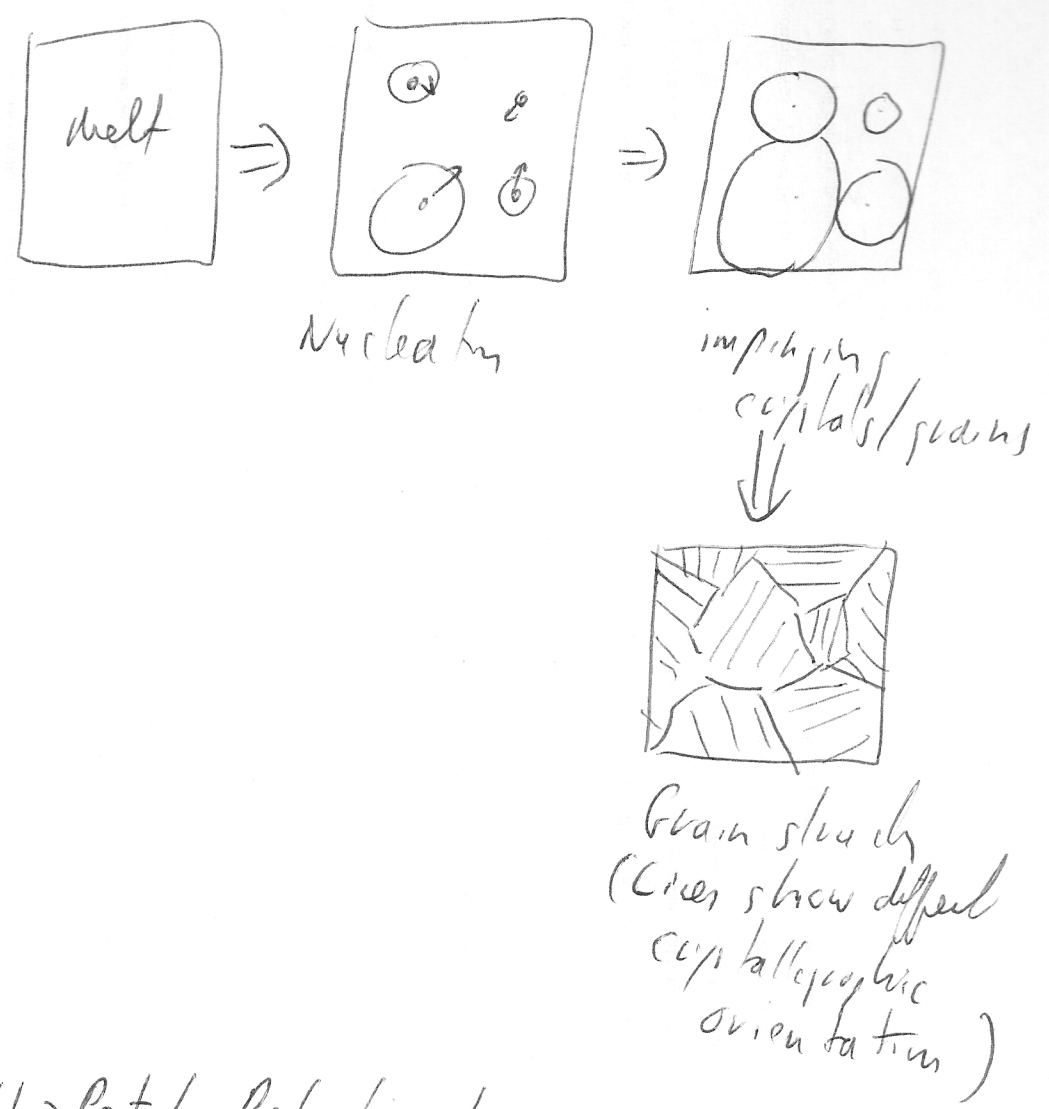


2) a) Grains are single crystals in a polycrystalline sample. They form due to nucleation of different crystals during crystallization.



b) Hall-Petch Relationship

$$\sigma_{yield} = \sigma_i + \frac{K}{D^{1/2}}$$

$\sigma_i$   
 $N_0$   
grains

$D = \langle \text{grain diameter} \rangle$