oil, (d) 2-methyl-1,4-naphthohydroquinone, dissolved in 0.96% KCl, and (e) 4,4-stibendicarboxamidine, dissolved in 0.96% KCl. In all experiments sub-lethal doses of the chemicals were administered by means of injection of imagines, except that in (c) we also exposed imagines to a sesame oil aerosol. The wild-type males treated (Berlin-wild) were tested for sex-linked recessive lethals by the ClB or Muller-5 method. The mutation rates of the control groups (treated only with KCl, NaCl, citric acid, or sesame oil) varied from 0.2 to 0.5%. The following table shows the results. Apart from the well known mutagenic agents ethylurethane and tri-(2-chlorethyl)amin, there were no significant increases in frequency of lethals after treatment with (c), (d), and (e).

Compound tested	No. chromosomes tested	No. lethals	% lethals
(a) Injection - 0.3%	1394	22	1.58
(b) Injection - 0.10	172	3	1.74
- 0.03	353	19	5.38
- 0.01	1189	38	3.20
(c) Injection - 2.3%	3220	22	0.68
Aerosol - 2.3% 48 hours	2298	4	0.13
(d) Injection - 1.0%	1496	4	0.27
- 0.01%	1245	10	0.80
(e) Injection - 1.0%	662	4	0.60
Control group (injection of NaCl, NCl, or critric acid)	3741	14	0.37

Waddington, C. H. Selection of the genetic basis of an acquired character. Developing flies of a wild-type strain or ginally collected in Edinburgh were giver temperature shock by being placed at 40° for four hours at about 21-23 hours afte pupation. A crossveinless phenocopy was produced with a frequency of about 40%. One selected line was started from the crossveinless flies, the pheno copies being bred from in each generation; in a second selected stock, breed. ing was from those which did not show the phenocopy. After 15 generations, the frequency of phenocopies had become over 90% and under 10%, respectively. In the twelfth generation of the upward-selected stock, crossveinless flies appeared even among the individuals to which the temperature shock had not b given. When these were bred from, the condition was certainly inherited, probably by a gene of incomplete penetrance whose behavior has not yet been fully worked out. Thus the crossveinless condition, initially produced as a response to an environmental stimulus, has during the course of selection picked up a genetic basis which enables it to appear in the absence of the stimulus.

Wallace, Bruce, and Demerec, Rada A test for translocation mosaics in Drosophila sperm exposed to nitrogen mustard aersol. In a recent article (B. Wallace, Dominan lethals and sex-linked lethals induced b nitrogen mustard. Genetics 36: 364-373, 1951) it was suggested that the genetic test for translocations (y; bw; e) may f