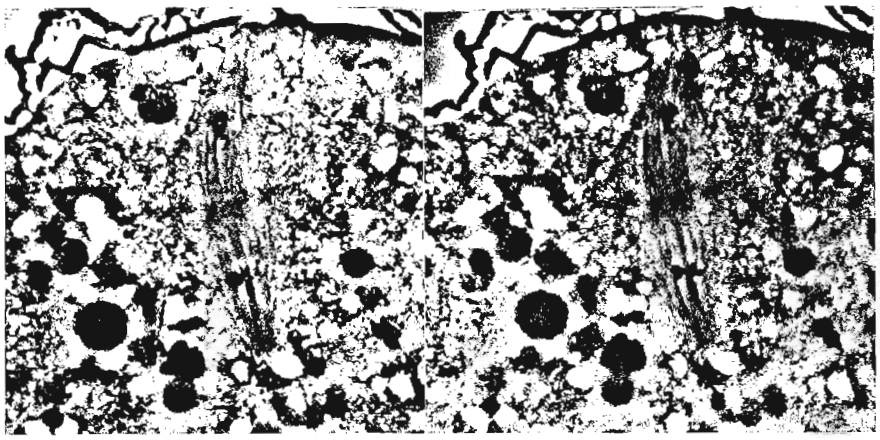
Evans, W.H. and J. Erickson. Western Washington State College, Bellingham, Washington. Application of E. M. techniques to light microscopy of meiotic stages in Drosophila eggs.

In order to investigate meiotic stages in Drosophila eggs, we have used plastic embedding and ultra-microtome techniques. Eggs are collected within 15 min. after laying by newly-mated females. The eggs are fixed in Kahle's fixative, Fuelgen-stained (von Borstel and Lindsley 1959), carried thru alcohol series to propylene oxide and embedded in Epoxy resin (Luft, 1961). Eggs are cut posteriorly to admit the various solutions but are not dechorionated. Thus, the chorionic filaments provide a reference for orientation of the meiotic spindle during the embedding. This is readily accomplished if the embedding is done in a silicone rubber flat mold (available from Ladd Research Industries, Inc., P.O. Box 901, Burlington, Vermont).



Two levels of focus, 2 micron section of first anaphase in an attached-X/Y egg. Phase contrast 1700x.

The blocks are trimmed with a file, cut at 2 μ and sections mounted in Permount. This technique may be applicable to investigation of bridges, fragments, nondisjunction and gross irregularities of meiosis in meiotic mutants.

References: Luft, J.H., 1961 Improvements in epoxy resin embedding methods. J. Biophys. Biochem., Cytol. 9: 409-414; von Borstel, R.C. and D.L. Lindsley, 1959 Insect embryo chromosome techniques. Stain Technology 34: 23-26.

Gordon, J.W. and R.C. Richmond. Indiana University, Bloomington, Indiana. A pressurized Drosophila media dispenser.

One of the more tedious aspects of the preparation of fly media is dispensing it into bottles or other culture containers once it has been prepared. We have designed and one of us (J.G.) has built a pressurized media dispenser modeled on a similar but more complex apparatus in use at the Rockefeller University. This device consists of a large pressure cooker (21 qt. cap.), a short length of washing machine drain hose (3/4" dia.) and a lever-type lawn hose gun (see figure). A hole is bored in the side of the cooker and a composite of plumbing fittings is obtained to fit through the hole and connect to the drain hose. A length of flexible copper tubing (1/4" dia.) runs from the fitting to the bottom of the cooker. The hose gun's valve rod is removed and the spray pattern removed by turning on a lathe. The gun is reassembled and the dispenser is ready for use. Media is prepared in the cooker with the lid removed. When the preparation is complete, the lid is put in place and the apparatus is pressurized from the lab air line (10 psi). Media is dispensed simply by pressing the lever on the hose gun. The apparatus can be used to fill 1/2 and 1/4 pt. milk bottles as well as vials and creamers. We routinely prepare 100, 1/2 pt. milk bottles of Spassky media (DIS 17: 67) in less than an hour.