



Figure 1.8: Conceptual diagrams of deformation mechanisms in ice I. (a) Basal slip occurs in a single crystal by slip along glide planes. (b) After a polycrystal deforms by grain boundary sliding, in response to applied stress (arrows), the polycrystal has changed shape, the grains have changed location, but each individual grain retains the same shape and size after deformation of the polycrystal. (c) In the absence of grain boundary sliding, grains in a polycrystal deforming by volume diffusion undergo the same deformation as the aggregate. (d) A dislocation in a polycrystal, where the shaded portion (AES) of the plane ABCD has slipped by the Burgers vector b . ES is the dislocation line. Diagrams modified from *Ranalli* (1987).