Econ 115 Spring 2024
The World Economy in the 20th Century :: Overview

HOME PAGE: <https://bcourses.berkeley.edu/courses/1531168/>

- **Course Procedures**: <https://bcourses.berkeley.edu/files/87866083/>
- **Course Schedule & Readings**: <https://bcourses.berkeley.edu/files/87866231/
- **Econ 115 at Schedule of Classes.** <https://classes.berkeley.edu/content/2024-spring-econ-115-001-lec-001>
- **Econ 115 Piazza signup link**: <https://piazza.com/berkeley/spring2024/econ115>

Questions About the Syllabus?

Econ 115 Spring 2024
The World Economy in the 20ᵗʰ Century

I. Introduction:

2024-01-16 Tu: The Long 20ᵗʰ Century: A Grand Narrative
- **DL**: Intro;
- **Block**: "Introduction" to *The Great Transformation*;
- **David**: "Clio & the Economics of QWERTY";

(pdfs for all readings should be in the "files" tab of the course's bCourses site <https://bcourses.berkeley.edu/courses/1531168/>. If you find that something is not, please email me at <delong@econ.berkeley.edu> as soon as you can.)

2024-01-16, 17: GSI office hours in section rooms. Be sure to check in in person or in email to one of the instructors to keep from being dropped from the course…

I. Introduction: Readings: Block

Block, Fred. 2001. "Introduction." In *The Great Transformation: The Political and Economic Origins of Our Time*, by Karl Polanyi, xxix. Boston: Beacon Press. <http://www.compilerpress.ca/Competitiveness/Anno/Anno%20Block%20Intro%20Great%20Transformation%202000.htm>

1. What is Polanyi's concept of 'embeddedness'?
2. How does 'embeddedness' undermine economists' standard view of the market as a system?
3. Why does Block think Polanyi—written in 1944—is still relevant?
4. What are 'fictitious commodities'?
5. What makes them 'fictitious'?

I. Introduction: Readings: David

David, Paul. 1985. "Clio and the Economics of QWERTY," *American Economic Review Papers & Proceedings* 75, pp. 332-337. http://www.jstor.org/stable/1805621>

1. Why adopt a QWERTY… rather than an ABCDEF… keyboard in the first place?
2. What are the barriers to technological innovation and adoption that the QWERTY story reveals?
3. But aren't those barriers gone? Why do we still use QWERTY keyboards?
4. Vedder and Galloway gloat that we really do not know much about which keyboard layouts are most efficient. Does this work against or for David's main point?
5. Economists usually work by: (a) figuring out what the equilibrium would be, (b) asserting that the system will quickly move to and then stay at its equilibrium, and then (c) stop. Why is David so certain that this is the wrong thing to do?
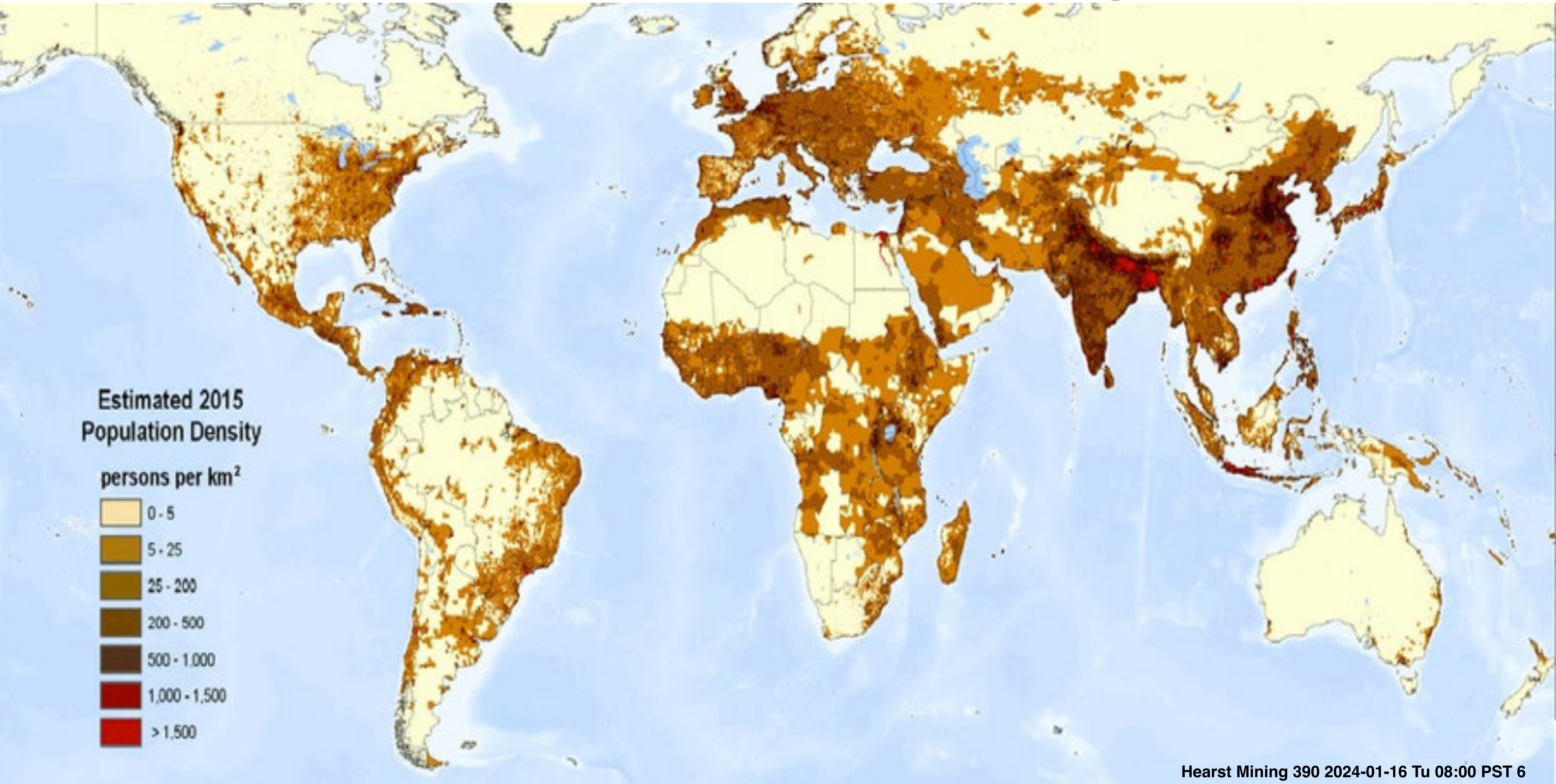
DeLong: Introduction: My Grand Narrative

