A CATENARY ARRANGEMENT OF THE SOILS OF MARYLAND
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If soil maps are to be of the most use they must be sufficiently accurate and detailed for individual farm planning. Previously to the Soil Conservation work in Maryland, the soils of the state had been mapped on a base scale of 1 to 62,500. It was impossible to put enough detail on this scale, so the Soil Conservation Service used base maps of a scale of 1 to 15,840 and, in some cases, 1 to 6,600. This greater detail has increased the soil series from 70, as given in the old survey, to approximately 300 for the state. This larger number of series was necessary to supply the information needed for planning individual farms. It is easy for the men working in the field to understand and see the reason for this increased number of soil series. On the other hand, the multiplicity of names has confused everyone. It was thought that if a system could be devised which would show the relation between the new and old series, much of the confusion would be avoided.

During the past 6 to 8 years a system to show this relationship has been under consideration in Maryland. This has developed into charts or diagrams by the trial and error method. Field observations were used as a check upon the arrangement of the soil series into catenae. It was early recognized that for simplicity's sake the soils should be grouped according to four geographic areas. These are the Coastal Plain, the Piedmont and Blue Ridge, the Appalachian Ridges and Upland, and the Limestone Valley.

In the early charts, the parent material divisions were listed across the top and formed vertical divisions and the horizontal divisions were used for soil formation and drainage conditions. When the Soil Conservation Service began to issue local catenary sheets for their field men, they listed the parent material vertically. This produced horizontal separations for parent material. In order to eliminate confusion, the same procedure was adapted then for the Maryland charts. This made the vertical separations according to the mode of formation and the drainage. The present charts are a condensation of very large charts or diagrams. In these large charts there was a space for every variation in parent ma-

terial horizontally and a space vertically for variation in formation and drainage with subdivisions for the changes in the B and A horizons. Such a chart was too cumbersome to be useful in farm planning. It was condensed and rearranged into the form.

It was found from discussion with various people, including county agents, Smith-Hughes land appraisers, and farmers, that they did not understand the relation between soils developed on residual parent material and those developed from transported soil material. To overcome this, the charts were made broad enough to place two main groupings of soils side by side. The main division was for soils formed from residual material weathered in place, such as sedentary soils, and sedimentary soils for the Coastal Plain area. These are generally called primary soils. This group was subdivided on the basis of drainage and included the excessively, imperfectly, well-, and poorly-drained soils. The descriptive term, excessively drained, refers to soils which are formed on relief or too steep to permit enough water penetration for profile development, and to soils which are from such coarse-textured materials that there is little formation of a B horizon. These soils have A-C profiles. The well-drained soils are the ones that would develop under good conditions of drainage. They have A, B, C profiles. The third group, the imperfectly drained group includes soils in which internal drainage has not been sufficient to completely the materials in the B horizon. These poorly drained soils are always mottled in the upper B and frequently to the surface. Since the soils in this subdivision vary considerably in color, they were further subdivided according to surface color, either light or dark.

The second main division was for soils on hillside or those formed from transported material. This division contains three groups, namely, alluvial, terrace, and bottomland. The term alluvial is used to designate the soils the materials of which have been transported only short distances.