

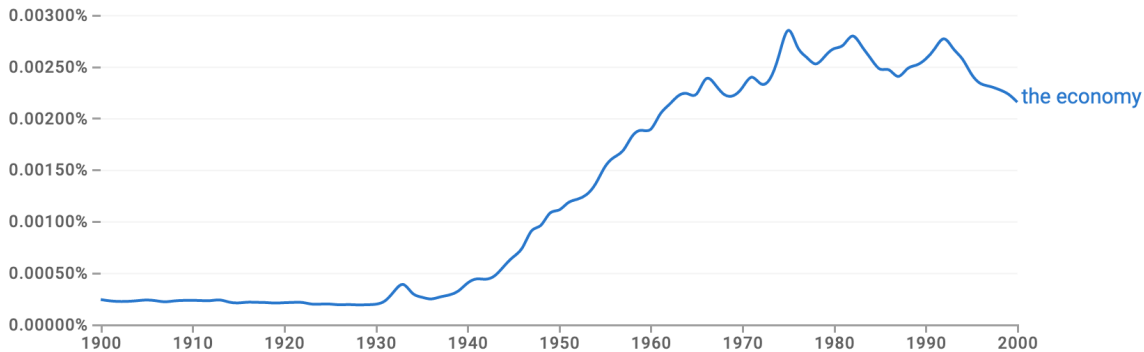
01b. Growth and Equality

Econ 373: US Economic History

Taylor Jaworski

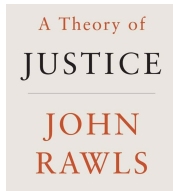
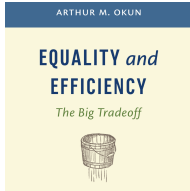
Fall 2023

What is the “economy”?



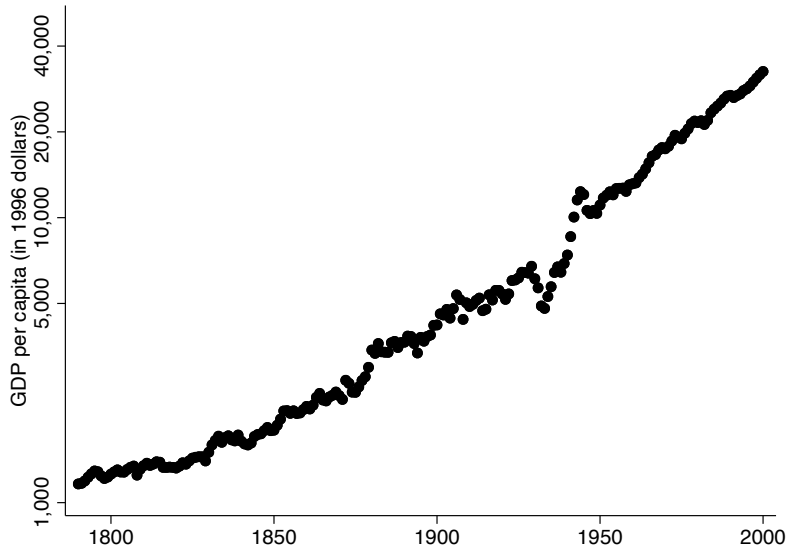
Different Views on Progress and Prosperity

