Mglinetz, V.A. Institute of Medical Genetics, USSR Academy of Medical Sciences, Moscow. Interaction of homoeotic mutations Pc^2 and Cbx.

As Pc mutations affect not only the leg but also the wing development (Denell 1978) it seemd worthwhile to investigate whether or not such mutations show interaction with wing to haltere transforming mutation Cbx. The rate of Cbx induced homoeosis was estimated as the size of wings and halteres and that of Pc^2 as the number of sex comb teeth in Cbx/TM1,Me ri sbd^1, Cbx/h Pc^2red, and h Pc^2red/TM1,Me ri sbd^1 flies. The estimates per fly rather than body side were preferred. 50 males were examined in each of the strains kept at 25°C. The data obtained are presented in the table.

	$\bar{X}\pm s_{\bar{x}}$				
	area, mm^2		no. sex comb teeth on tarsi of legs		
Strain	halteres	wing	I	II	III
Cbx/TM1	1.28±0.11	19.59±4.08	22.44±1.42	-	-
P	<0.001	<0.001	<0.001		
Cbx/Pc^2	1.70±0.14	4.74±2.10	24.70±1.70	5.52±3.46	1.74±2.06
P	<0.001	<0.001	<0.05	<0.001	<0.01
TM1/Pc^2	1.46±0.14	76.83±5.45	23.32±1.73	1.52±2.35	0.44±1.00

Rather small but significant differences were found in haltere size, which could be well due to Pc^2 induced enlargement of the halteres, the latter being better expressed in Pc^2 than in Cbx strain. The wing size was also found to be substantially strain-dependent: in Cbx over Pc^2 strain a sharp reduction in wing size due to enhancement of wing to haltere transformation was observed.

The number of sex comb teeth in the first leg pair varied only moderately, being somewhat higher in Pc^2 bearing strains. In the second and third leg pairs the sex conbs developed only when Pc^2 was present in the genotype and the number of teeth increased when Cbx was present.

Thus, Cbx and Pc exerted mutual enhancement of their homoeotic effects, which means that Pc locus is active not only in the leg discs but in the wing and haltere ones, also; similarly the Cbx is active not only in the wing disc, but in the leg ones as well. No second to third leg transformation could be traced in either Cbx/TM1 or Cbx/Pc^2 strains.

Reference: Denell 1978, Genetics 90:277.

Mglinetz, V. A. Institute of Medical Genetics, Moscow, USSR. Temperature-sensitive period (TSP) of lethal action of split (spl) in D. melanogaster.

A number of temperature-sensitive alleles are known in a complex locus of Notch. TSP of some of the Notch alleles suggests the activity of the locus from embryonic to prepupal stages (Foster 1973). No temperature sensitivity was found in spl belonging to the same complex locus (Shellenbarger and Mohler 1975; Portin 1977). However, spl stock from the Institute of Cytology and Genetics in Novosibirsk was found to be heat sensitive; when kept at 29°C the mutant larvae died in the first instar. TSP was estimated in samples of eggs laid within successive 6 h periods. 24 h heat treatment (29°C) was applied to fertilized females, embryos, and larvae of all three instars (taking the time of oviposition as the zero age). In each sample the eggs and the imago were counted. The results obtained are shown in Fig. 1 in which a distinct TSP corresponding to the last 30 h of oogenesis may be seen.