(4) The symbolism $A - - \rightarrow B$ usefully could represent A moves to B, the dashes pictorially representing the actual steps. It could cover affine conceptions: A is donated to B, etc., wherever movement is implied.

(5) The type of activity: A acts upon B, where A and B are entities other than molecules and not necessarily entities of the same kind, as when a hormone acts on an organ, conveniently could be represented by $A \nearrow\!\!\searrow B$, which pictorially puts A into the correct relationship. The existing use of this and other symbols in specialist branches of chemistry is not likely to cause serious confusion.

There remain a number of possible simple variants of the symbol for other distinct activities. All could be double-headed when required to represent reciprocal interactions and reversible processes. The present practice of writing the names of promoters of an activity over the shaft of an arrow should be extended and similarly the names of inhibitors, associated with short intercepts across the shaft. A convention that promotors are placed above a horizontal, and to the right of a vertical, arrow, and inhibitors on the opposite side, also seems reasonable. With advantage, authors might accept the conventions of Occam's axe in introducing new symbols; an apparently new relationship will often be covered by existing symbols or a combination of them, for example, $A \rightarrow B - - \rightarrow C$: '$A$ produces B and donates it to C'. Another convention which seems reasonable is that A, B, etc., must be entities and not activities, which are always represented by arrows. Thus the representation (6) above, namely, 'A causes an activity B', which might be the conversion of C to D, should be written $C \overset{A}{\Rightarrow} D$.

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A Simple Method for obtaining Perforated Supporting Membranes for Electron Microscopy

SUPPORTING membranes with holes are usually used for testing the axial astigmatism of the objective lens in electron microscopy. In the case of specimens which are difficult to focus they facilitate the focusing. Supporting membranes with a large percentage of open area are of great advantage for mounting thin sections, because the gain in contrast is considerable[1]. It applies also to specimens for testing the resolving power of the electron microscope or high-resolution work, when a very thin film of collodion can be mounted on these perforated membranes[2]. The holes will then enable not only the focusing but also a continuous control of the axial astigmatism. Several methods for obtaining holes in supporting membranes have been described[3–5]. Mostly 'Formvar' film is used; but to obtain reproducible results the methods are relatively complicated.

We have developed a simple method for obtaining holes in collodion films. This method does not differ from the others in principle, as it is based on the introduction of minute water droplets into the film;

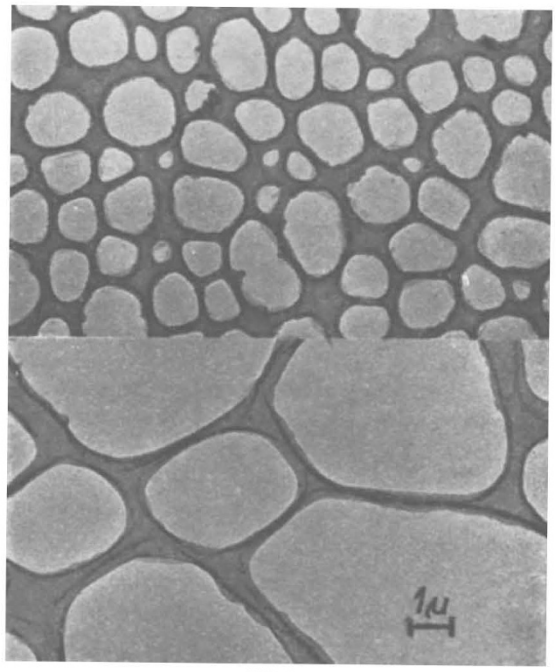

Fig. 1

but it does not require any special equipment and makes it possible to prepare the membranes or nets very quickly and in a reproducible way.

A solution of 0·2–0·3 per cent collodion solution with *iso*amyl-acetate as solvent filling up about a half of a small glass vessel is used. A thoroughly mechanically cleaned microscope slide is dipped into the solution and held for about 30 sec. in a vertical position above the solution surface. Then the slide is removed from the vessel and breathed upon after some few seconds. Breathing upon the film on the slide may be repeated several times at intervals of a few seconds as long as the solution is evaporating. The forming of the film area with holes can be easily followed by observing the film, because this area has a 'foggy' appearance. According to the length and intensity of the breathing a narrower or broader strip of film with holes is formed. The film from the slide is easily floated off on to a water surface and the areas with holes are transferred to specimen grids. Before using, the film with holes is stabilized by evaporation of carbon or metal.

The size of the holes depends on the width of the 'foggy' strip. For most purposes a width of about 1·5 mm. is suitable. In a narrower strip small holes arise; in broader ones a net is formed. If the area with holes is too broad the net is likely to shrink when being floated off. Electron micrographs of holes obtained in this way are shown in Fig. 1.

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