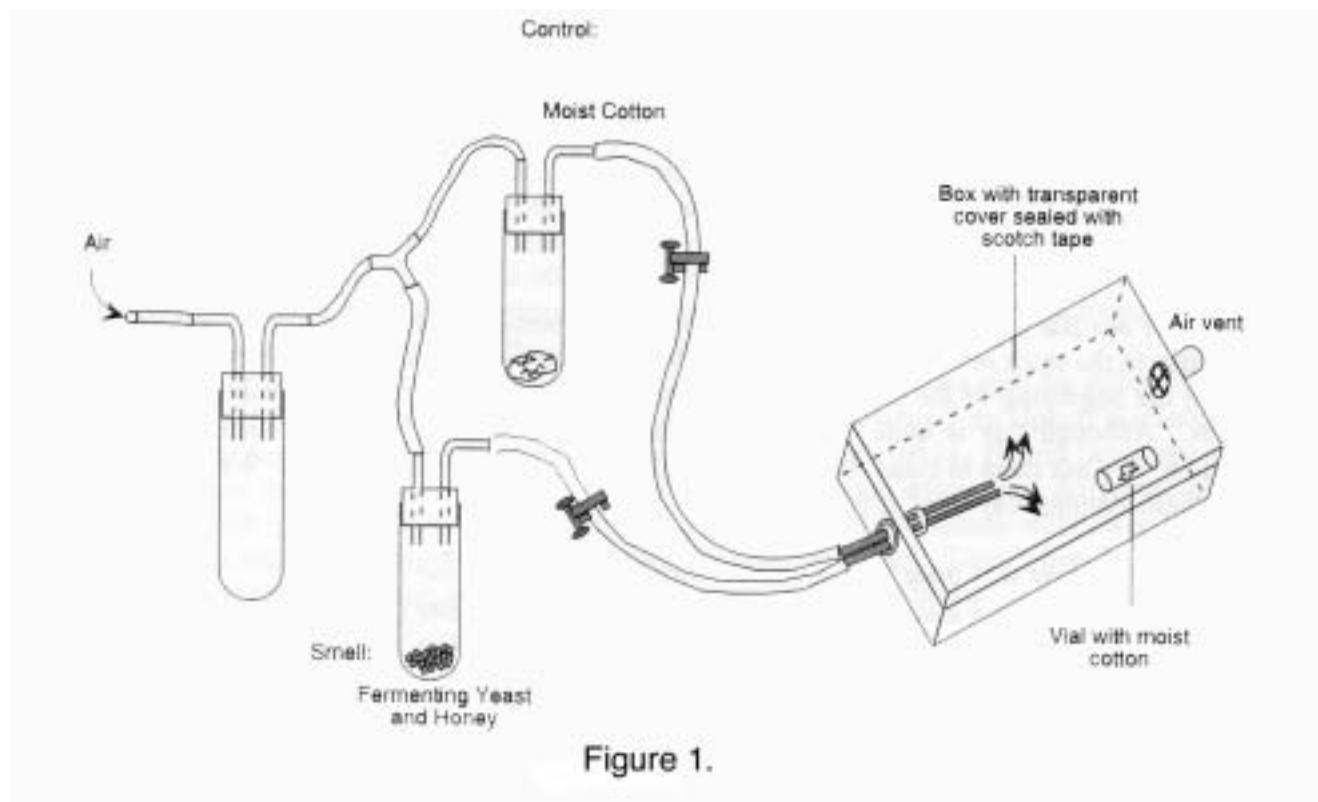


Genetics of behavior.

Rizki, M.T.M. [reprinted from DIS 31: 183, 1957].

We have been doing some experiments on the response of normal and mutant strains of *D. melanogaster* to the smell of food, in order to demonstrate the possible influence of inheritance on the behavior pattern of flies. A simple apparatus constructed from a cardboard box with a transparent cover is sufficient to carry out these experiments (see drawing). Air saturated with the desired mixture is blown through rubber tubing into the box. Flies are generally starved overnight and conditioned in the plastic-covered box, which contains a small vial of moist cotton. The flies will respond to the control of moist air if water is not available during the conditioning period. Desiccation is also avoided. When air saturated with the odor of yeast and honey is blown into the box, the following components of behavior of Oregon-R flies can be observed in an orderly sequence: (a) fluttering of



wings, (b) shaking of abdomen, (c) looping or circling, (d) walking straight to the orifice of the tube which is the origin of the odor. This experiment can be modified by introducing other variables, such as different kinds of smells and different mutants. Students have found these experiments interesting and instructive, particularly those who are interested in psychology and behavior.