- Criteria for the performance of economic systems

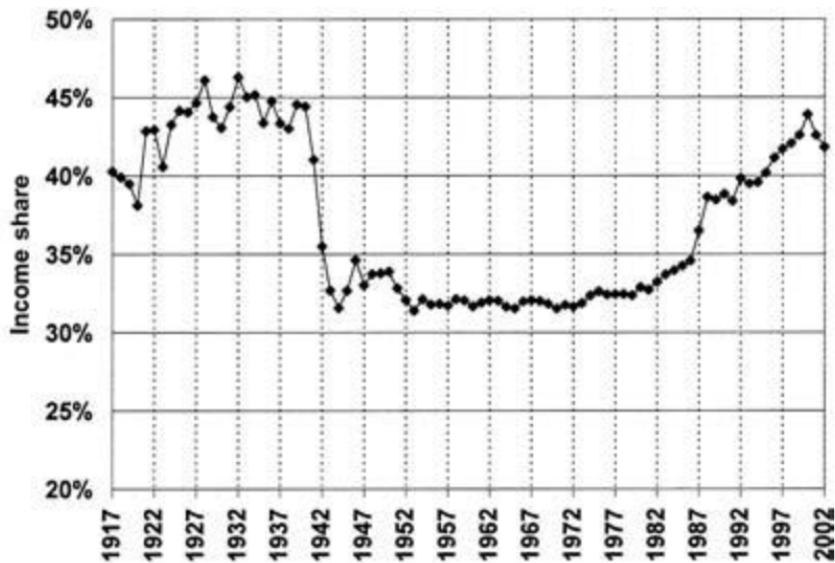


- Measuring economic performance with data





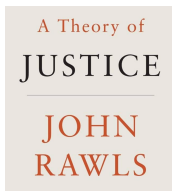
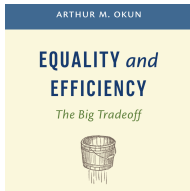
US GDP Per Capita



US Top Decile Share

Different Views on Progress and Prosperity

- Criteria for the performance of economic systems



- Measuring economic performance with data



- What do quantitative measures of the economy **mean**? What do they **miss**?



Growth

What causes economic growth?

- Specialization and exchange
- The neoclassical (Solow) model of economic growth
- Innovation, ideas, and endogenous (Romer) growth

Specialization and exchange

- The most fundamental way people have improved their circumstances over time is by engaging in exchange
- This happens by exploiting specialization, division of labor, and exchange
 - ★ Rearrange who or where stuff is produced
 - ★ Learn to produce stuff better
 - ★ Allow people to consume more than they could produce

The Solow growth model

- Start with a constant returns to scale *production function*:

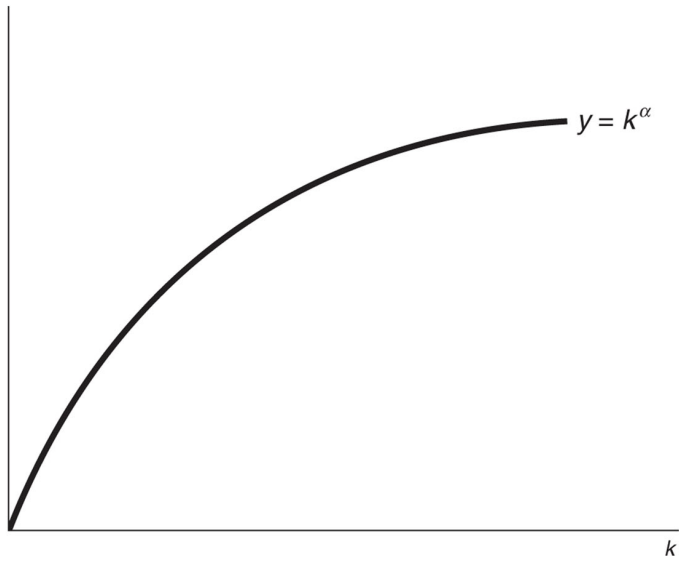
$$Y = F(K, L) = K^\alpha L^{1-\alpha}$$

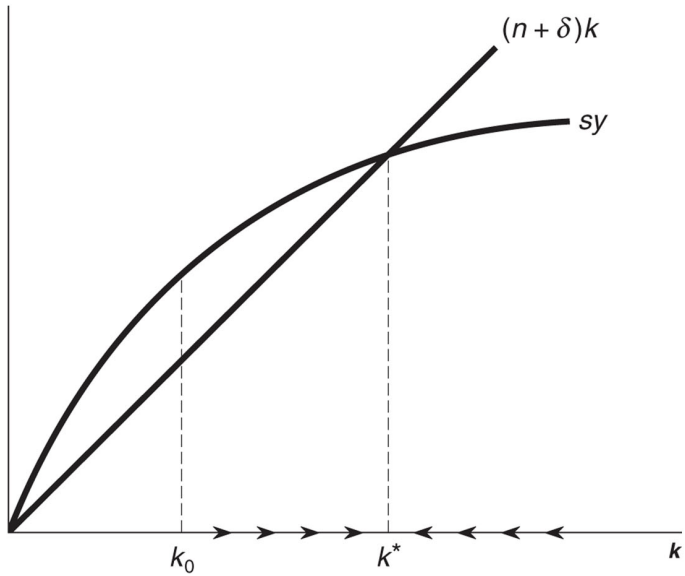
- Add an equation that describes *capital accumulation*:

