addition to the yeast. The first seven transfers of this culture induced symptoms of bronchitis in chickens when inoculated intra-tracheally. One type of organism overgrew the other, and it was no longer infective after the seventh transfer. The cultures in which no growth but yeast occurred failed to induce the infection in chickens, indicating the causative agent had grown in the one in which other organisms had been noted.

A culture obtained from the trachea near its bifurcation with the lungs was found to show, upon microscopic examination of stained smears of what appeared as pure yeast colonies, a moderate growth of an apparently pure culture of an organism which had been one of the types present in the first successful cultures. Chicken blood at the base of nutrient agar slants, inoculated with the same material, remained sterile.

The organisms in question are comparatively large, very irregular in shape, appear singly, double or in clumps, and are decolonized with Gram's stain after 24 hours' incubation. The shape may vary from irregular circular to pear or rod shapes.

The typical symptoms of the bronchitis have been successfully reproduced during twelve transfers of the cultures over a three-week period from the time they were first isolated. The same organisms have been successfully reisolated from the infected chickens, and in turn found to be capable of inciting the disease.

The organisms have repeatedly failed to grow in or on chicken blood and other types of media, so that further studies will be required before any identification is possible.

The use of such a medium has resulted in the isolation of an organism which may have otherwise escaped detection.

J. P. DELAPLANE
H. O. STUART

RHODE ISLAND STATE COLLEGE

PRESERVATION OF ANATOMICAL SPECIMENS

A SIMPLE method to preserve anatomical specimens for museum and teaching purposes may be utilized by applying the following solution; one part of formalin, three parts of 95 per cent. alcohol and two parts of ordinary white shellac. The cadavers from which the specimen is obtained have been preserved for varying periods of time from several months to a year or longer, with equal parts of 95 per cent. alcohol, phenol and glycerin, to which a small quantity of formalin has been added, approximately one pint to five gallons of the above solution.

Groups of muscles, leaving the origin and insertion upon the bones with nerves and blood vessels if desired, hearts and other organs have now been kept in this laboratory for the past five years with this method.

After dissection, if necessary, the material is allowed to dry from 8 to 24 hours and then with a sprayer two or three applications of the solution are used, allowing each to dry before another coating is given. Respraying the specimens every year or two helps to keep them in good condition.

JOHN R. PATE

THE GEORGE WASHINGTON UNIVERSITY
SCHOOL OF MEDICINE

CELLOPHANE USED FOR PROJECTION DRAWINGS

IN studying the vascular pattern of the thymus, a quick, inexpensive method for showing the relationships of vessels was found by projecting the sections on sheet Cellophane such as is used for wrapping parcels, etc. Different parts were represented by colored ink, and mistakes were easily rectified by washing them out. Composite line-drawings were made from a number of single sheets and these in turn put together, until the completed drawing was made. The Cellophane wrinkles somewhat when removed from the roll, but this has not been found to be a hindrance as the pieces were kept flattened out on cardboard by thumb tacks. This method has proved very useful when time and expense were limited.

CHRISTIANNA SMITH

MOUNT HOLYOKE COLLEGE

BOOKS RECEIVED

BERLAND, LUCIEN. *Les Araignées.* Les Livres de Nature, 43. Pp. xii + 173. Delamain et Boutelleau, Paris. 15 fr.

COATES, ADRIAN. *A Basis of Opinion.* (Philosophy.) Pp. xvii + 461. Macmillan. $4.50.

DANIELS, FARRINGTON. *Chemical Kinetics.* Pp. viii + 273. 41 figures. Cornell University Press. $3.25.

ELLIS, CARLETON and MILLER W. SWANEY. *Soilless Growth of Plants; Use of Nutrient Solutions, Water, Sand, Cinder, etc.* Pp. 155. 58 figures. Reinhold. $2.75.

KENDALL, JAMES. *Breathe Freely! The Truth About Poison Gas.* Pp. xi + 179. Appleton-Century. $1.50.

Life of Chevalier Jackson; An Autobiography. Pp. x + 229. Illustrated. Macmillan. $3.50.

MOORE, CHARLES N. *Summable Series and Convergence Factors.* Pp. vi + 105. American Mathematical Society, New York. $2.00.

MUNN, NORMAN L. *A Laboratory Manual in General Experimental Psychology.* Revised edition. Pp. viii + 285. 21 figures. Prentice-Hall. $1.90.

PORTEVIN, G. *Ce Qu'il Faut Savoir des Insectes.* Pp. 188. 8 figures. 20 plates. Lechevalier, Paris.

RAUP, HUGH M. *Botanical Studies in the Black Rock Forest.* Bulletin No. 7, 1938. Pp. vi + 161. Illustrated. Henry H. Tryon, Director, Cornwall-on-the-Hudson, New York. $1.50.

RITZMAN, ERNEST G. and FRANCIS G. BENEDICT. *Nutritional Physiology of the Adult Ruminant.* Pp. vi + 200. 3 figures. 3 plates. Carnegie Institution.

SIVADJIAN, M. JOSEPH. *La Chimie des Vitamines et des Hormones.* Les Monographies de Chime Pure et Appliquée (Nouvelle Série). Pp. 239. Gauthier-Villars, Paris. 50 fr.