Why does DeLong start the twentieth century in 1870?

How is history since 1870 different from history before?

Where We Are Today

Estimated 2015
Population Density

persons per km²

	0 - 5
	5 - 25
	25 - 200
	200 - 500
	500 - 1,000
	1,000 - 1,500
	> 1,500

Half of World Population Inside This Circle

Estimated 2015 Population Density

persons per km²

- 0 - 5
- 5 - 25
- 25 - 200
- 200 - 500
- 500 - 1,000
- 1,000 - 1,500
- > 1,500

The World as of 1870: John Stuart Mill's View
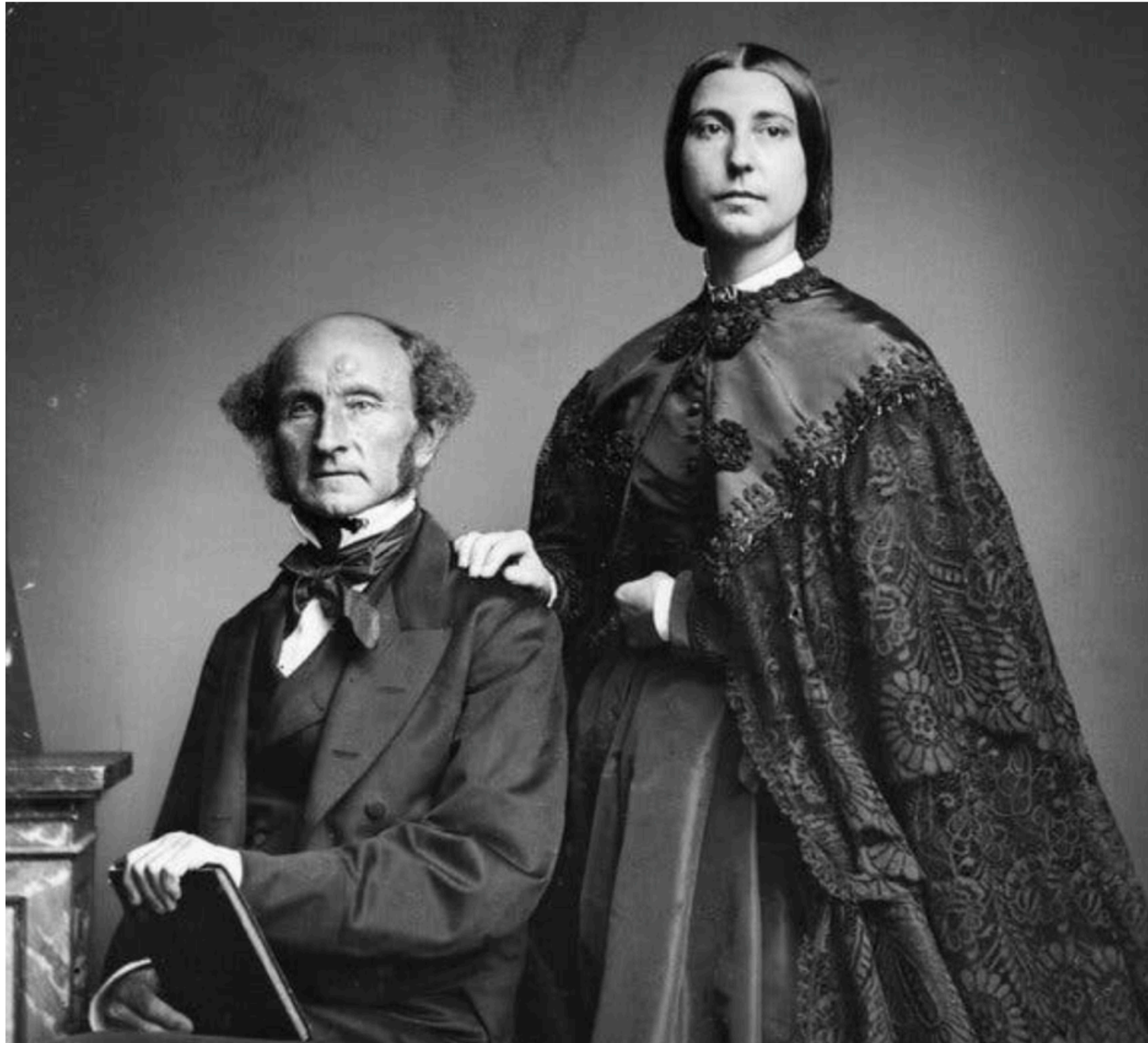
British polymath:

