

# Antitrust and the End of the World

Corbin K. Barthold

Internet Policy Counsel, TechFreedom



# “Not even wrong”

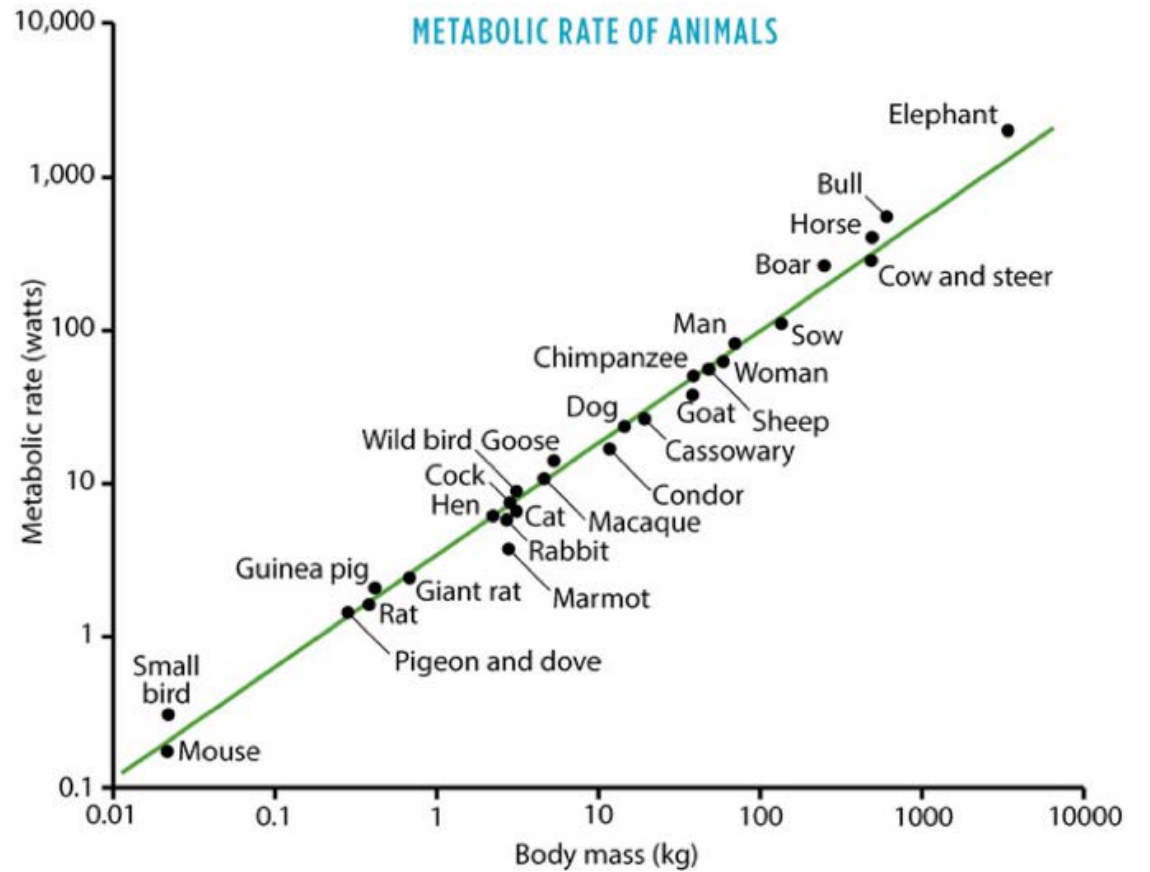
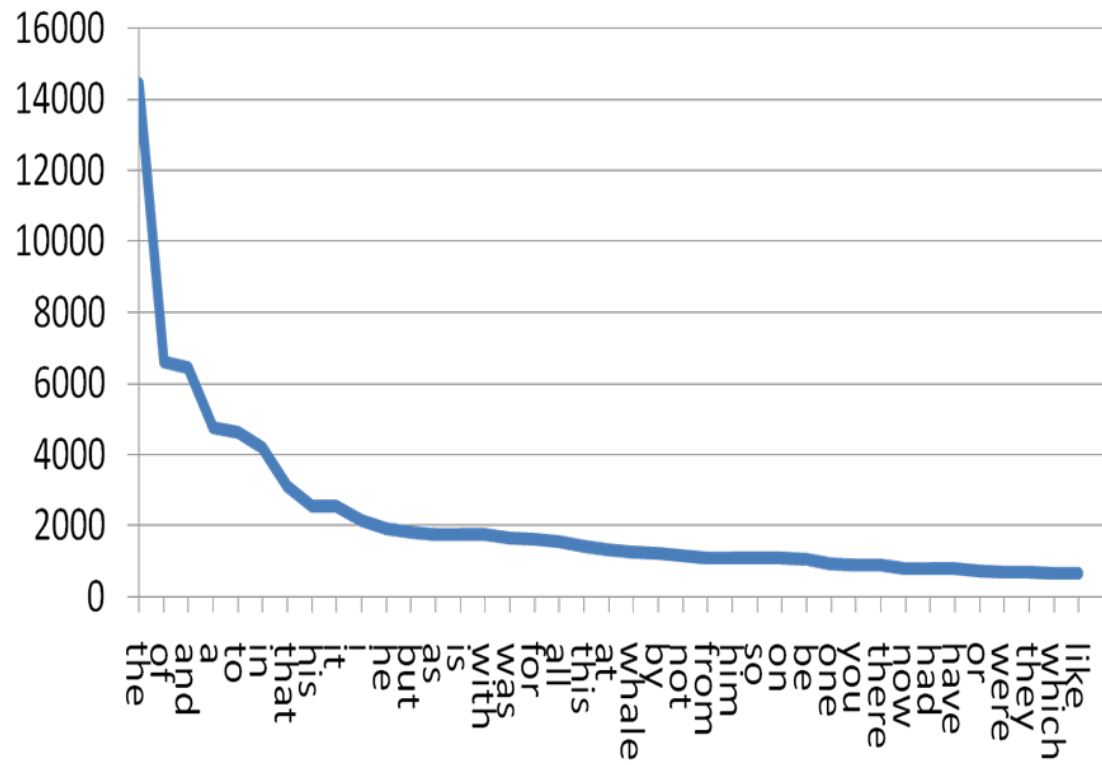
“During the twentieth century, my best guess is that we faced around a one in a hundred risk of human extinction or the unrecoverable collapse of civilization. Given everything I know, I put the existential risk this century at around one in six.”

