cially their language. I may not live very long, nor do I wish to do so; but I fear that unless these data can be properly elaborated and published there would be lost with me to science a good deal that could not be replaced. My monthly salary is 48 rubles. In order properly to work up my data I would need about 250 rubles (approximately $125) a month for one year. The result would be a book of about 500 pages on the Yenisei Ostiaks. For the illustrations I have more than 100 photographs and 10 drawings, besides 40 *aquarelles* made under my direction by a Russian artist. These *aquarelles* alone would be a valuable acquisition for any museum.

It is to be hoped that Professor Anučin will find the help of which he is in need.

A. HRDLIČKA

U. S. NATIONAL MUSEUM

SCIENTIFIC BOOKS

A Handbook of Solar Eclipses. By ISABEL M. LEWIS. XI + 118 pp. Duffield & Co., New York. Price, $1.25.

THIS little book was undoubtedly one of the best sellers in New England and New York just before and after the eclipse of January 24.

It is intended to enable the layman to make the most of the few precious seconds of a total eclipse of the sun. It explains in non-technical language the cause of eclipses and describes clearly what to look for during an eclipse. There are chapters on the shadow bands, Baily's beads, the chromosphere, prominences and corona and general instructions for viewing a total eclipse. Herein are answers to most of the questions with which astronomers are bombarded before every eclipse.

There are also chapters of a somewhat more technical nature on the prediction of eclipses, the flash spectrum, the astronomer's eclipse program and the scientific importance of eclipses. A bit of history dealing with the noted eclipses of the past and a chapter on the total solar eclipses of the near future conclude the book. Special attention is given to the eclipses of January 24, 1925, January 14, 1926, and June 29, 1927. The path of the 1927 eclipse crosses northern England. It will be the first total eclipse of the sun to occur in the British Isles since 1724.

The book is well illustrated by reproductions of photographs of the eclipses of 1918, 1922 and 1923.

Mrs. Lewis has rendered a real service by putting this rather difficult subject into clear and simple language. A second edition with illustrations of the 1925 eclipse will undoubtedly be as popular in England in 1927 as the first edition has been here this year.

FREDERICK SLOCUM

WESLEYAN UNIVERSITY

LABORATORY APPARATUS AND METHODS

A METHOD OF DEMONSTRATING MESONEPHRIC TUBULES

IT is often of considerable advantage to the teacher of embryology or histology to be able to show the contour and extent of the structures being studied in sections. The method described here gives an excellent outline of mesonephric tubules and the preparation may be made in a very short time. A somewhat similar technique was employed in the study of the elimination of iron by the mesonephros of Necturus.[1] The essential feature of the method is the precipitation of the iron as Prussian blue in the lumina of the kidney tubules.

Chase[2] has shown that in the pelvic (secretory) portion of the mesonephros, there are two sets of tubules (primary and secondary) which have direct connections with the body cavity by way of outer segments (peritoneal canals) and nephrostomes. Substances placed in the body cavity accordingly find their way into the primary and secondary tubules by this route and are eventually eliminated, in part at least, through the Wolffian duct.

A balanced mixture of sodium ferrocyanide and ammonium ferric citrate, made by adding 10 parts by volume of a 3 per cent. solution of the former to 7 parts by volume of a 4 per cent. solution of the latter[3] was kept as a stock solution. A quantity of this was diluted 10 times and a sufficient amount injected into the body cavity to produce a mild distention. The animals were left from two to six hours and then killed by immersion in an aqueous solution of chloretone. Sufficient time should elapse before killing to allow the iron salts to at least reach the Wolffian duct. The time needed for this is variable. The mesonephroi are dissected free and fixed in a solution sufficiently acid to produce the Prussian blue reaction. Acid-formalin or Gilson's fluid is satisfactory. The kidneys may be kept in alcohol and studied as opaque objects or may be cleared. If cleared, benzol or toluol is preferred, as they remove some of the pigment present. Later the tissue may be transferred to some less volatile fluid as oil of wintergreen.

On the ventral surface of the preparation, the neck, distal to its junction with the peritoneal canal, the proximal convoluted portion, the narrow straight part and the distal convoluted portion of a tubule can be readily followed by means of the dense blue deposit in the lumen. On the dorsal surface, the short junctional portions, collecting tubules and the Wolffian

[1] Dawson, A. B., 1925, *Am. Jour. Physiol.*, in press.

[2] Chase, S. W., 1923, *Jour. Morphol.*, Vol. 37, p. 457.

[3] Collip, J. B., 1920, Univ. Toronto Studies, Physiol. Series, No. 35.