- "It is questionable if all the mechanical inventions yet made have lightened the day's toil of any human being.

- "They have enabled a greater population to live the same life of drudgery and imprisonment…"

1870: The Hinge of History: Consequences

- The industrial research lab, the modern corporation, and the globalized market economy

- We found the solution to baking an economic pie sufficiently large

- But:

  - Utilizing our wealth? Nope!

  - Distributing our wealth—within and across nations? Nope!

  - Plus: the next fifty years see human civilization facing potentially existential threats.

Agrarian-Age Society

- Technological progress is slow

- Fertility wins its race against technology

- Increases in numbers, but not in working-class living standards

- The élite

    - And its domination-and-exploitation machine

- But not *quite* stagnation—"Efflorescences" and "Dark Ages", and growing complexity of élite civilization

THEN: "Ancient" Ain't "Primitive" or "Unsophisticated"

Could we teach:

- Themistokles or Augustus much about politics?
- Homer much about writing epic?
- Li Bai much about writing poetry?
- Gaius Julius Caesar or Leonidas Agiades much about generalship?
- Sophokles much about drama?

- Gorō Nyūdō Masamune much about making handmade swords?
- Phryne much about presentation-of-self-as-celebrity?
- Michelangelo Buonarroti much about painting ceilings?
- Praxiteles much about sculpture?
- Johann Sebastian Bach much about music?
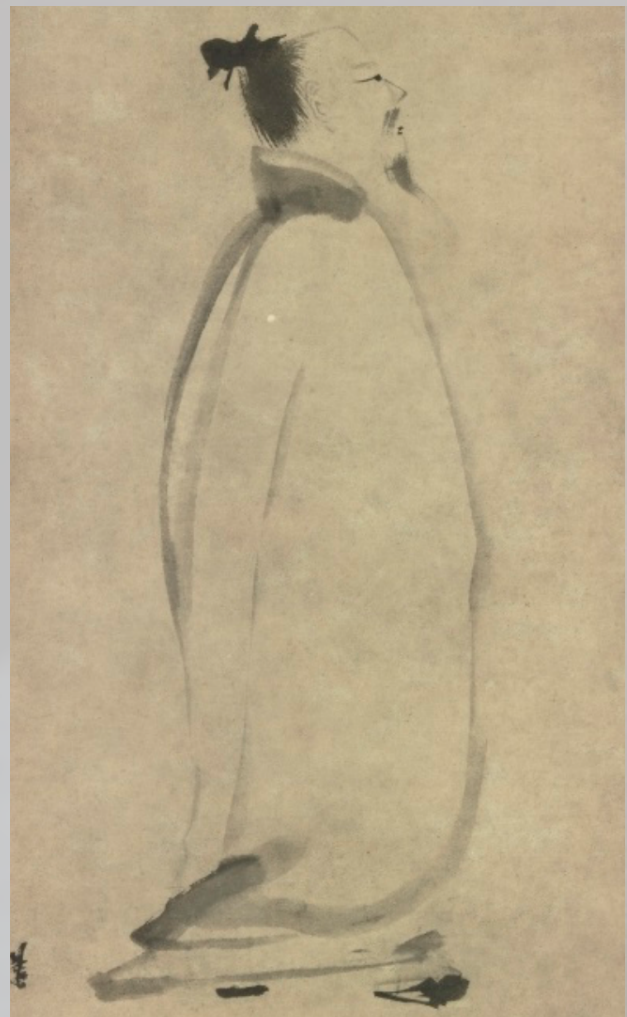
Li Bai Strolling, by Liang Kai (1140–1210)

