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THE FIRST FORTY YEARS OF THE SOCIETY OF AMERICAN BACTERIOLOGISTS[1]

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THE last ten years of the nineteenth century are perhaps best known by the term "the gay nineties." A more important taxonomic characteristic is perhaps expressed in the description of this decade, and the one preceding it, as "the golden age of bacteriology." Between 1880 and 1900, a new science was born, a science fraught with rich gifts of health and happiness for the human race and one which—unlike many other sciences—has been used by man only for beneficent purposes. It was natural, therefore, that toward the close of this century the devotees of this new science should organize for the better performance of their challenging task.

This tendency took shape in the establishment of the Laboratory Section of the American Public Health Association at the Minneapolis meeting in 1899. Our own society was, however, the first independent organization devoted specifically to the service of bacteriology in the United States—perhaps in the world.

The idea was first evolved by A. C. Abbott, H. W. Conn and E. O. Jordan at the 1898 meeting of the American Society of Naturalists, and the new organization was conceived as an affiliate of that society. On October 17, 1899, a circular letter was sent out by the three pioneers to some forty bacteriologists, and on December 28, 1899, the organization meeting of the Society of American Bacteriologists was held at the Yale Medical School, in response to this call. W. T.

[1] Address delivered at the Fortieth Anniversary Meeting of the Society of American Bacteriologists, New Haven, Conn., December 29, 1939.

THE USE OF A TRANSLONGITOME IN MAKING AND INTERPRETING ALTERNATE TRANSVERSE AND LONGITUDINAL SERIAL SECTIONS

BOTANISTS and zoologists have long recognized the difficulty encountered in interpreting the relationship of parts in transverse and longitudinal sections made from two different pieces of tissue. An alternating two-plane cutting attachment to be used in a rotary or sliding microtome has been developed by the writer. This instrument has been named a "Translongitome" at the suggestion of Dr. E. J. Kraus, Botany Department, University of Chicago. This device makes it possible to cut alternate transverse and longitudinal sections from the same block of tissue so that the alternate sections come from the microtome knife in one continuous ribbon.

The translongitome is fastened into the microtome clamp in relation to the microtome knife as shown in Fig. 4. This makes the sector swing through a 90-degree arc in a plane parallel to the knife edge. The hinged sector automatically locks or releases for each predetermined position. It is necessary to set the microtome to cut one half of the thickness desired as each face of the block is cut on alternate strokes. After adjustments are made for the two faces to come to the knife in the same plane and the paraffin trimmed for the correct width of ribbon the microtome is turned with a quick movement, stopping with the translongitome up each time and the sector shifted to the reverse position by means of the handle. The detail of the locking device and two-plane adjustment is not shown in the diagram.

Figs. 1, 2 and 3 indicate the method of preparing the paraffin block for attachment to the translongitome. Fig. 4 indicates a portion of the paraffin ribbon coming from the microtome knife. This paraffin ribbon is prepared in the usual manner and studied as serial sections. Fig. 5 shows the finished slide as the longitudinal and transverse sections appear in separate rows. It may be observed that the upper edge of the transverse sections matches the extreme lower edge of the longitudinal sections. Observation under the microscope of course makes these edges appear to be the inner rather than outer edges. A particular bundle or structure in transverse section will appear closer and closer to the cutting edge after each successive cut and when it reaches the cut edge it will appear in the next longitudinal section. It is always possible to determine the direction of the longitudinal cut with respect to the structure and to know the structure involved from the adjacent transverse sections. The cut edges show practically no disruption of parts, and it is possible to take a photomicrograph of a successive transverse and longitudinal cut edge and to match edges part for part or even cell for cell.

Slides prepared by this method are of great assistance in interpreting and determining relationship of parts in original research and are especially helpful in instruction in vascular anatomy.

D. M. CROOKS

UNIVERSITY OF ARIZONA

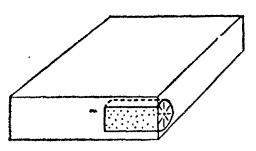

FIG. 1.

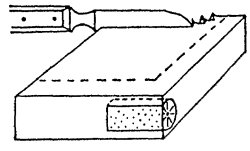

FIG. 2.

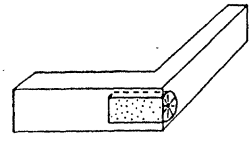

FIG. 3.

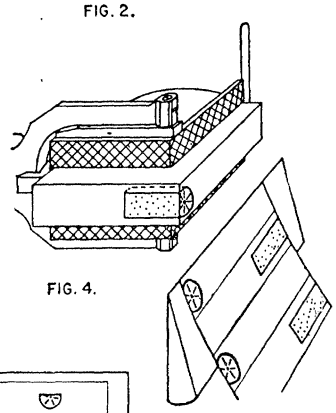

FIG. 4.

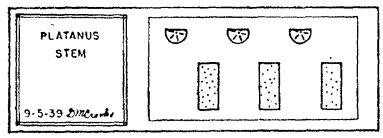

FIG. 5.

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