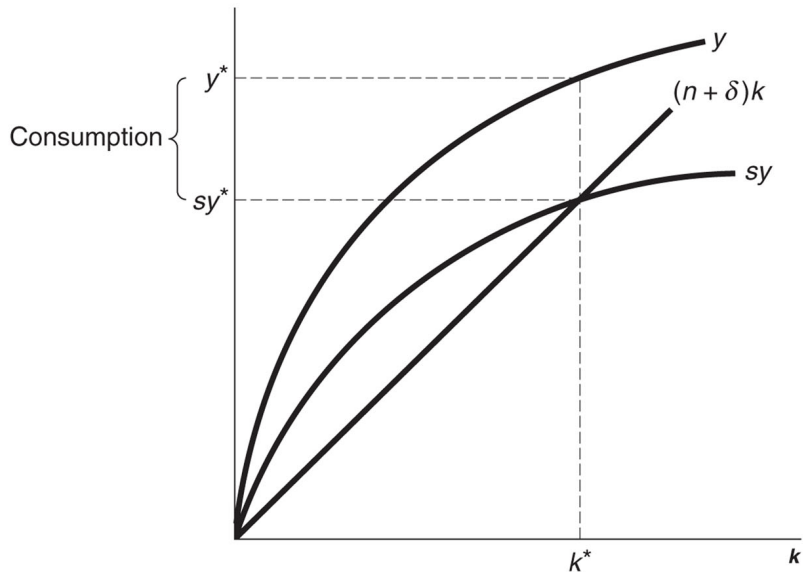
$$\dot{K} = sY - \delta K$$

- Finally, let *population* at time be given by:

$$L(t) = L_0 e^{nt}$$







The Solow growth model

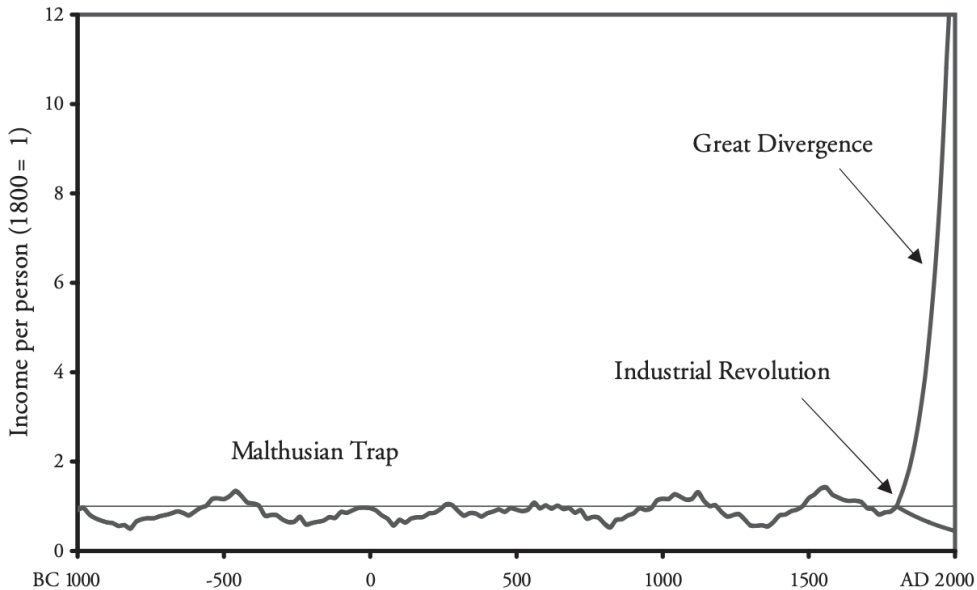
- There is *no growth* in the steady state equilibrium
- Adding *technology* allows for steady state growth, but there is no explanation for where this growth comes from (“Solow residual”)
- The Solow model is most useful for understanding *convergence* of an economy to its steady state growth path (e.g., post-WW2 Japan)
- **Investment behavior** and **population dynamics** “explain” economic growth