Aphrodite of Knidos (copy): Praxiteles, Phryne

Michelangelo: David

Tantō by Hyūga Masamune,

Population

Date	Population P (millions)
-8000	2.04
-6000	5.09
-4000	10.5
-3000	15
-1500	37
-1000	50
-400	103
150	200
800	240
1000	296
1500	500
1770	750
1870	1299
1930	1909
1975	3678
2020	7566
2100	

- The labor force—the real, not the market-paid labor force—a roughly constant proportion of the population
- Hence no real distinction at this level of abstraction between L and P

Current Estimates

Date	Real Income/ Capita y	Popula- tion P (millions)	Total Income Y (billions)	Ideas Stock Level H	Ideas Growth Rate h
-8000		2.04			
-6000		5.09			
-4000		10.5			
-3000		15			
-1500		37			
-1000		50			
-400		103			
150		200			
800		240			
1000		296			
1500		500			
1770		750			
1870		1299			
1930		1909			
1975		3678			
2020	$12,000	7566			
2100					

- Stunningly unequally distributed across countries…
- Substantially unequally distributed within societies…
- Is this the summary statistic we really want?

Projecting into the Past Using Estimated Growth Rates

Date	Real Income/ Capita y	Popula- tion P (millions)	Total Income Y (billions)	Ideas Stock Level H	Ideas Growth Rate h
-8000		2.04			
-6000		5.09			
-4000		10.5			
-3000		15			
-1500		37			
-1000		50			
-400		103			
150		200			
800		240			
1000		296			
1500		500			
1770		750			
1870	$1,300	1299			
1930	$3,000	1909			
1975	$6,000	3678			
2020	$12,000	7566			
2100		10000			

- How bad a thing is this to do?

The English-Wage Hockey Stick

English construction workers

- Lots of priests and monks in England hiring construction workers, and then writing everything down, and then saving it

- English construction workers on average earned the same real wages in 1000, in 1450, and in 1850

- In John Stuart Mill's old age—1870—they were only 20% above what they had been 400 years before.

- Yet today they stand sixteen times as high as in 1800—and maybe much more

Rick: Steckel: Heights...
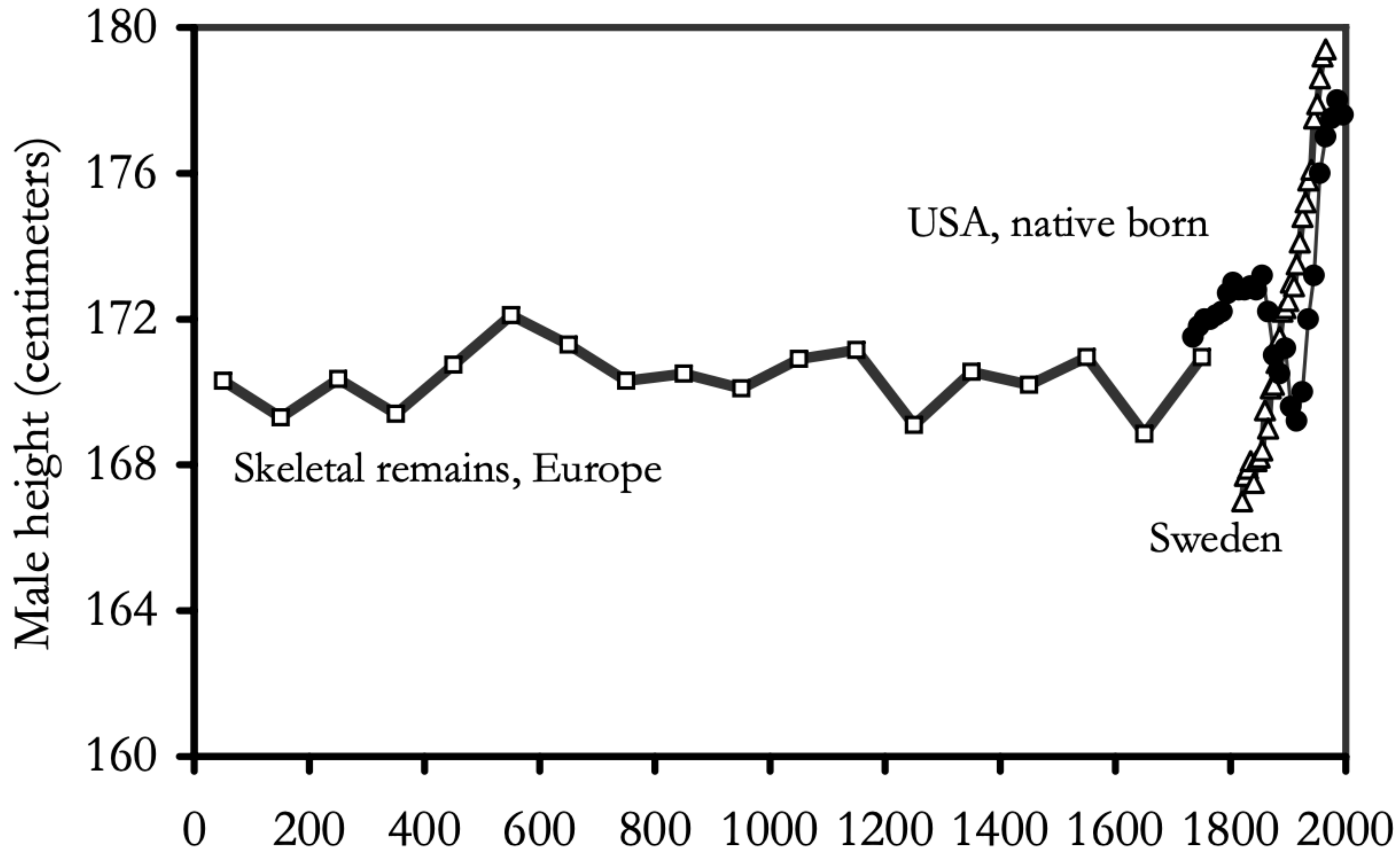
Figure 3.6 Male heights from skeletons in Europe, AD 1–2000. Data from Steckel, 2001, figures 3 and 4, and Koepke and Baten, 2005.

