The presence of colloids in soils has long been recognized, but until recently the amount, even in soils of highest content, was believed to be small in comparison with the other constituents. Earlier investigators have placed the amount at from 0.5 to 2%. However, both Atterberg (1) and Williams (2) have separated from soils larger amounts of material that is undoubtedly colloidal, but this fact was not emphasized by them.

OCCURRENCE OF COLLOIDAL AGGREGATES

Having realized from recent work the importance of the colloidal constituents in the soil, it has become desirable to express the amount in the mechanical analysis. It was thought that with the present method of mechanical analysis the colloid would all be included in the clay fraction, and that the percentage of this group would indicate, in some degree, the amount of colloid present. If dispersion were complete, this would probably be true; but this has not been found to be the case, as it has been observed from examination under the microscope that the various fractions contain aggregates of material that can be broken down with slight pressure, leaving no particles large enough to be felt by the finger when so crushed. Certain samples, where the ordinary mechanical analysis gave considerable quantities in the sand groups, showed, upon close examination, that these separates were composed almost entirely of aggregates. In addition, the absorption of water vapor by the method described by Robinson (3) indicated the samples to be almost entirely colloidal.

1 Paper read as a part of the symposium on “Soil Colloids” at the meeting of the Society held in Washington, D. C., November 11, 1924.
3 Reference by number is to “Literature Cited,” p. 279.