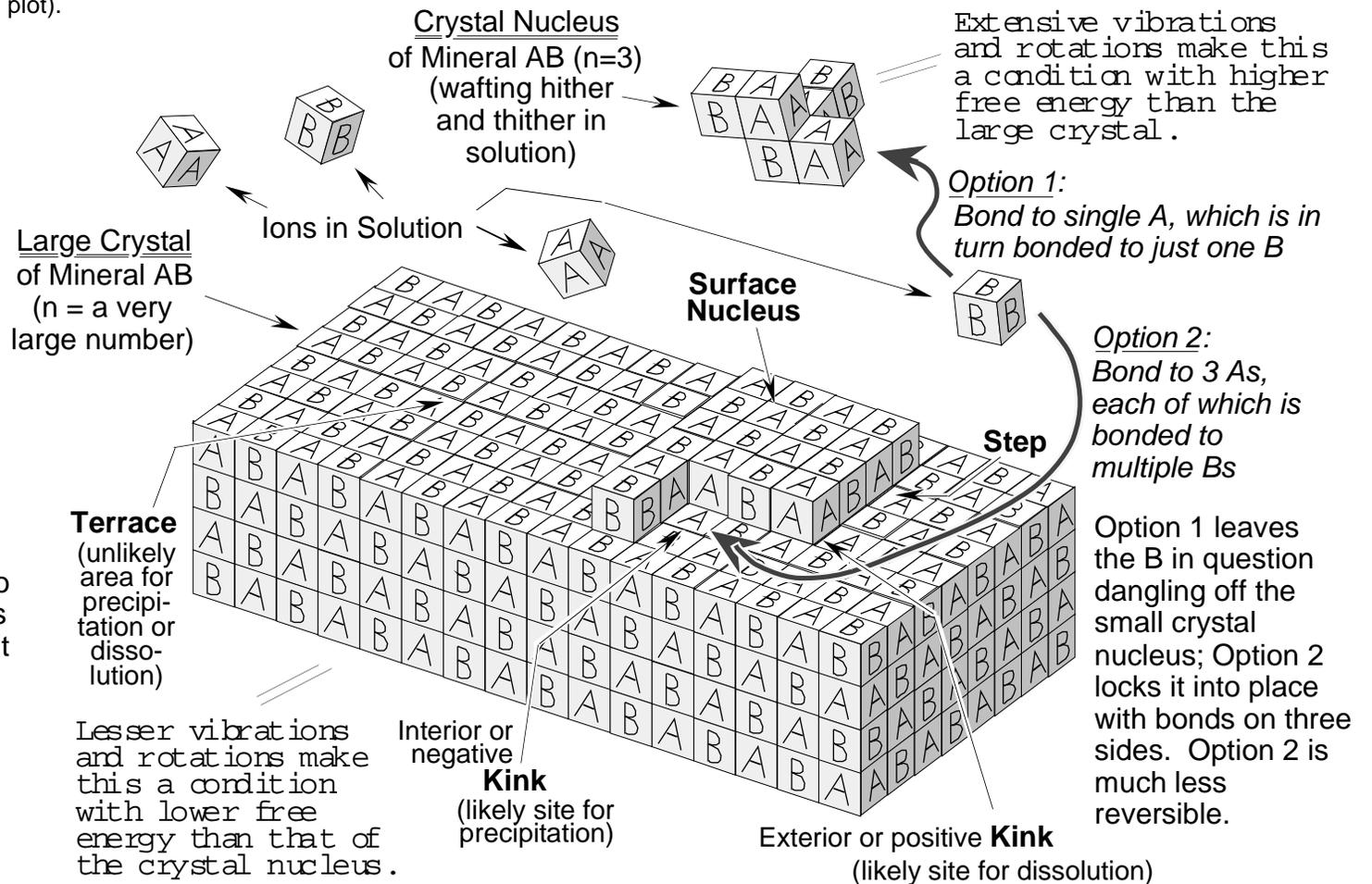
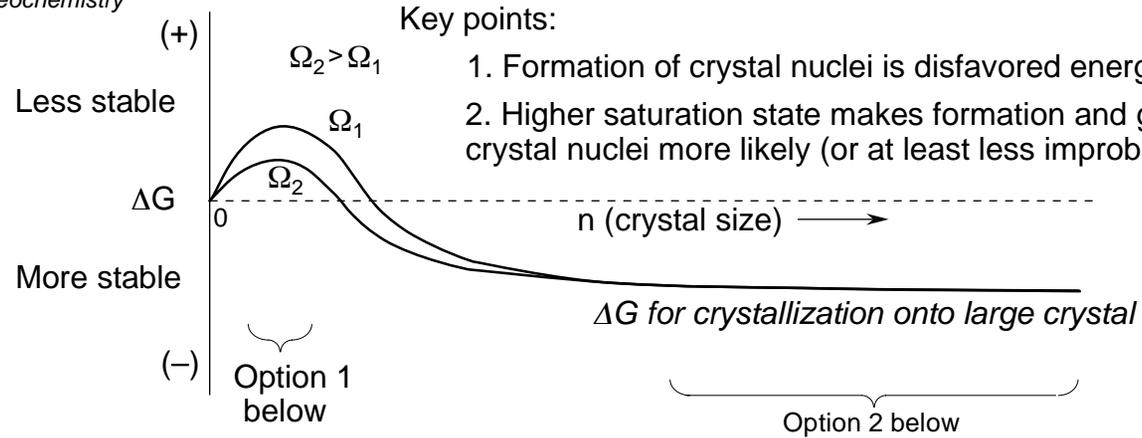


Nucleation vs. Precipitation on an existing lattice: A schematic contrast

The plot at right is an alternate version of Berner's (1980) Figure 1. It is a thermodynamic statement about why nucleation of new crystals is disfavored, except at high saturation (Ω). The sketch at the bottom page illustrates why a larger crystal is a more stable substrate for precipitation than a small nucleus (the trend across the top plot).



These diagrams are largely intended to consider precipitation, but they can also be used to illustrate likelihood of dissolution. Compare how likely a B is to break off the nucleus versus how likely a B is to come out of a site on the flat surface of the large crystal.