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THE NEED OF INSULAR EXPLORATION AS ILLUSTRATED BY BIRDS[1]

By ROBERT CUSHMAN MURPHY

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I

IF the track of every civilized inquiring traveler could be accurately plotted on a globe, there is little doubt that all but a few small portions would become entirely black, due to the crossing and merging of the countless lines. This would apply to nearly the whole of the ocean as well as to the lesser area of continents and islands. In short, modern man has seen his world and has mapped with extraordinary faithfulness somewhat more than three quarters of it. The "unknown," in the geographic sense, has become exceedingly restricted. On the other hand, the little known still looms amazingly large. The fact that the scope of knowledge is so vast and human interest so diversified means that only a few centers of ripe culture have been studied in any large proportion of the aspects that man's curiosity makes possible. The great bulk of travelers add much to their own store of information and enjoyment; they may also exert a cumulative influence in the field of international relations. Few of them, however, can be expected to add new accretions to the sum of exact knowledge.

When a well-informed layman begins to acquaint himself with the biological material in a great museum, he is likely to conclude that the fauna of the world has been rather thoroughly collected, preserved, classified and filed, or in other words that the strictly pioneering part of the task of getting acquainted with the earth's inhabitants has been finished. For a few groups be-

[1] An address delivered before the Science Section of the American Association of Museums at the Academy of Natural Sciences of Philadelphia, May 20, 1938.

depending on the diameter of the pin. The edges of the block are then smoothed with a sharp blade, but care should be taken not to mar the upper and lower surfaces where clear visibility is necessary. The block may also be trimmed away to form a surface of contact of any shape or size desired.

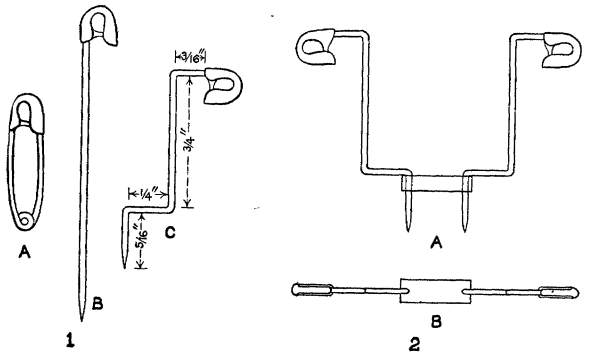

FIG. 1. Graft cover support made from small safety pin (A) straightened out (B) and bent at three points (C). ×1.

FIG. 2. Completed graft cover viewed from the side (A) and from above (B). ×1.

The supports are made by first straightening out the safety pins (Fig. 1, B). Each pin is then bent to form three alternating right angles (Fig. 1, C). The pins are then driven tightly through the holes in the block (Fig. 2). They may also be cemented in place.

The graft cover is used by centering it over the transplant and pressing the pin points into the plastic material until the cover rests evenly on the graft with sufficient pressure to hold it in place during healing.

This type of graft cover has the advantages of affording clear vision and of being easily manipulated, perfectly adjustable and of standard construction so that any one cover may be used for any graft, irrespective of the size or position of the embryo or the location of the transplant.

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A CULTURE SLIDE FOR DARK-FIELD MICROSCOPY

THE slide has a central circular stage about 3 mm in diameter which is surrounded by a circular moat approximately 0.9 mm deep and 4.5 mm wide at the top. The wall slopes away from the central stage so that the stage is at the upper surface of a truncated cone with a broad base. At a slight distance from the outer margin of the moat, a second narrow and shallow groove is cut in the glass, entirely encircling the moat. The surface of the central stage, the glass surface between the moat and the encircling groove, and the glass surface outside the groove are all on the same level so that a thin coverslip applied to the slide leaves only a capillary space between the under surface of the coverslip and the surface of the stage, while there remains a considerable space in the moat for culture medium to supply pabulum. The outer circular groove guards against contact of this medium with the vaseline or paraffin used for sealing the edge of the coverslip.

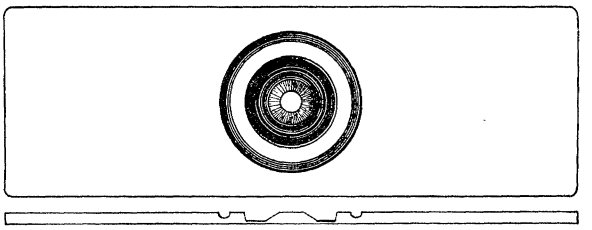

FIG. 1.

The upper drawing shows the pattern of the face of the slide. Below it is the pattern of the profile view of the median longitudinal section.

The measurements and the level of the stage may be varied in different models to meet special needs. At the present time two models are available. One of these is 1.15 to 1.20 mm thick for use with the Zeiss cardioid condenser and the paraboloid condenser of the Spencer Lens Company, and the other is 1.30 to 1.40 mm thick for use with the paraboloid condenser of Bausch and Lomb.

The slides are being made by C. A. Hausser and Son and may be obtained through Arthur H. Thomas Company, 230 South Seventh Street, Philadelphia, Penna.

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BOOKS RECEIVED

BUCHSBAUM, RALPH. *Animals without Backbones.* Pp. ix + 371. Illustrated. University of Chicago Press. $3.75.

EVE, A. S. and D. A. KEYS. *Applied Geophysics in the Search for Minerals.* Third edition. Pp. x + 316. Illustrated. Cambridge University Press, Macmillan. $4.25.

GRADWOHL, R. B. H. *Clinical Laboratory Methods and Diagnosis; A Text-book on Laboratory Procedures with their Interpretation.* Second edition. 44 color plates. 492 figures. Pp. 1607. Mosby. $12.50.

GRANT, JULIUS. *Wood Pulp.* Pp. 209. Chronica Botanica, Leiden, Holland and G. E. Stechert, New York. $4.00.

PERAZICH, GEORGE, and others. *Industrial Instruments and Changing Technology.* National Research Project. Pp. xiv + 148. 36 figures. Works Progress Administration, Philadelphia.

WILBUR, RAY LYMAN. *The March of Medicine.* Pp. x + 280. Stanford University Press. $2.75.