B the odds against the possibility that the difference between reciprocal crosses is due to chance are nearly, and in excess of a million to one, respectively. In crosses C and D also the difference is obvious.

TABLE 1[2]

Experiment	Type of cross			No. F_1 ♀s	Percentage mammary tumors
A	D ♀ (high tumor line)	×	C 57 blk ♂ (low tumor line)	61	36.06
	C 57 blk ♀ (low tumor line)	×	D ♂ (high tumor line)	307	5.53
B	D ♀ (high tumor line)	×	*M. bactrianus* ♂ (low tumor line)	69	68.11
	M. bactrianus ♀ (low tumor line)	×	D ♂ (high tumor line)	27	7.41
C	A ♀ (high tumor line)	×	X ♂ (low tumor line)	22	86.3
	X ♀ (low tumor line)	×	A ♂ (high tumor line)	6	0.0
D	Z ♀ (high tumor line)	×	I ♂ (low tumor line)	30	90.0
	I ♀ (low tumor line)	×	Z ♂ (high tumor line)	10	0.0

The greater influence of the female as compared with the male parent in determining the incidence of spontaneous mammary tumors in mice is thus clearly established. This fact makes necessary a reconsideration of any genetic conclusions drawn from data in which only one of the two types of crosses has been considered, or in which the two types have been treated as one.

The persistence of the difference in the F_2 generation has been demonstrated by an extensive study of over 1,100 F_2 females derived from Experiment A. These show the following incidence of mammary tumors.

Derivation of F_2 ♀s	Total F_2 ♀s	Percentage with mammary tumors
F_1 (D ♀ (high tumor) × C 57 ♂ (low tumor)) *inter se*	650	31.07
F_1 (C 57 ♀ (low tumor) × D ♂ (high tumor)) *inter se*	489	7.39

The F_2 females derived from the high tumor grandmothers and high tumor F_1 mothers give again a significantly greater incidence of mammary tumors. The chance of the two F_2 groups being similar is much less than one in a million.

This establishes the transmission of extra-chromosomal influence. Because of that fact the simple Mendelian genetic nature of the biological agents influencing the etiology of spontaneous mammary tumors is definitely disproved.

This should not be taken as denial of the existence of chromosomal influence. There is clear evidence that such influence also is present and effective. Further studies are already under way to attempt to determine more accurately the nature and extent of both chromosomal and extra-chromosomal influences.

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[2] No detailed comparison between experiments A, B, C and D should or will be attempted until complete results are published. The important point at present is the consistent nature of the difference between the reciprocal crosses.

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