of B b, and 11 of B' b, including several sib or parallel-origin comparisons.

Most of these plants were + + +/lg gl2 v4, and were backcrossed to lg gl v (Tables 1 - 3).

Table 1
Lg - Gl$_2$ - V$_4$ Recombination

Genotype*	Parental	Region 1	Region 2	Doubles	Total
B'/mB	173	84	97	14	368
b/mB	314	130	207	39	690
B'/mb	572	162	297	45	1076
B/mb	219	53	145	17	434
Total	1278	429	746	115	2568

*mB and mb represent B and b with recessive markers

Table 2
Recombination Percentages and Coincidence

Genotype	Lg-Gl	Gl-V	Coincidence
B'/mB	26.6*	30.2	0.47± 0.107
b/mB	24.5*	35.7	0.65± 0.082
B'/mb	19.3	31.8	0.68± 0.083
B/mb	16.1**	37.3	0.65± 0.128
All Samples	21.2	33.5	0.63± 0.048

*,** Significant at 5% and 1% levels, respectively, relative to total (X^2 test)

Table 3
Combined data for B'-bearing and B'-free

Genotype	Lg-Gl	Gl-V	Coincidence
B'-bearing	21.12±1.07	31.37±1.22**	0.62±0.067
B'-free	21.26±1.22	36.30±1.43	0.65±0.070
All samples	21.2	33.5	0.63

**Highly significant difference from B'-free value

Apparently B' decreases crossing-over slightly in the Gl - V region but does not influence interference, although an increase in interference may occur in "converting" heterozygotes. These observations are consistent with conception of B' as involving an appended element or material, or altered parachromatin.

E. H. Coe, Jr.