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An Auxiliary Apparatus for Plankton Studies by means of the Sedimentation Method.

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WHEN phytoplankton is counted in Utermöhl's reversed microscope, objects are often encountered which ought to be studied more carefully. It may be necessary to have them turned over or even moved to another microscope for examination under higher power in order to identify them. To facilitate work of this kind, the apparatus shown in Figure 1 has been constructed, by which slight movements of the water may be produced close to the object being studied.

The apparatus consists of a glass tube of 6 mm. outer diameter and 1 mm. thick, drawn out into a capillary with an opening of 0·4 — 0·5 mm. and bent as shown in Figure 1, at A. This capillary serves as a micropipette and micromanipulator. The pipette is attached to a mechanical stage by means of an arm, B. The mechanical stage is shown separately in Figure 2. It is mounted on the condensor stand by means of a swallow tail.

The micropipette is connected with an injection syringe, C, through a rubber tube, D. The syringe is placed in an elastic holder, E, screwed on to the microscope.

When an object is encountered which needs further examination, its position is noted and the rest of the field is counted. The cover-glass on top of the cylinder is then removed, and some of the water is pipetted off. The apparatus is put into place and moved so far down by the screw on the condensor stand that the point of the pipette is dipped into the water. A little water is sucked into the pipette by

means of the syringe, so that it reaches 1—1½ cm. into the thicker part of the pipette.

The apparatus is coarsely adjusted macroscopically by pushing and twisting the arm. As soon as the point of the pipette appears to lie over the axis of the objective, the finer adjustment is carried out by means of the screws of the special mechanical stage of the apparatus. The pipette is in place when its point is close above the bottom and is clearly seen in the microscope.

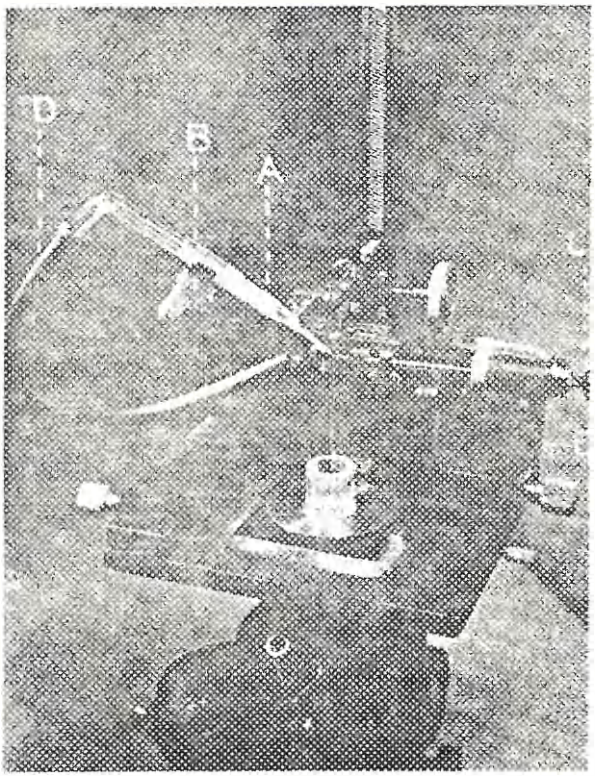

Figure 1.

The object to be studied is placed close to the mouth of the pipette and movements of the water are effected by pushing or sucking of the syringe.

If the object is to be moved to another microscope, it is placed under the point of the pipette, which has first been completely emptied of water, and the object is then sucked into the pipette by using the syringe. The transfer into the pipette may be controlled under the

microscope. The contents of the pipette are afterwards placed on a slide, and are ready for further examination.

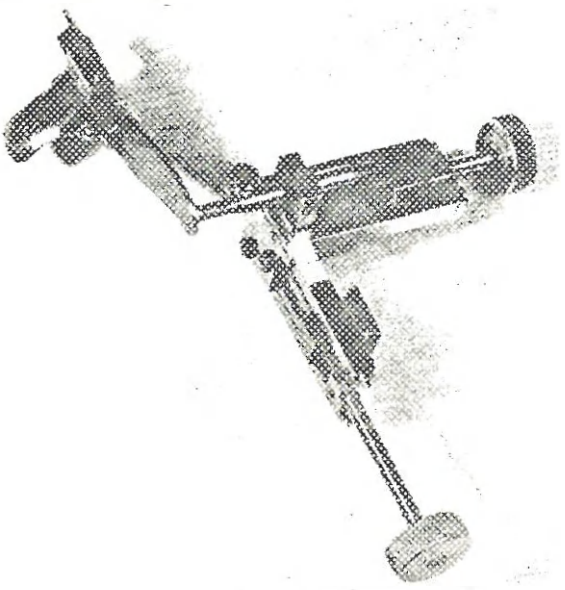

Figure 2.

This apparatus has been produced by Mr. Petter Pettersen, instrument maker at the Institute of Physics, University of Oslo.