

a larger ellipsoidal paper support *E*, and at the other is a smaller semicircular support *F*.

In lieu of thumbscrews a simple alternative mechanism may be used to maintain constant tension on the kymograph paper. A length of coil spring or rubber tubing connects the outer end of wooden bar *A* to the inner end of wooden bar *B*. The tension exerted will tend to increase the length of the apparatus. The length and elasticity of the spring or tubing, as well as the points of connection on the bars, are adjusted to conform with the anticipated length of the kymograph paper. To mount the paper, the device is shortened (which increases the tension in the spring) and slipped into the smoked paper, as described below. The spring is then allowed to extend the bars. This simple, constant tension arrangement obviates the necessity of manipulating thumbscrews.

In the use of the device, the coating of smoke is applied to the paper, and the paper is loosened on the drums and slipped halfway off. The carrier is in-

serted between the ends of the paper thus exposed, with the larger drum on the bottom and the smaller one on the top. Sliding the two bars and tightening the thumbscrew makes the paper taut, yet easily removed from the smoking drums. It can then be carried by means of the device to the kymograph, the device inverted, and the paper first slipped over the large driving drum. Then the smaller kymograph drum is moved to full extension, allowing the paper to be retained on the kymograph. The thumbscrew of the device is loosened and removed from the paper. After this maneuver the final adjustments of the paper on the kymograph drums are made. After the completion of the kymograph recording, the operation is carried out in reverse and the paper is transported back to the smoking apparatus for shellacking.

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Book Reviews

Microscopic Histochemistry: Principles and Practice. George Gomori. Chicago: Univ. Chicago Press, 1952. 273 pp. Illus. \$6.00.

Microscopic Histochemistry is the first comprehensive review of both the theoretical bases and practical applications of the microscopic methods of histochemistry to be published since the classic but superannuated *Histochemie Animale* of Lison. Histochemistry is a relatively young laboratory discipline which deals with the identification and localization of the chemical constituents of cells and tissues. It embraces a variety of techniques that in general fall into two groups: (1) microchemical, the analysis of small amounts of tissue or isolated cellular components by modified biochemical procedures, and (2) microscopic, the characterization of chemical compounds in morphologically intact cells or tissues by such physical properties or chemical reactions as may be visualized with a microscope. This text is concerned only with the latter methods.

Dr. Gomori has divided his discussion into two parts: the first, a brief consideration of the general problems involved in microscopic methodology, including a commentary on the limitations and pitfalls likely to be encountered; the second, an extensive and systematic review of the various methods for demonstrating particular tissue components. In the latter section, each method is critically evaluated, and, in many instances, the author includes considerable information not previously published. Detailed directions are given for the procedures the author has found to be most satisfactory in his own experience.

As an acknowledged leader in the development of histochemical technique, Gomori is eminently quali-

fied to write authoritatively on this subject—and indeed has done so. His presentation, however, can be understood with an elementary knowledge of inorganic and organic chemistry and is annotated with more than 1000 references to the original sources. The methods described do not require special apparatus and can be applied by anyone familiar with the routine procedures of histology.

Microscopic Histochemistry will be invaluable as a reference book for the cytologist, histologist, or pathologist interested in the chemical morphology of cells and tissues, and should also be of interest to other microscopists as a supplement to the more general handbooks on technique already in use.

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The Advance to Social Medicine. René Sand; R. W. Parnell, Ed.; Eng. trans. by Rita Bradshaw. New York-London: Staples Press, 1952. 655 pp. \$8.50.

This scholarly volume by a distinguished proponent of the social uses and implications of medicine in its full range of services for the sick, and as an instrument of disease prevention and health promotion, reveals a lifetime of devotion, unusual industry, and tenacity of purpose. The 590 pages of economically phrased text, richly supplemented by generous footnotes, deals with practically all recorded civilizations and the history of science of nations around the world. The author quotes from many ancient and modern physicians, prophets, and philosophers.

The remarkably well-documented text is followed