

reaction coordinate

Nature tends toward lower energy - stability.

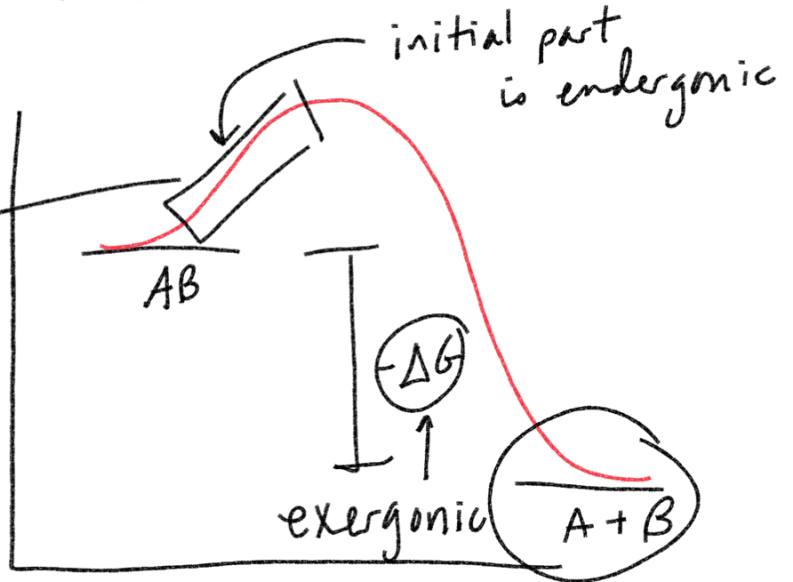
Exergonic Reaction occurs spontaneously

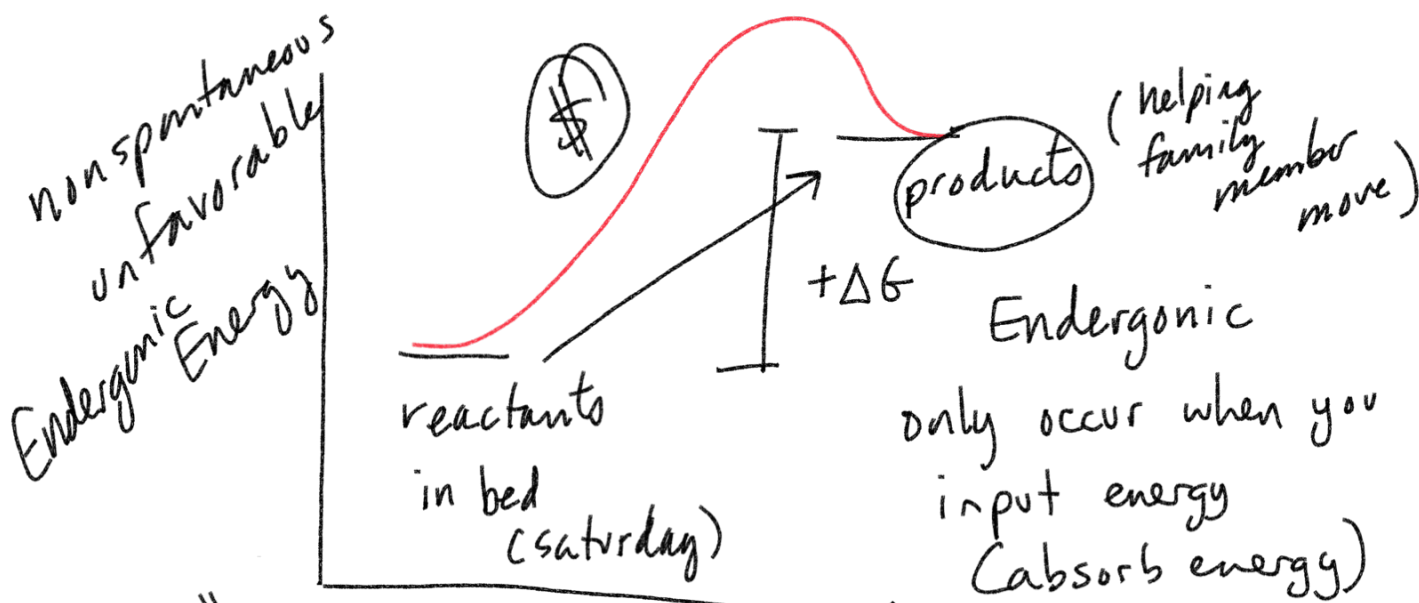
Activation Energy is the energetic barrier that must be overcome to convert reactants into products.

initial bonds are being broken

AB → A + B

You must break chemical bonds in order to make new ones — the beginning is always endergonic.



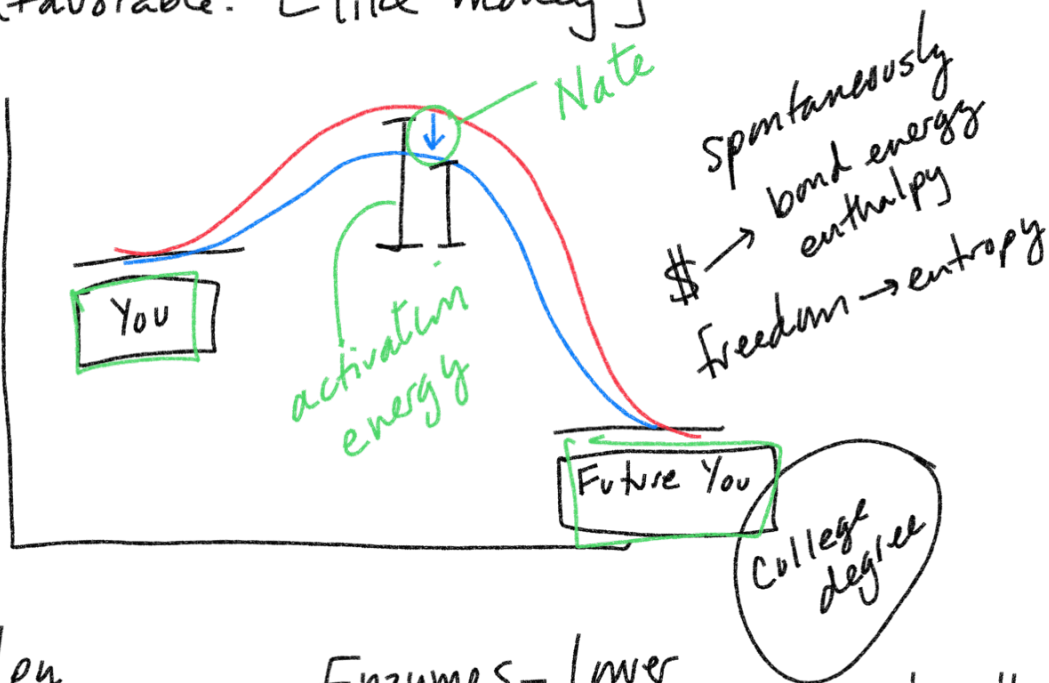


ATP (adenosine triphosphate)

"ATP is the energy currency of the cell"

ATP drives forward reactions that would otherwise be unfavorable. [like money]

Spontaneous Favorable
Exergonic Energy



$\$ \rightarrow$ enthalpy
Freedom \rightarrow entropy

Enzymes - lower activation energy - help all reactions move forward.

