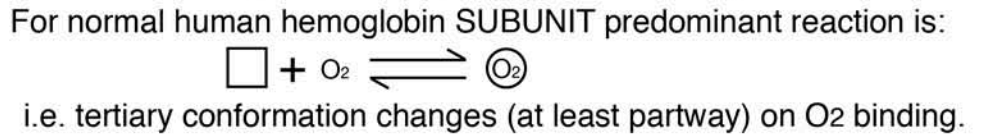
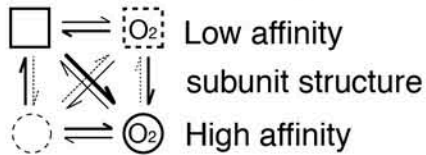
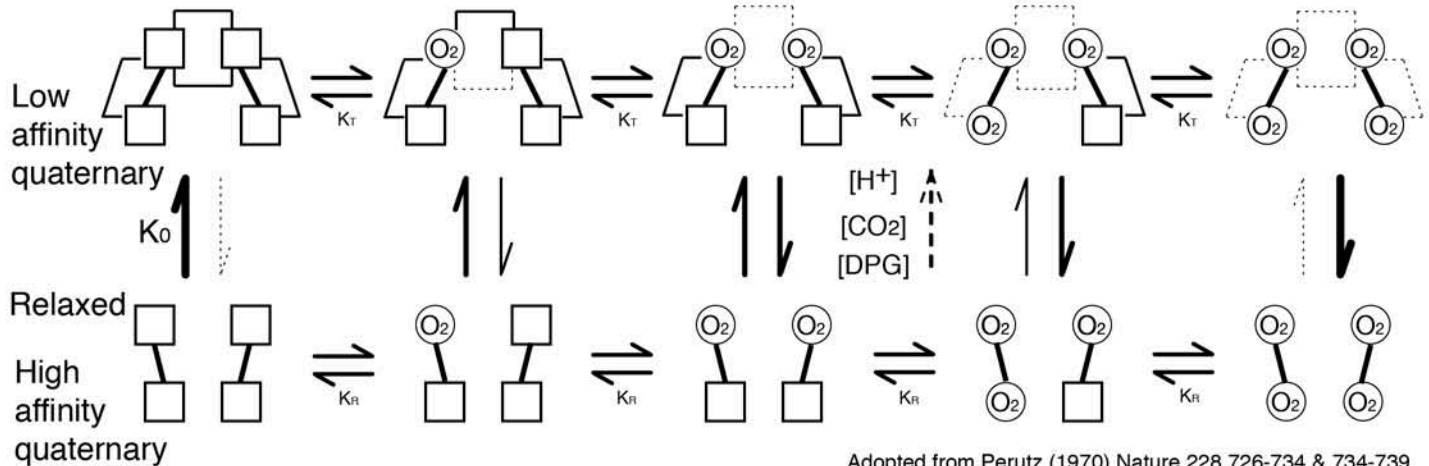


Haemoglobin allostery as a Dynamic Equilibrium...

Physical explanation of changes in tertiary conformation and quaternary interactions within the ensemble of structures that illuminate and help substantiate the dominantly two-major-state MWC equilibrium model for Hemoglobin.



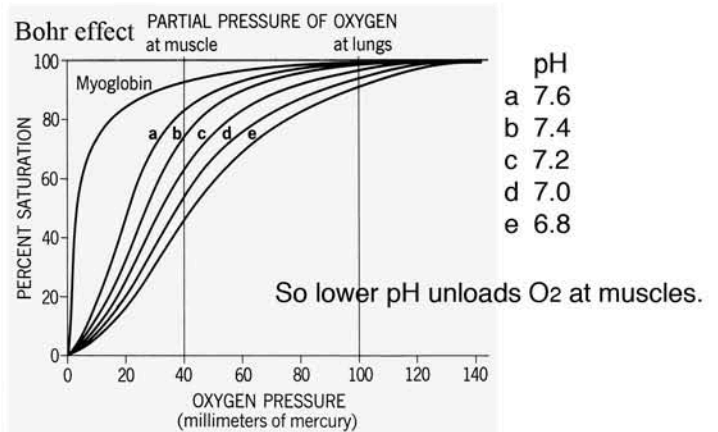
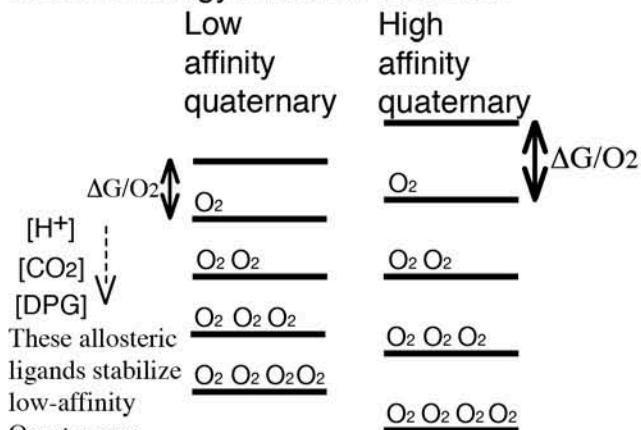
Tense: constraints stabilize low affinity QUATERNARY conformations; these constraints are disrupted locally when O₂ binds to subunit, or globally in Relaxed high affinity quaternary conformations.



Adopted from Perutz (1970) Nature 228 726-734 & 734-739

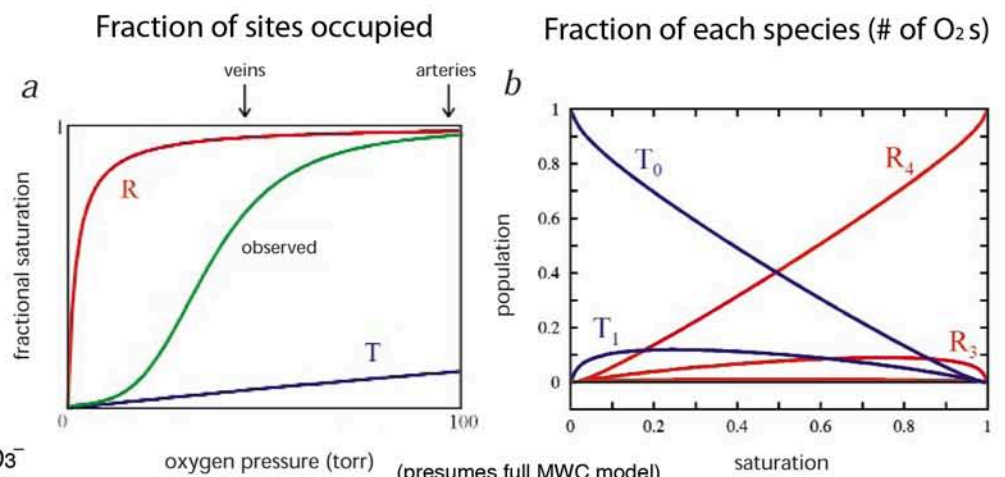
presuming pure MWC model:

Relative energy levels as O₂ bound



CO₂ + H₂O = H₂CO₃ = H⁺ + HCO₃⁻
 red blood cell carbonic anhydrase mediated

DPG (DiPhosphoGlycerate), now called BPG (2,3-BisPhosphoGlycerate)



fraction plots from Eaton (1999) Nature Struct. Biol. 6 pg 352