

There is evidence that fertility, not mortality, is the "equilibrating factor."

Decline in "noncrisis" mortality is important - Fogel.

- Food
- Height/weight
- Chronic conditions
- Early life

Basal metabolic rate - amt of calories necessary to maintain body temperature. 1300-2000 Kcal

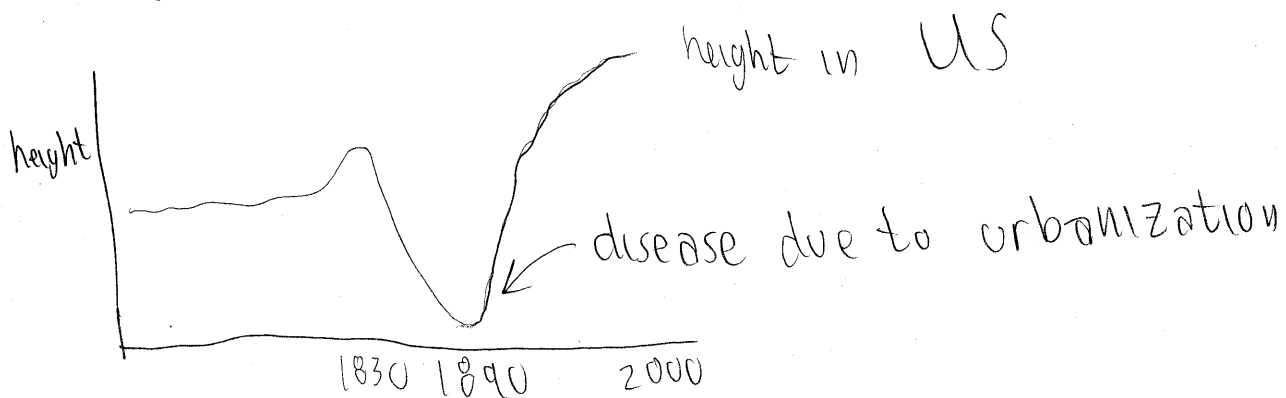
- France: 2290 kcal/consuming unit
- England: 2700 kcal/consuming unit
- US: 3700 kcal/consuming unit

France: Bottom 40<sup>th</sup> percentile has enough energy to beg.

- disease increases bodily demand for calories

Critical growth periods

Socioeconomic differences in height



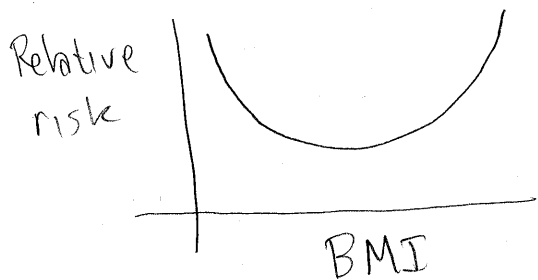
Height

◦ net nutrition: intake - demands

Does height matter for mortality?

◦ Tall have lower risk of death

$$\text{BMI} = \frac{\text{weight in kg}}{(\text{height in m})^2}$$



Changes in height/weight can explain a large

percentage of the change in mortality.

Place of early life residence mattered for mortality rates

◦ 19<sup>th</sup> century - large cities were far more deadly.

Season of birth matters: vitamin levels lowest in the Spring.

◦ 4<sup>th</sup> quarter has lower mortality rates.

Baby boomers will be particularly long-lived and healthy.

Living standards during industrial revolution:

HDI - Human development index:  $f(\text{Income, Educ, Life exp., mortality, polit. freedom})$

Life expect: 55 in a given country

Min life exp: 45

Max life exp: 80

$$\text{HDI} = \frac{55 - 45}{80 - 45} = \frac{2}{7}$$

Problems: min life exp  $\uparrow \Rightarrow$  HDI  $\downarrow$  for most countries.

Borda index: combines many rankings.