fixation which is equivalent to fixation by the corresponding aqueous fixative. It was found that heptane or octane did not injure the cytoplasm unduly, while penetrating well through the vitelline membrane. An egg remains alive if submerged in these solvents for 10 minutes or more. The eggs become fixed in heptane loaded with acetic acid, picric acid, acrolein or glutaraldehyde, in less than one minute and can remain in the fixative for several minutes before beginning to shrink.

In order to facilitate the penetration of post-fixatives, colorants or dehydrating liquids, the vitelline membrane should be removed after initial fixation. To do this, the egg is transferred into the aqueous phase of the fixative and the membrane torn away with sharp needles. Surface tension helps to remove the membrane and the egg falls into the liquid. This operation can be performed best in 30% acetic acid, but after some practice, one can do it also in other fixatives.

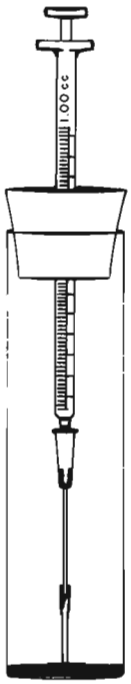
Fixation in heptane containing acrolein or glutaraldehyde is quite adequate for electron microscopy. Cell inclusions and organelles are well fixed, the ergastoplasm has its normal appearance and mitochondria have well perserved cristae. The following procedure is used:

1. Dechorionate eggs.
2. Fix in heptane which has been shaken with a 10% solution of acrolein or 25% solution of glutaraldehyde, for 1 to 2 minutes.
3. Remove the vitelline membrane in a buffered glutaraldehyde solution (conventional electron microscopy fixative).
4. Fix in the same solution for 1 hour.
5. Wash with buffered physiological solution.
6. Post fix with osmic acid 2 to 24 hours.
7. Further processing for embedding like any other tissue.

This fixation may be useful also in other cases where lipophilic membranes prevent the penetration of the usual fixatives, e.g. to fix Drosophila larvae and adults.

Félix, R. National Commission of Nuclear Energy, Mexico City, Mexico. A system for feeding liquids to adult flies.

The following method may be used as an alternative to injection of solutions to Drosophila flies, especially when several treatments with liquids should be tested in adults at separate time intervals. This system is particularly effective as the solution is administered during a period of time that may be lengthened to several days. It proved effectual for feeding cyclamates and cyclohexylamine to Drosophila melanogaster.



The liquid is gradually injected by means of a thin hypodermic syringe that goes through a hole of a rubber plug occluding the 2.8 x 9.0 cm vial, into a double layer of filter paper. The piece of polietilene tubing (Intramedic, Clay Adams, Inc.) adapted to the needle of the syringe, touches the filter paper, assuring a continuous delivery of the solution, when the embolus is pushed in.

The quality of filter paper cut to fit the bottom of the vial is important because it must be sufficiently absorbent to remain moist, without retaining an excessive amount of solution, which would drown the flies. Whatman 3 filter paper was used for such a purpose.

The syringe may be removed without the removal of the rubber plug, thus avoiding the escape, as well as the squashing of the flies, that occurs if the plug is removed and replaced. The amount of solution contained in the syringe (1.00 cc B.D. Yale turbeculin, Becton Dickinson) is enough to feed flies during several days. An additional pasteur pipette made at the laboratory with thin glass tube may be adapted through another hole, assuring the proper aeration of the vial, if the system is to be used during a period of several days without the removal of the flies.