- What diet stunts your adult height by 8 cm?
- Upper classes 5 cm or so higher than lower classes…
- What would Alameda County child and protective services say about this?
- What constraints are parents under for this to happen?

Projecting into the Past Using Estimated Growth Rates

Date	Real Income/ Capita y	Popula- tion P (millions)	Total Income Y (billions)	Ideas Stock Level H	Ideas Growth Rate h
-8000		2.04			
-6000	$900	5.09			
-4000	$900	10.5			
-3000	$900	15			
-1500	$900	37			
-1000	$900	50			
-400	$900	103			
150	$900	200			
800	$900	240			
1000	$900	296			
1500	$900	500			
1770	$1,100	750			
1870	$1,300	1299			
1930	$3,000	1909			
1975	$6,000	3678			
2020	$12,000	7566			
2100		10000			

- Generalizing from Clark
- Generalizing from heights (lower- and upper-class)
- Generalizing from population growth rates

Artificial Means of Birth Control, Life Expectancy, & Female Literacy
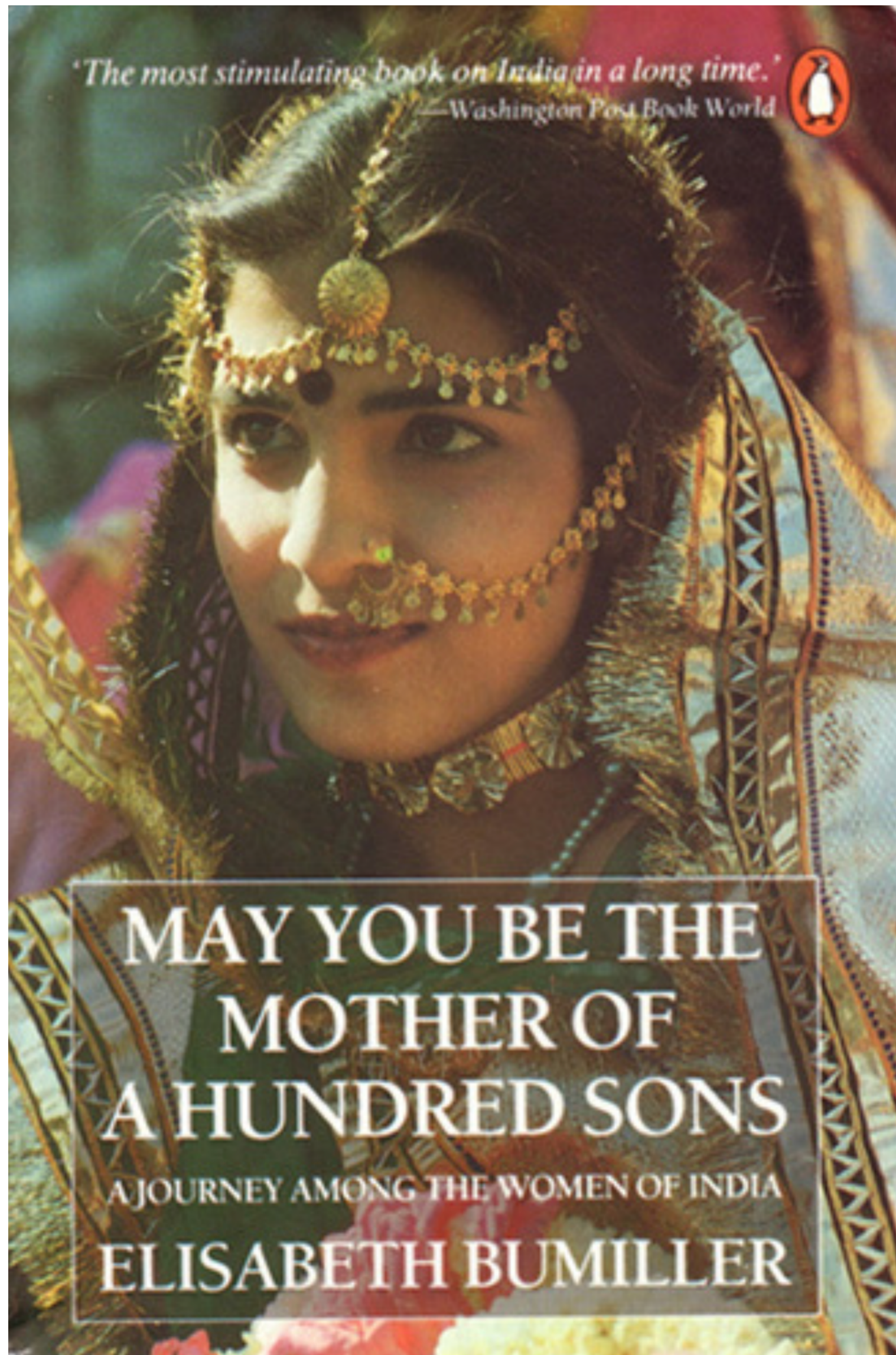