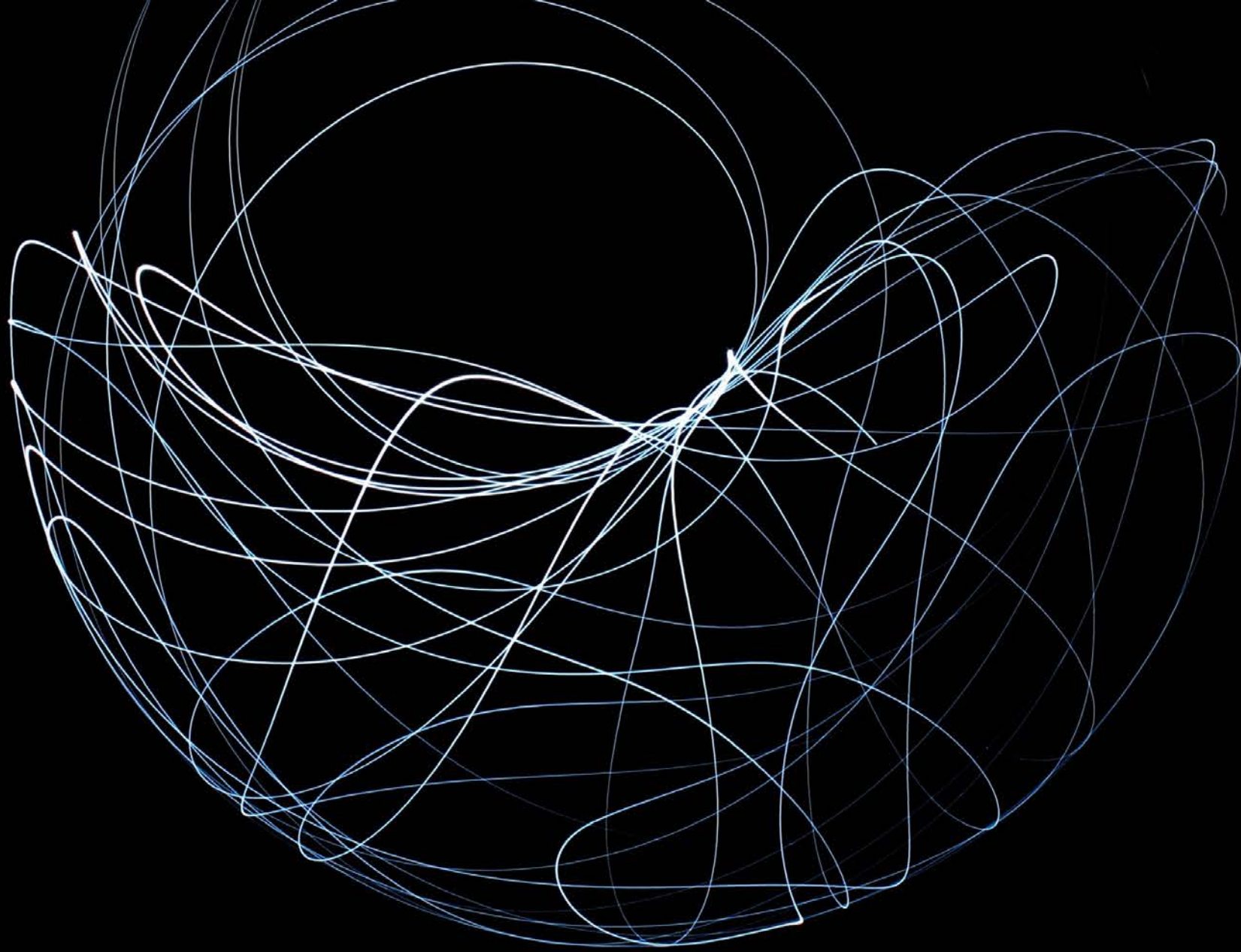
- Oxford philosophy professor

World To End; Experts Hardest Hit, *Forbes.com* (May 2020)

<https://www.forbes.com/sites/wlf/2020/05/28/world-to-end-experts-hardest-hit/?sh=71d4a4832015>









“Whatever counted as cost-benefit analysis in the Spanish court took no account of the possibility of a New World; nor could it.”

- Mervyn King & John Kay

*Radical Uncertainty: Decision-Making  
Beyond the Numbers (2020)*

“Rational people answer most questions about the future—whether the question is ‘Which horse will win the Kentucky Derby?’, ‘What will be the level of the stock market at the end of 2025?’ or ‘How will artificial intelligence develop?’—by saying ‘I do not know’.”

“To describe catastrophic pandemics, or environmental disasters, or nuclear annihilation, or our subjection to robots, in terms of probabilities is to mislead ourselves and others. We can talk only in terms of stories.”

