Previous work by this committee has resulted in a classification of soil structure based upon the views of the Russian, Zacharov. The recommendation was made that the ideas of Zacharov be accepted as a basis for further study.

Zacharov defines the structure capacity of a soil as the ability of a soil to break up into aggregates. From the standpoint of soil structure studies, particular attention is given to the degree of manifestation, stability and genesis of structure, as well as to the shape and size of the structural units. Since structure indicates an arrangement of units, it is hereby suggested that the term "degree of aggregation" be used to designate the granulation of a soil and that the stability of structure refers to the stability of the structural aggregates.

Other Russian investigators, particularly Doirenko and Tuulin emphasize the importance of considering the porosity of soils in studying structure. They introduce the terms "capillary" and "non-capillary" porosity. The former is that part of the total pore space which is constituted of fine pores that are responsible for the water capacity of soils. The pores which are too large to hold capillary water are called "non-capillary" and represent the air capacity of the soil. A knowledge of these types of porosity is highly essential in studying soil air and water relationships. Doirenko, on the basis of laboratory experiments, considers the optimum non-capillary pore space in soils with respect to water relationships to be a little more than fifty per cent of the total pore space volume. Porosity is closely associated with the amount and size of stable aggregates present. Optimum porosity conditions are assumed to be manifested when the structural granules have diameters from 1 - 3 mm.

It is evident, therefore, that a study of structure relationships in soils involves a satisfactory technique for measuring their degree of aggregation. This brings up the questions: "In what structural units or aggregates are we interested and how can we separate them from the various mechanical elements in the soil?"

A partial answer to these questions will be given at this time in a paper entitled: "Aggregate analysis as aid in soil structure studies", by Harold F. Rhoades, University of Missouri.

After suitable methods for measuring the aggregation of soils are available we should be primarily interested in the application of these methods to the solving of structural problems in any specific soil and in the comparison of the state of aggregation of various soil types. It is commonly recognized in soil survey investigations that certain soils have more or less characteristic structure which is probably related to the genesis and att-tion of...