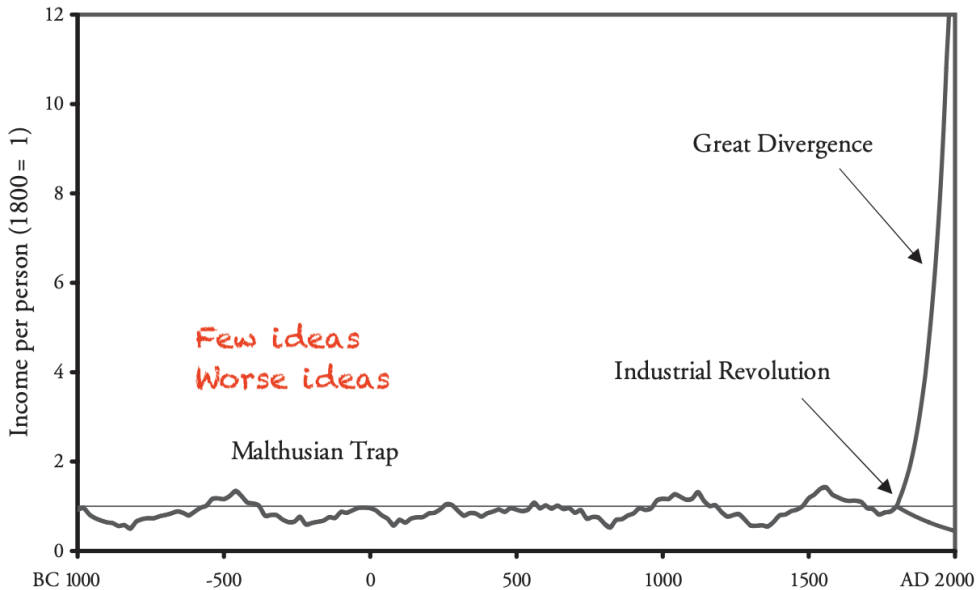
The Romer growth model

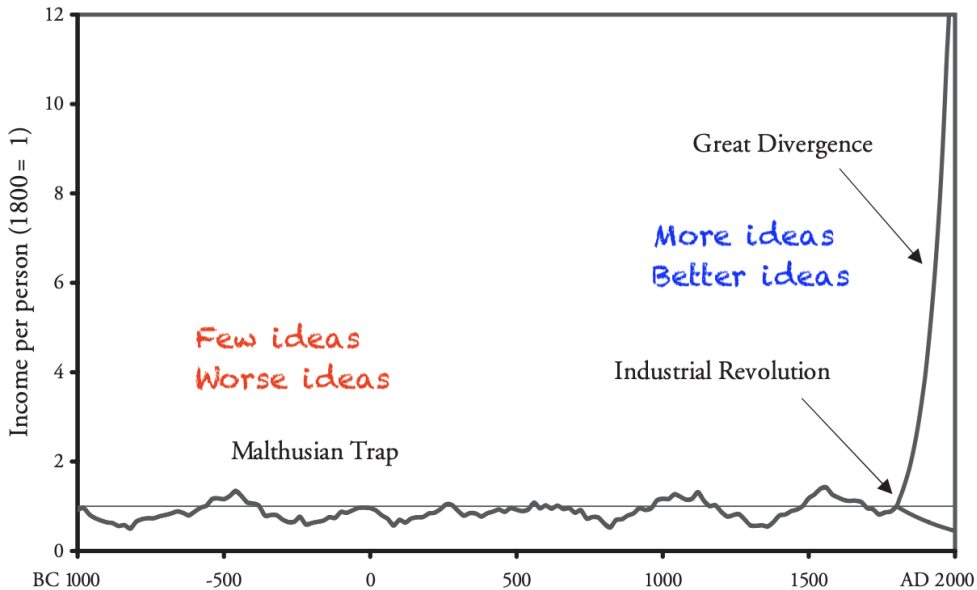
- Technology is unmodeled in neoclassical growth theory
 - Improvements in technology arrive *exogenously*
 - Differences in technologies across economies are *unexplained*
- Technology can be added to standard production function in following way:

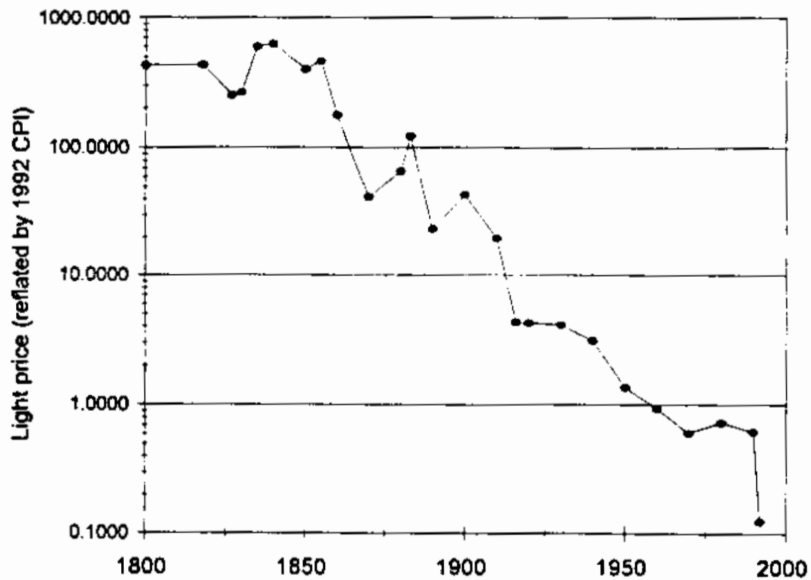
$$Y = K^{\alpha}(AL)^{1-\alpha} \quad \text{where} \quad A = A_0 e^{gt}$$

