respect to their "relative viabilities" under certain conditions, with a pure-bred, standard stock of another species, using the method of overcrowded bottles with equal numbers of eggs of the two types (see my paper in Arch.f.Naturgesch., 2: 285-290,1933). This method was applied in studying the "relative viabilities" of geographically different populations of Drosophila melangaster and Drosophila funebris under different environmental conditions (food, moisture, temperature), using a standard inbr ed melanogaster-stock for testing different funebris-populations, and a standard inbred funebris-stock for testing different melangoaster-populations. In small culture-vials with food (yielding normally about 100-120 flies) were put 150 (or 200) eggs of the standard stocks of one of the species and the same number of eggs of the population of the other species to be tested; the number of hatching flies of each species were counted, and the tests were repeated until large enough numbers of flies were obtained. The different popu lations of one species could so be compared inter se, using as a scale their differences from the same standard stock of the other species. These experiments are not yet completed; but the results already obtained show that many of the geographically different wild population, although morphologically indistinguishable, can show remarkable hereditary differences in their physiological properties, a part of these differences being clearly of the type of ecological adaptations. At the same time, experiments of Muller and of myself showed that mutations producing only slight deviations from the "normal relative viability" are produced by x-rays at a rate about twice as high as that of the lethals (Muller's paper read at the 4.Intern.Radiol. Congress and my paper in Strahlentherapie,v.51). Such "slight physiological mutations" are probably also the most common type of spontaneous mutation. These mutations are probably used by natural selection in order to differentiate the species into biotypes and races, adapted to different geographical environments.

Technical Notes

Margaret E. Hoover
Transportation of Drosophila cultures

For mailing Drosophila, we have been using 7 x 2cm. shell vials. The vials contain a small amount of the usual corn-meal-agar prepared food, innoculated with yeast, and a strip of paper is inserted to prevent the food from running onto the sides of the vial. From one to seven vials will easily fit into corrugated paper boxes (8 1/2 x 6 3/4 x 6 3/4cm) If the vials are wrapped in paper and tightly packed on all sides by cotton, there is no danger of breakage. We have found this to be a very satisfactory method for transporting stocks. Both Drosophila melanogaster and virilis cultures have been satisfactorily shipped as far as Japan. The mailing costs are low. The packages may be sent third class in the United States and as small packets or samples to foreign countries. A full package will usually not weigh in excess of six ounces.

J.C. Li Isolation of larvae

In the Yenching Laboratory we have developed a technic by which not only eggs but also larvae of D.melanogaster can be isolated within one hour of their hatching. It is essentially the same technic developed by Li (see Li '27 appendix p.55-57). The