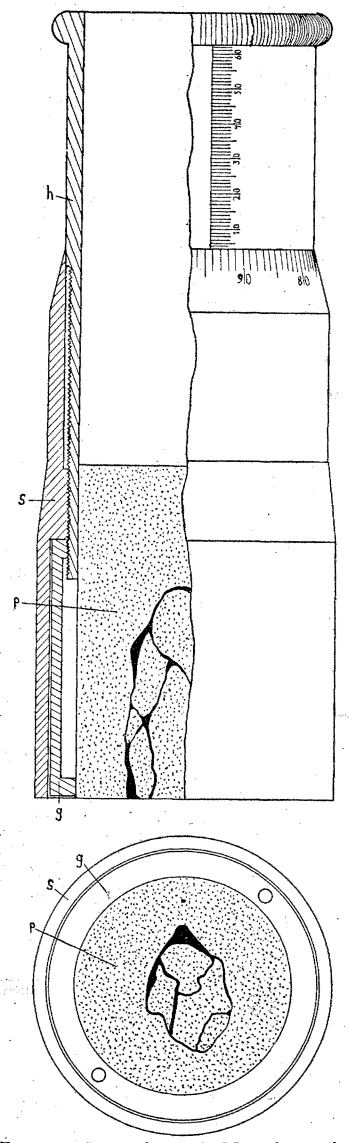

FIG. 1. Improved specimen holder for grinding serial sections. The upper figure represents, to the right, a lateral external view of the apparatus, and, to the left, a longitudinal section. The lower figure represents an end view. Both show a plaster block, with embedded specimen, in place at a stage when a section has just been completed. About one half natural size. g, guide for the plaster block, also serving as set-screw. h, holder. p, plaster block with specimen. s, sleeve.

the cleaning of grinding stone and specimen in order to prevent rust.

OTTO ZDANSKY

A MICRO-CONDUCTIVITY CELL OF SIMPLE DESIGN[1]

IN some recent studies of the rate of elimination of materials by the excretory system of insects, we have made use of the change in electrolytic conductivity of the physiological salt solution bathing the malpighian tubules as an indicator of change in overall salt concentration.

Since the volume of liquid was only about 20λ, it was necessary to use a conductivity cell of 10λ volume or less. While several micro-conductivity cells have been described,[2] they are not easily constructed, and they do not have the advantages of the pipette type in ease of filling and cleaning. Fig. 1 shows the complete cell, right, and a detail of the electrodes, left. For construction, pyrex capillary tubing of about 0.7 mm bore was broken cleanly and one of the cylindrical platinum electrodes with the lead attached was inserted and shaped to fill the tube, using a finely drawn glass rod as a tool. The two pieces of capillary were then reunited in a soft oxygen flame, taking care that the platinum cylinder completely filled the bore of the tube. The tube was then broken again at a second point and the second electrode was inserted in the same manner. Finally, the tip and safety bulb were formed, and the electrodes were ready for platinizing.

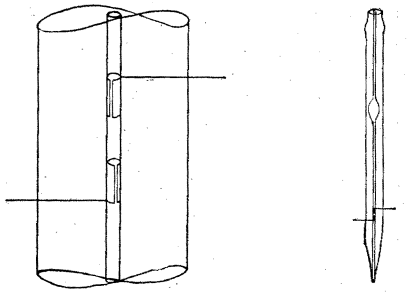

FIG. 1

A cell, as described, will have a resistance of about 2,000 ohms when filled with 1 per cent. NaCl solution. The cell resistance is accurate to 0.1 per cent. at constant temperature.

RODERICK CRAIG
ROBERT L. PATTON

[1] From the laboratories of insect physiology and toxicology, Division of Entomology and Parasitology, University of California, Berkeley, California.

[2] See, for example, H. L. White, *Jour. Biol. Chem.*, 99: 445, 1933.

BOOKS RECEIVED

CHAPMAN, FRANK M. *Life in an Air Castle; Nature Studies in the Tropics.* Pp. xii + 250. 31 plates. Appleton-Century. $3.00.

CURTIS, WINTERTON C. and MARY J. GUTHRIE. *Textbook of General Zoology.* Third edition. Pp. xvii + 682. 486 figures. Wiley. $3.75.

Der feste Körper. Pp. v + 154. 50 figures. S. Hirzel, Leipzig.

DIETRICH, HAROLD G. and ERWIN B. KELSEY. *Laboratory Manual to Accompany Introductory General Chemistry.* Revised edition. Pp. ix + 218 + 118. 14 figures. Macmillan. $1.90.

GOLDBLATT, L. A. *Readings in Elementary Chemistry.* Pp. v + 150. Illustrated. Appleton-Century.

NOYES, ARTHUR A. and MILES S. SHERRILL. *A Course of Study in Chemical Principles.* Second edition, revised. Pp. xxv + 554. Illustrated. Macmillan. $5.00.

PARENT, O. *Faune de France.* Pp. 720. 1002 figures. Lechevalier, Paris.

WHELPTON, P. K. *Needed Population Research.* Pp. xv + 196. The Science Press Printing Company. $1.00.