What Information is Necessary for a Complete Description of a Soil? A. FIELD ASPECTS - H. H. Krusekopf, University of Missouri

In order to describe an object it first must be understood. This applies as much to soils as to other objects or things. The primary function of the Soil Survey is to accumulate information about soils in their natural field condition. To effectively define and record this information is a second function slightly less important than the first. The progress made in these two activities will determine the future development of a Soil Science. Soil knowledge has increased at a rapid rate during the last decade. It has made possible and even necessary that soil descriptions be more exact and complete. Unfortunately, progress in this direction has not been entirely satisfactory. It is the purpose of this paper, not to present new facts but to give emphasis to the need and to the possibilities of more exact and complete soil descriptions of those physical properties that are studied in the field.

In the art of describing soils, it is necessary to assume a certain concept or point of view. This concept should be that the soil is a natural body, worthy of study without relation to any other object or phenomenon. The characteristics and properties which determine any one soil type and differentiate it from any other type, are the characteristics and properties of the soil itself. Such a concept will tend to focus attention on the soil per se, without regard to its origin, the climate or any other modifying factor. In most of the early reports, soil descriptions were based on the relationship of the soil to some other object or environment. All too frequently soils were defined in relation to their origin or mode of formation instead of soil character. This may be the reason why textural properties were given dominant consideration. Later the agronomic viewpoint was adopted. Soils were defined in relation to their economic uses - their desirability for plant growth. Of the European literature it can be said that it is concerned primarily with the factors effecting soil formation (the historical viewpoint), yet it has given us standards of exact soil descriptions. Under these various concepts the characteristics of the soil as an independent unit were subordinated to a discussion of the relationship of the soil to other objects or conditions.

It is apparent that all complete soil descriptions should be made on the basis of some broad, comprehensive relationship that will apply to all soils under all conditions. It should be a relationship that finds its expression in the observable soil characteristics, without requiring a defining of the formative processes.