Life expectancy, 1770 to 2019
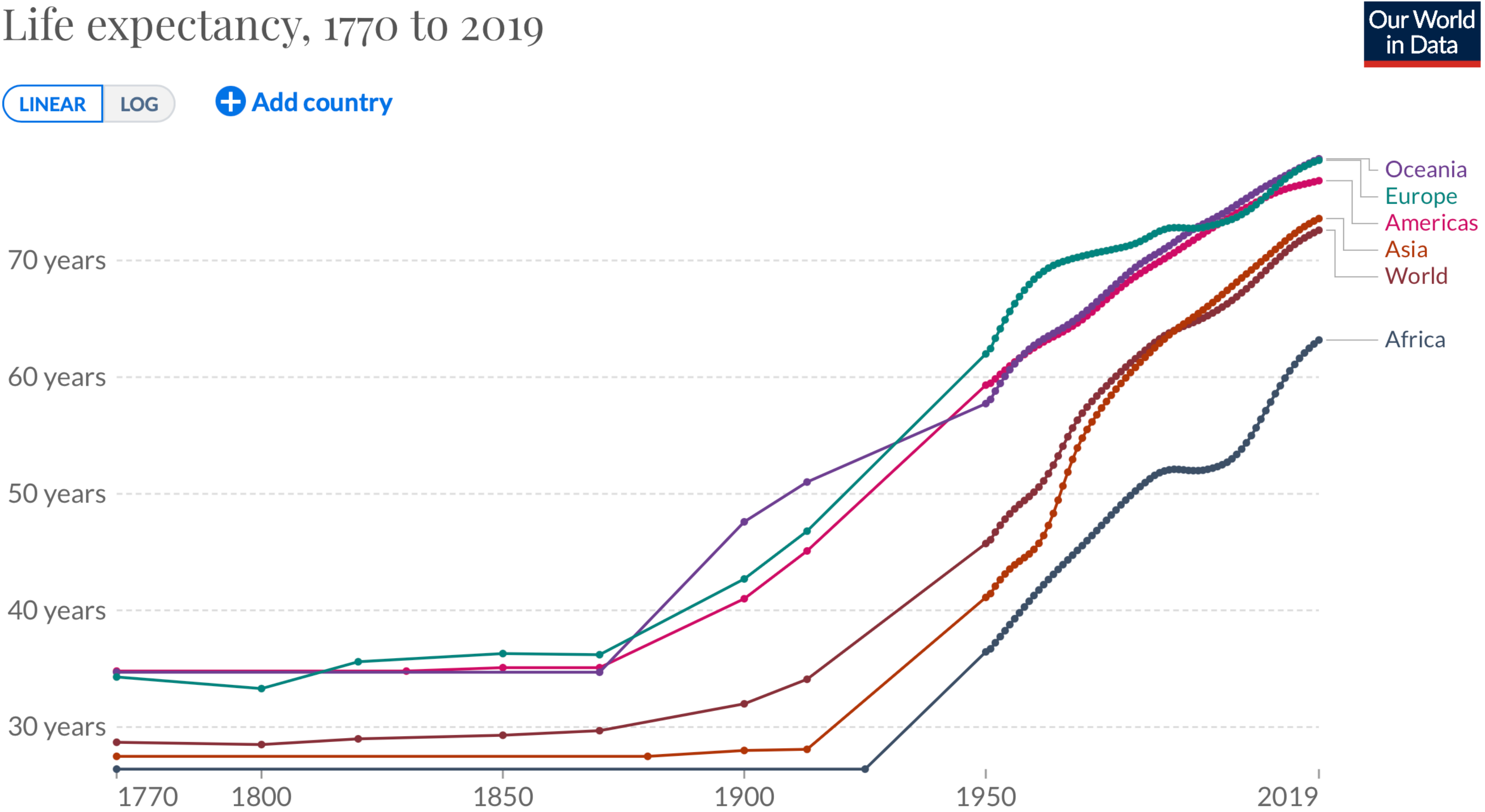
- These things have great consequences for demography
- They trigger the "demographic transition"
- The fall in birth rates and the drive toward ZPG...