- King & Kay

*New Studies in Archaeology*

# The Collapse of Complex Societies

**JOSEPH A. Tainter**



*The Collapse of Complex Societies (1988)*

*“Collapse is a recurrent feature of human societies.”*

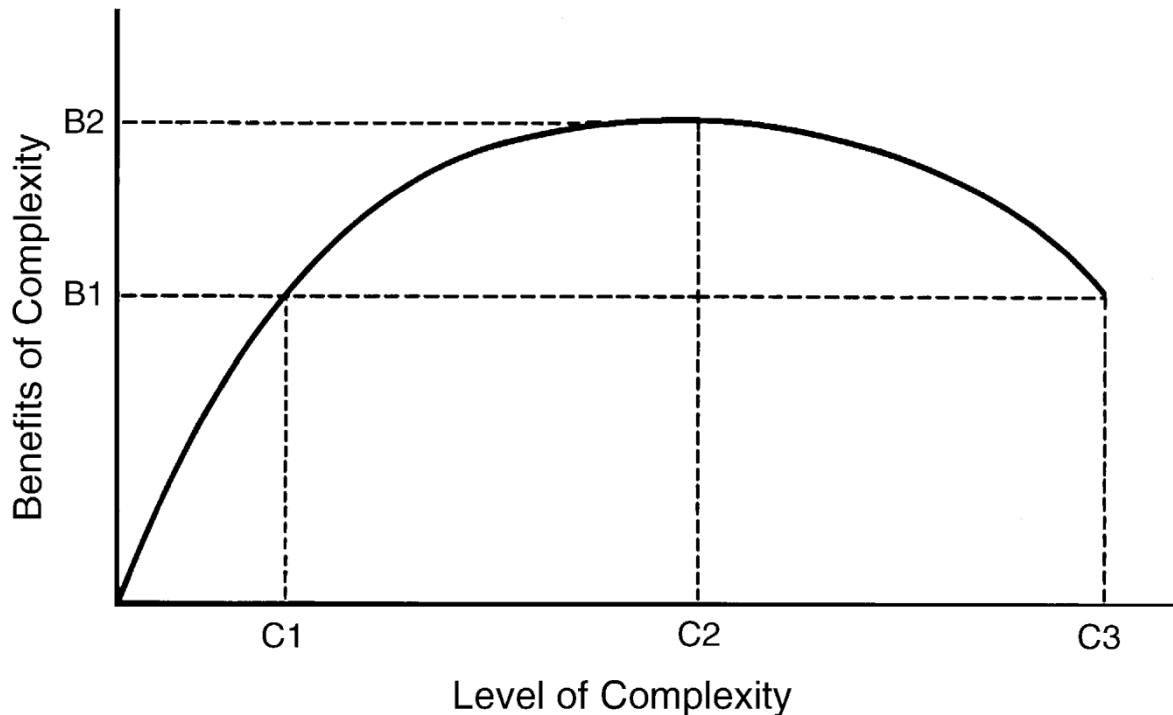
- Joseph A. Tainter





## Tainter – the Collapse of Complex Societies

### Diminishing Marginal Returns on Complexity as a Tool for Problem Solving



- Human societies are problem-solving organizations.
- Complexity is a key societal problem-solving tool.
- Complexity in problem solving can reach diminishing returns and become ineffective.
- Complexity in problem solving does its damage subtly, unpredictably, and cumulatively over the long term.
- A society can be destroyed by the cost of sustaining itself.

## Tainter – the Collapse of Complex Societies, cont'd

- “A common trend among human organizations is to respond to problems by developing specialized administrators, and by increasing the proportion of the population engaged in administrative tasks. In many cases this increased, more costly complexity will yield *no* increased benefits, at other times the benefits will not be proportionated to the added costs.”
- “Organizational solutions tend to be cumulative. Once developed, complex societal features are rarely dropped. . . . Information processing needs tend to move in only one direction. Numbers of specialists ordinarily don't decline. Standing armies rarely get smaller. Welfare and legitimizing costs are not likely to drop. . . . Compensation of elites rarely goes down.”

## Tainter – the Collapse of Complex Societies, cont'd

“Complex societies, by their very nature, tend to experience cumulative organizational problems. As systems develop more parts, and more complex interactions among these parts, the potential for problems, conflicts, and incongruities develops disproportionately.”

Mancur Olson:

Regulators make rules → specialists seek loopholes → more regulators and more rules → more specialists to navigate the rules, etc.

Spiral of ever-increasing complexity and ever-rising cost.