- Over time, *ideas* are obvious way that technology has gotten better









The Romer growth model

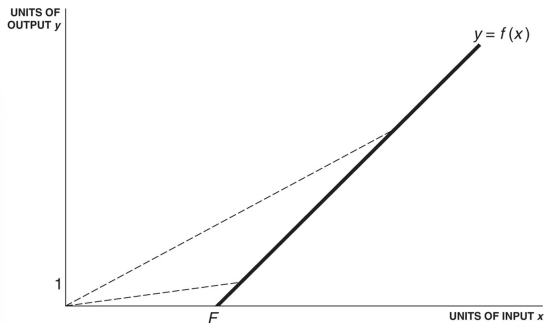
- Ideas are different from other inputs because they are **nonrivalrous**:

Ideas \rightarrow Nonrivalry

The Romer growth model

- Ideas are different from other inputs because they are **nonrivalrous**:

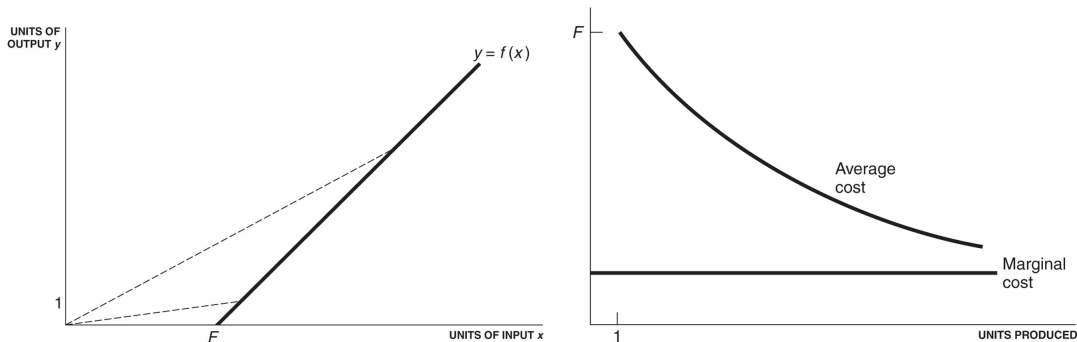
Ideas \rightarrow Nonrivalry \rightarrow Increasing Returns



The Romer growth model

- Ideas are different from other inputs because they are **nonrivalrous**:

Ideas \rightarrow Nonrivalry \rightarrow Increasing Returns \rightarrow Imperfect Competition



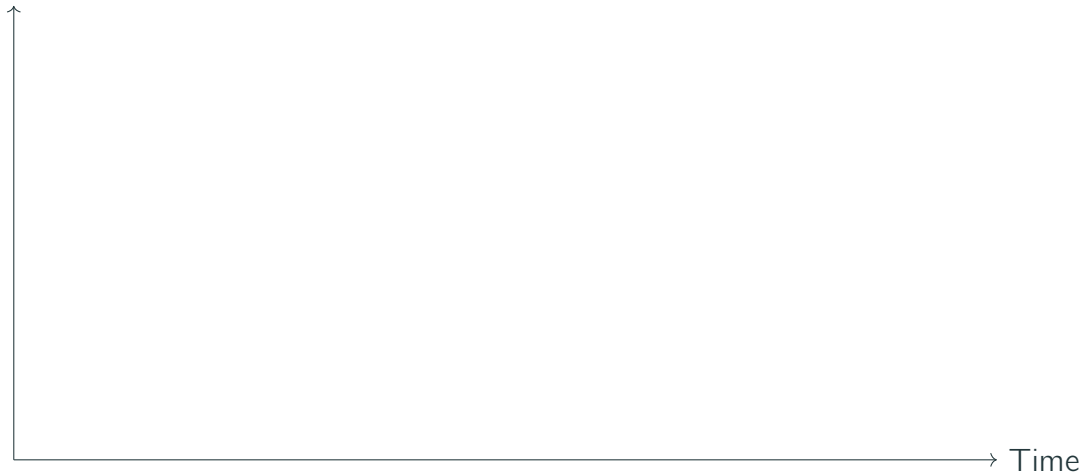
The Romer growth model

- Ideas are different from other inputs because they are **nonrivalrous**:

Ideas → Nonrivalry → Increasing Returns → Imperfect Competition

- This approach is associated with Paul Romer (winner of 2018 Nobel Prize in economics) as well as Chad Jones, Philippe Aghion, and Peter Howitt
- **Population size** and environment (i.e., **culture**, **institutions**) that supports creation of new ideas “explains” economic growth

“Stages” of economic growth in US history

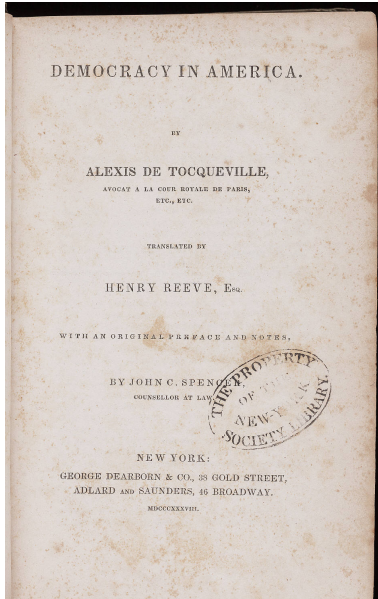


Caveats to using theory to understand the development of the American economy

- The economy is not *actually* a GDP factory (“complexity”)
- There is not a *single* experience in history (“heterogeneity”)
- Where a country came *constrains* where it can go (“path dependence”)
- The present *matters* for how we perceive the past (“memory”)
- ★ Use *economics* and *history* to think in terms of narrative and explanation

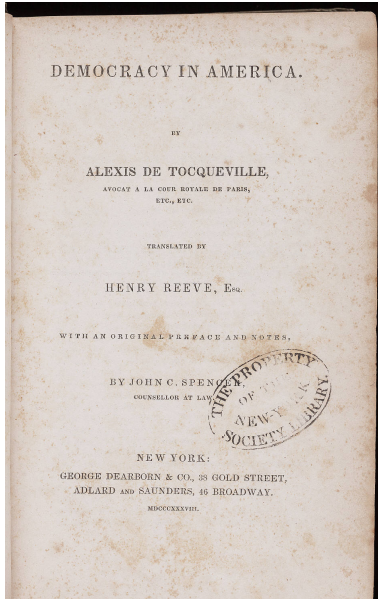
Equality

Democracy in America



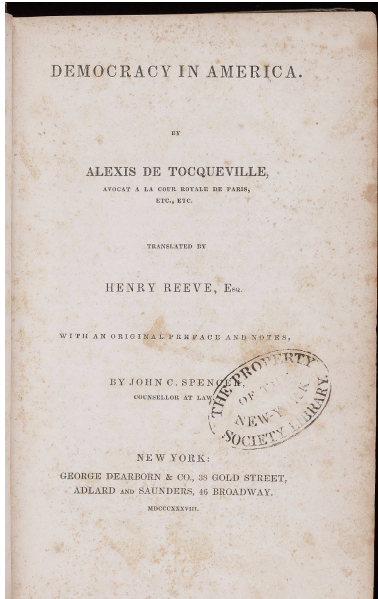
- In 1830s Alexis de Tocqueville produced most important book on America ever written
- Famous for observations on the American political system, civil society, and culture
- Set in context of world-historical long-running changes in relations among people

Democracy in America



The gradual development of the equality of conditions is therefore a providential fact, and it possesses all the characteristics of a divine decree: it is universal, it is durable, it constantly eludes all human interference, and all events as well as all men contribute to its progress.

Democracy in America



- For this course, emphasize time period of his observations (19thC) and what was to come
 - US still a young republic
 - During the 'market revolution'
 - Prior to the rise of industrial capitalism
- First half will cover Tocqueville's world; in second part country will look much different
- Were his insights enduring? Does it matter? (i.e., link between growth and equality?)