Source: Riley (2005), Clio Infra (2015), and UN Population Division (2019)
Note: Shown is period life expectancy at birth, the average number of years a newborn would live if the pattern of mortality in the given year were to stay the same throughout its life.

OurWorldInData.org/life-expectancy • CC BY

Malthusian Demography

'The most stimulating book on India in a long time.'
—Washington Post Book World

MAY YOU BE THE MOTHER OF A HUNDRED SONS

A JOURNEY AMONG THE WOMEN OF INDIA

ELISABETH BUMILLER

Social power depends on being the mother of sons:

- Technological progress is slow

- So population nearly stable

- Thus the average mother has only one son surviving to reproduce

- Some have two or three, and some have zero

- Hence very strong pressure to have as many as possible, in the hope that one will survive

- Two children survive to reproduce

- Three live to adulthood

- 4.5 survive to age 5

- 6.5 live births

- 9 pregnancies, with miscarriages and stillbirths

9 x 9 = 81/12 = more than 6 years pregnant

15 years breastfeeding

21 years eating for two

The Tripods [Self-Propelled Catering Carts] of Hephaistos…

Quantitative Guesses

Date	Ideas Growth Rate h	Ideas Stock Level H	Real Income/ Capita y	Popula-tion P (millions)	Total Income Y (billions)			Population Growth Rate n	Labor Efficiency-Growth Rate g
-73000				0.01			Sub-speciation gateway?		
-68000		0.0082	$1,200	0.1	$0.12		Establishment of homo sapiens sapiens?	0.046%	
-48000	0.002%	0.011	$1,200	0.2	$0.24		Final radiation from Africa?	0.003%	0.000%
-30000	0.003%	0.018	$1,200	0.5	$1		Late Paleolithic era	0.005%	0.000%
-8000	0.005%	0.057	$1,200	5	$6		Neolithic revolution	0.010%	0.000%
-6000	0.003%	0.061	$900	10	$9		Agrarian society	0.035%	-0.014%
-4000	0.007%	0.070	$900	13.23	$12		Final start of "urbanization"?	0.014%	0.000%
-3000	0.007%	0.074	$900	15	$14		Start of Bronze-Literacy age	0.014%	0.000%
-1500	0.030%	0.117	$900	37	$33		**Bronze-Literacy mode of production**	0.060%	0.000%
-1000	0.030%	0.136	$900	50	$45		Start of Iron age	0.060%	0.000%
-400	0.060%	0.195	$900	103	$93		"Ancient" mode of domination ("Asiatic"?)	0.121%	0.000%
150	0.060%	0.272	$900	200	$180		High Antiquity	0.121%	0.000%
800	0.007%	0.285	$900	220	$198		Late-Antiquity Pause	0.015%	0.000%
1000	0.078%	0.333	$900	300	$270		**Feudal mode of production**	0.155%	0.000%
1500	0.062%	0.467	$1,000	480	$480		Commercial-Gunpowder-Empire mode of domination	0.094%	0.015%
1770	0.146%	0.694	$1,100	875	$963		Imperial-Commercial Revolution age ("bourgeois society")	0.222%	0.035%
1870	0.365%	1.000	$1,300	1300	$1,690		**Steampower mode of production**	0.396%	0.167%
1930	1.793%	3.000	$3,000	2100	$6,300		**Second-Industrial-Revolution mode of production**	0.799%	1.394%
1975	2.256%	9.000	$6,000	4000	$24,000		**Mass-Production mode of production**	1.432%	1.540%
2020	2.282%	27.000	$12,000	7800	$93,600		**Global-Value-Chain mode of production**	1.484%	1.540%
2077	1.939%	81.000	$33,173	9311	$308,857		Info-Biotech mode of production	0.311%	1.784%
2100	1.939%	127.381	$50,000	10000	$500,000	?	Into the Future?	0.311%	1.784%
2200	2.000%	941.227	$369.453	10000	$3.694.528	?		0.000%	2.000%

The H Index: H=0.037, 0.27, 0.43

Technology in Ceramics, -8000 to 1500: Jomon, Roman, Ming

The Great Breakthrough of 1870

- Background institutions and cultural practices

- The Dover Circle and the Dover Circle Plus

- Industrial research lab, modern corporatin, and global market economy

- In their absence: a steampunk society?

