that the finer-grained Solenhofen limestone is much stronger for a given set of physical conditions than the coarse-grained Yule marble. Similarly, rhyolite has a higher ultimate strength than granite, particularly at 1 kilobar confining pressure and 150°C as compared to the smaller difference at 5 kilobars and 500°C (Borg and Handin, 1966).

This point is further illustrated by Dreyer's (1966) detailed analysis of mineralogy, grain size, sorting, and nature of grain boundaries in rock salt specimens. For constant mineralogy, Dreyer found that the crushing strength increased with decreasing grain size (Figure 10), and to a much less pronounced extent with improved sorting. The influence of grain interlocking was negligible. Thus in Dreyer's study there is a continuous increase in strength with decreasing grain size.

In sandstones the role of grain size is less well documented. Boretti-Onyszkiewicz (1966), for example, in study of the compressive and bending strengths of flysch sandstones from the Podhale region of Poland found that the finer-grained sandstones were stronger than the coarser-grained ones. Borg et al. (1960) in study of experimentally deformed St. Peter sand aggregates of specific size fractions (105-125, 180-210, and 250-300 microns, respectively) found that the compressibility of the aggregates tends to increase with increasing grain size. This correlates with the fact that the coarser sand also exhibits the greatest reduction in porosity, median pore size, and median grain size, and the least percentage of unbroken grains. The coarsest sand, however, is the strongest in triaxial tests. In interpreting this result one must remember that the grain size configuration is materially altered by the confining pressure which is applied before the material is axially loaded. Relating the results to initial grain size, therefore, is at best tenuous. More work needs to be done to clarify the role of grain size in sandstones. That the strength