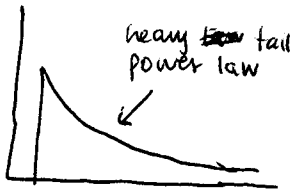
Pareto's Law: $\text{income}_i = \frac{\text{Income}_1 \text{ (Bill Gates)}}{i^{\beta}}$

~~Pareto~~

Pareto Distribution: $\text{prob}(w \geq x) = Dx^{-\alpha+1}$



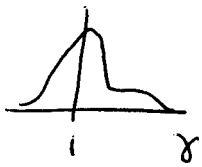
$\text{Density} = \text{prob}' = cx^{-\alpha}$

N people: i=how many ppl have $\geq x = NDx^{-\alpha+1}$

$$X = \text{inc}_i = \frac{(ND)^{1/\alpha-1}}{i^{\frac{1}{\alpha-1}}} \leftarrow \beta$$

→ size-independant growth

$\text{inc}_{t+1} = \text{inc}_t \cdot \gamma$



Same for everyone
Rich get richer & poor get richer

→ Trade-offs
→ Preferences & Copying
→ Polya urns