Repeated Economic Revolution since 1870

- Schumpeterian Creative Destruction

- Rewriting societies relations-of-production on the fly as the underlying technological hardware changes

- Sectors and industries

- Skills and social orientations

- Formal and informal empires

- The reality of economic growth, and ideas about it

Then vs Now: Each of These a Single Logic Gate

Vacuum Tubes in the IBM 701
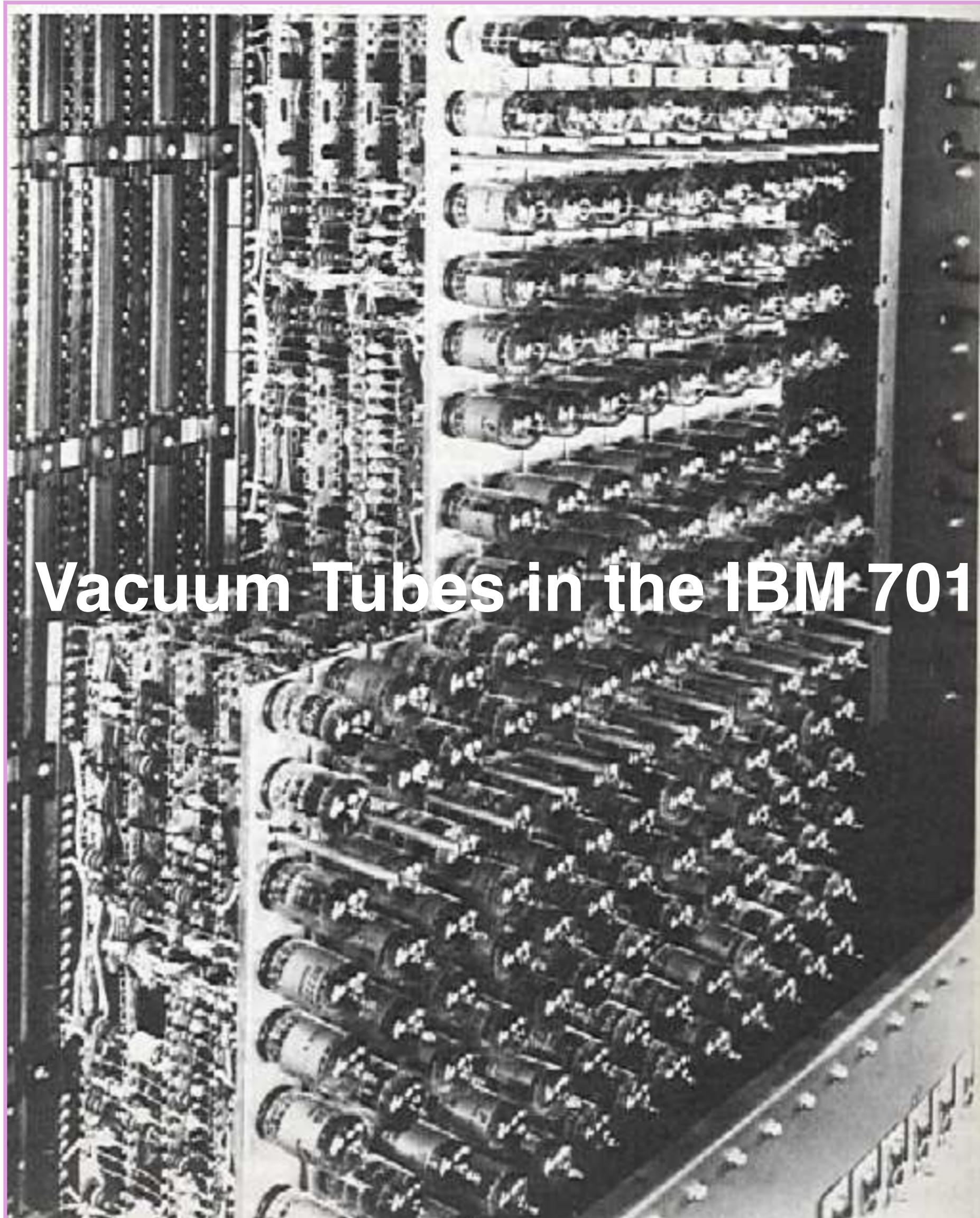
A glass tube filled with a vacuum:

- A NAND gate: 1" in diameter x 4" long

- Today a NAND gate is 100 nm^3

- We could fit 5×10^{16} NAND gates inside one of these

- Bottom Line:

  - We produce commodities much more cheaply

  - But we also produce very different commodities

  - Commodities that could not have been produced at any price in 1960 are incredibly cheap today

Can We Measure Our Wealth?

- Is every single one of us richer than Nathan Meyer Rothschild?

Catch Our Breath

Let's reflect on what we have just heard & seen…

1. Comments
2. Questions
3. Readings