

# Today

I. Announcements: Hal's office hours this week: T 2-3pm, W 4:30-5:30, Th 2:30-4pm

II. Last Time

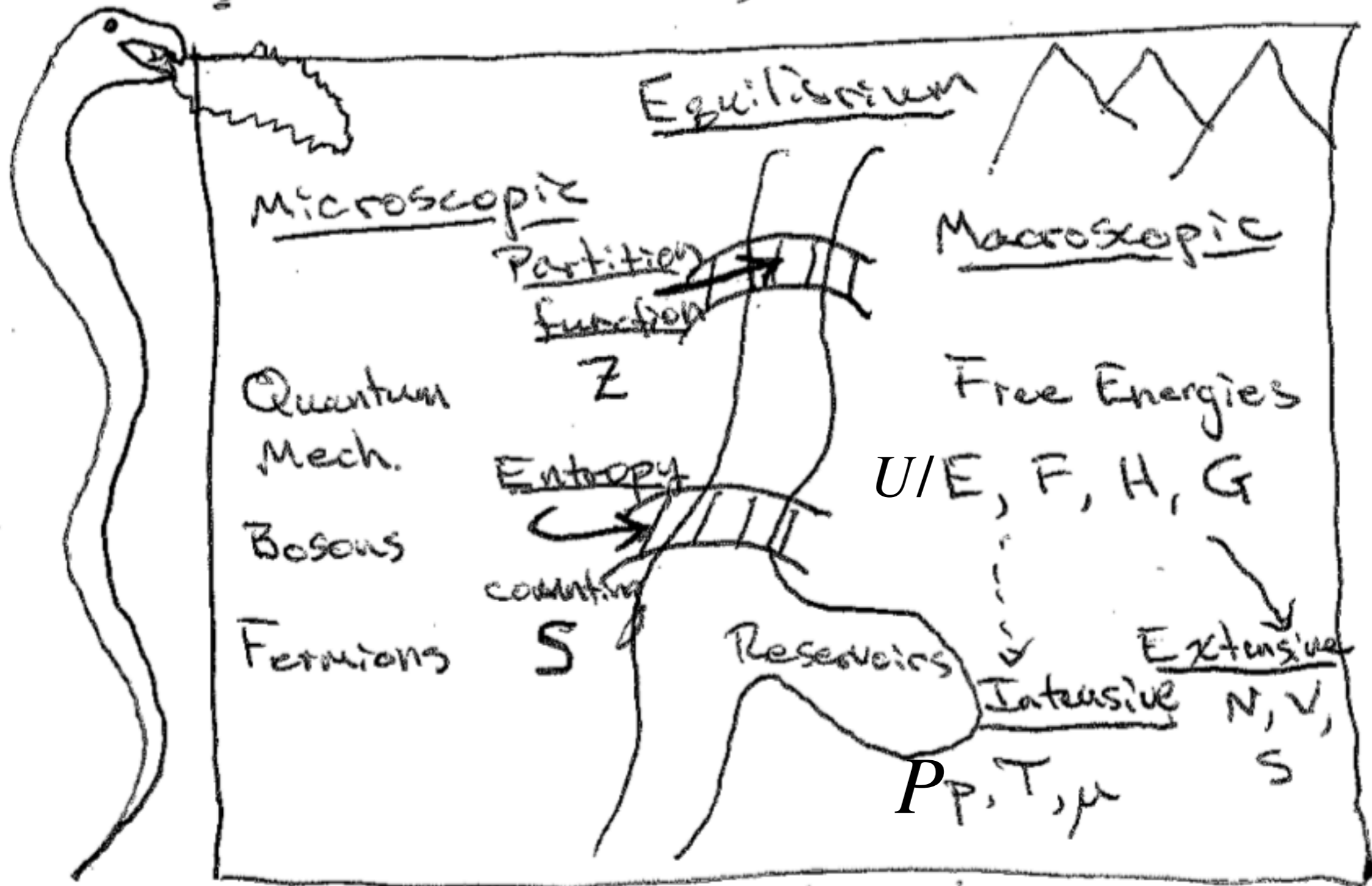
III. Cole's Guest Lecture on the Ising Model

IV. Course Overview & Your Questions

I. Balthazar gave a guest lecture on Debye theory, which explains the low temperature behavior of solids. This model allows more carefully captures the range of frequencies at which the oscillators in the solid can oscillate. In particular, it captures a cut off on the frequency due to the atomic spacing of the atoms. In the Einstein model  $C_V \propto$  (exponential decay) and in Debye theory  $C_V \propto T^3$ .

We also discussed the density of states, which gives the number of single particle states in an interval of energy # states =  $g(\epsilon)d\epsilon$

# Thermodynamics - Equilibrium



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