geology and related sciences. The usual method involves wetting the cloth and the map, stretching the cloth on a mounting board, spreading paste on its surface, and smoothing and pressing the map with a rubber roller. The process is time-consuming, since the map must be allowed to dry completely before it is removed from the board. The necessary soaking of the map may cause an appreciable change in scale, or may damage certain colored maps. Subsequent unavoidable wettings in the field may loosen the paste or cause the cloth to shrink. An alternate method, which involves the use of paper-thin sheets of a pliable wax-like substance, known as Parafilm,[1] has been developed during the last two years at the University of Washington, having been first suggested by Mr. Allen Cary, a graduate student in the department of geology. Much interest expressed by visiting professors has suggested the desirability of a brief description of the method, so that it may be tested and used by others who work with maps.

The wax-like sheeting is sold in rolls of varying widths; the twenty-inch width has been found most convenient. The table top to be used in mounting should be covered by cardboard or paper, which can be replaced when it is soiled. If the map to be mounted is a single sheet it should be laid on the table, face down, and covered completely with a sheet of Parafilm. The film may be stretched to approximately one and one half times its original length or width before it is cut to size, but it is doubtful whether the slight saving effected by this procedure justifies the loss of time. The sheet (or sheets) of the film need not be perfectly smooth. A piece of muslin or linen slightly larger than the map should then be spread over the two layers. Wrinkles and creases may be eliminated by thumbtacks near the margins, but the cloth must not be stretched. Finally the three layers should be pressed with a moderately hot pressing iron, at first rapidly around the margins (since Parafilm tends to contract slightly when warmed near the iron), and then more slowly over the whole surface until the melted film has completely sealed every part of the cloth to the map. The mounted map may then be removed from the table and trimmed.

If necessary, two or more pieces of cloth may be joined by placing a one half inch strip of Parafilm between the overlapped edges and pressing with the iron.

If the map consists of a number of sheets that must be matched or if it is to be mounted in sections so that it may be folded for use in the field, a slightly different procedure is recommended. The cloth should be spread out on the table, held in place (not stretched) with thumbtacks, and covered with the film. The sections of the map should be laid on the film in the desired position, with no overlap, and fixed in place by pressing with the iron directly on the surface or through a sheet of heavy paper, but the iron should not be passed over the seams lest the film be drawn through and smeared over the map. When all the sections have been fixed the whole mount should be turned over and pressed thoroughly on the reverse side, as before. If Parafilm from the seams seals the mount to the cardboard it may be freed by heating with the iron.

Mounted groups of topographic sheets can be prepared for use as wall maps by attaching "half-round" wooden strips at the top and bottom margins and fitting with hooks and tie cords. Over 40 such group sheets have been prepared, at small expense, for use in geology courses at the University of Washington. Our aim is to provide, wherever practicable, group sheets showing regional relations of features which appear on individual topographic maps assigned for laboratory study.

If a map is to be used in the field it may be protected from damage by water by drawing a very thin film of the same wax sheeting over the surface with the pressing iron. If very high temperatures prevail in the district where the map is to be used a thin coating of flexible lacquer may be applied to the surface of the map, before mounting, in place of the Parafilm.

The method outlined above commends itself because it is economical and ideally simple, and because it does not damage the map. If it is necessary to make a tracing from a field sheet, or to replace one section of a group mount with a later edition of the same quadrangle, the map can be detached from the cloth by heating with the iron. Maps in use for two years show no signs of stiffening or loss of adhesive properties of the film.

J. HOOVER MACKIN

UNIVERSITY OF WASHINGTON

[1] Made by the Marathon Paper Mills Company, Rothschild, Wis.

BOOKS RECEIVED

Encyclopédie Française. PIERRE TISSIER, General Editor, and others. Tome VII. *L'Espèce Humaine,* PAUL RIVET, Editor. Pp. 7.01–3 to 7.94–3. Illustrated. Comité de l'Encyclopédie Française Éditeur, Librairie Larouse, Dépositaire Général, Paris.

FISK, DOROTHY. *Modern Alchemy.* Pp. xii + 171. Illustrated. Appleton-Century. $1.75.

LEAHY, WILLIAM H. *How to Protect Business Ideas: A Study of Trademarks, Patents, Labels, etc.* Pp. 157. Harper's. $2.50.

MAVOR, JAMES W. *General Biology.* Pp. xxiii + 729. 416 figures. Macmillan. $4.00.

SARTON, GEORGE. *The Study of the History of Mathematics.* Pp. 111. *The Study of the History of Science.* Pp. 75. Harvard University Press. $1.50 each.

STEJNEGER, LEONHARD. *Georg Wilhelm Steller, the Pioneer of Alaskan Natural History.* Pp. xxiv + 621. 29 plates. Harvard University Press. $6.00.