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A Simple Chamber for Use in Aseptic Microdissection

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SUMMARY: A Perspex housing for a binocular microscope is described and the method is given for the production and maintenance of sterility inside it.

In embryo culture, tissue culture and microbiological work, there is often a need for simple chambers for aseptic working and a number of designs have been used. Many suffer from over elaboration in an attempt to maintain complete sterility in their interiors. Such chambers may become white elephants in the laboratory because of the time required to prepare them for use and their awkwardness. Cleaning and lighting also present problems. This note describes a simple chamber which overcomes some of these problems.

Fig. 1. Plan of chamber.

The chamber, illustrated in Pl. 1 and Fig. 1, is made of $\frac{3}{16}$ in. Perspex with two holes for the arms which can be closed by sheets of the same material. A strip of sponge rubber around the base of the chamber provides a seal between it and the sheet of plate glass on which it is mounted. The eyepiece aperture is designed so that the microscope can be used with or without a foot in an inclined or vertical position. It is closed with sheet polythene, though other plastics would be suitable, and to this sheet are fixed two tubes of the same material which are crimped on to the eyepieces by rubber bands.

Sterility is initially produced by spraying the interior with thymol (0.1 %) in ethanol. The sterilizing agent used will vary with the material being

dissected, but solvents of Perspex and substances which leave a hygroscopic or gummy residue must be avoided. The principles of aerial sterilization and the properties of different sterilizing agents were discussed by Bourdillon and others (1948). Humidity, an important adjunct in keeping the aerial population low, is maintained by a cylinder of filter-paper in a small dish of water. With the chamber closed under these conditions, agared slides on the microscope stage will stay moist for long periods.

The flaming of instruments *outside* the chamber avoids convection currents and the still air in the chamber is relatively little disturbed by movement of the hands in the course of manipulation. Petri dishes, which in the laboratory would be contaminated by opening sufficiently to plant tissue in the ordinary way, can remain uncovered and free from contamination in the chamber even after it has been in use.

REFERENCE

- BOURDILLON, R. B. (1948). Studies in air hygiene. *Spec. Rep. Ser. med. Res. Coun., Lond.* no. 262.

EXPLANATION OF PLATE

Fig. 1. Chamber fitted over microscope.

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W. R. STANTON—A SIMPLE MICRODISSECTION CHAMBER. PLATE 1