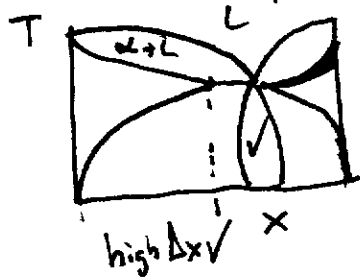


Problem #1:

We want:

- high solubility at high T ✓
- low solubility at low T ✓
- intermetallic phases ✓



Problem #2:

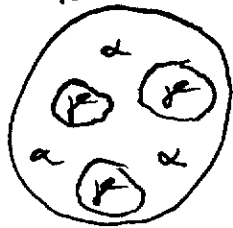
- Mg, Nb, Li, Zn, Cu ✓
- high solubility ✓
- intermetallics ✓
- vol. fraction ✓

Problem #3:

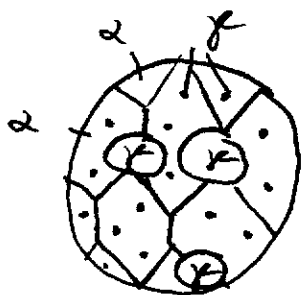
- e.g.
- Mg: Al 18 at% Mg ✓
 - Li: Al 14 at% Li ✓
 - Zn: Al 35 at% Zn (slope) ✓

Problem #4:

~~Al 20 at% Mg~~
 Mg 20 Al → higher Al content than solubility
 400°C



quenching → microstructure preserved



quenched → heat treatment at 200°C nucleated intermetallics for avoid over-aging

Problem #5:

- precipitates strengthen ✓
- intermetallic ✓ → APB ✓
- solid solution ✓

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