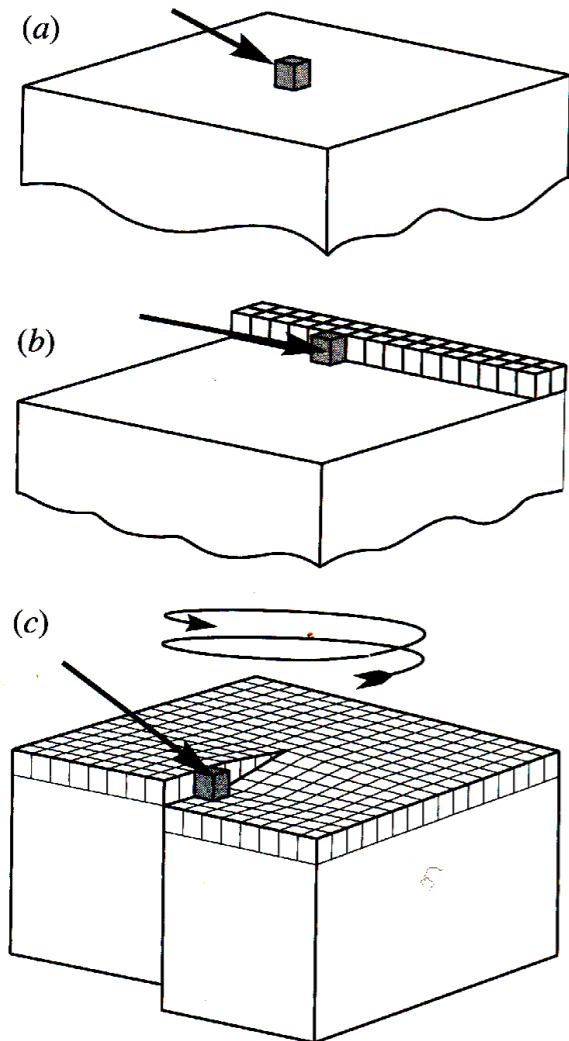
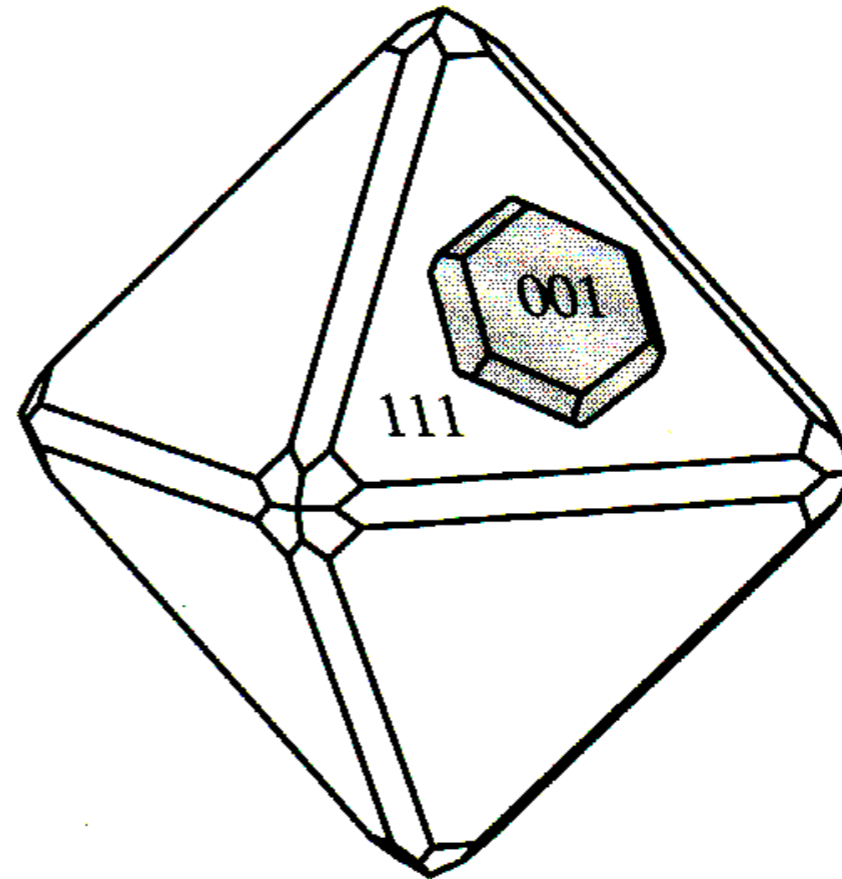


# Crystal growth



**Figure 5.6** Growth on a crystal face. (a) Adding a new growth unit to a crystal face is energetically difficult because the new unit stands proud of the surface and has many unsatisfied chemical bonds. (b) Adding a new growth unit along the edge of a partially completed layer is easier because more chemical bonds are satisfied. (c) Growth on a screw dislocation ensures that an edge always remains available for growth. The crystal grows by adding a continuous spiraling layer.



**Figure 5.5** Epitaxial growth. Hematite crystal (shaded) may nucleate and grow on the (111) face of magnetite. See text for discussion.