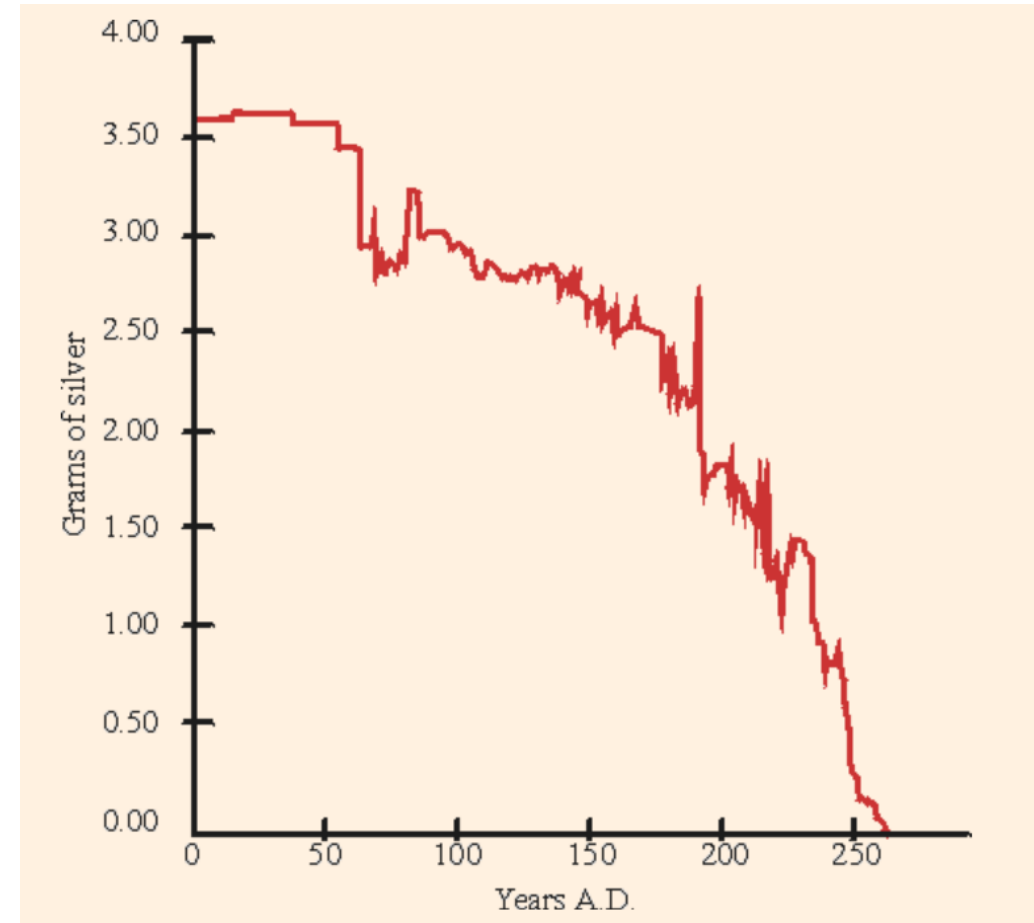
# Tainter – the Collapse of Complex Societies, cont'd

## Roman Empire, 2nd / 3rd centuries:

“The expenses of government were steadily increasing out of proportion to any increase in receipts.”

“The only solution for the government was to raise taxes and debase the currency. . . . The Empire . . . had, in all but words, declared itself bankrupt and thrown the burden of its insolvency on its citizens.”

“Despite the increased expenditures, civil services declined, and buildings fell into disrepair.”



# Tainter – the Collapse of Complex Societies, cont'd

Roman Empire, late 3rd / early 4th centuries:

“The Empire that emerged under Diocletian and Constantine was administered by a government that was larger, more complex, more highly organized, and that commanded larger and more powerful military forces. It taxed its citizens more heavily, conscripted their labor, and regulated their lives and their occupations. It was a coercive, omnipresent, all-powerful organization that subdued individual interests and levied all resources toward one overarching goal: the survival of the State.”

# Overproduction of Elites (Peter Turchin)

- Societal ruling classes tend to grow faster than the number of positions for their members to fill.
- Elite over-production chokes opportunity for non-elites.
- Failed elites become counter-elites, who stoke hatred for, and mistrust of, elites and elite institutions.
- Expense of the elites' pacification of angry non-elites becomes prohibitive.

One metric: The number of lawyers:

1960: ~200,000 (U.S. pop.: ~180 million)

2020: ~1.3 million (U.S. pop.: ~330 million)

Can History Predict the Future? *The Atlantic* (Dec. 2020)

<https://www.theatlantic.com/magazine/archive/2020/12/can-history-predict-future/616993/>



# Kludgeocracy (Steven Teles)

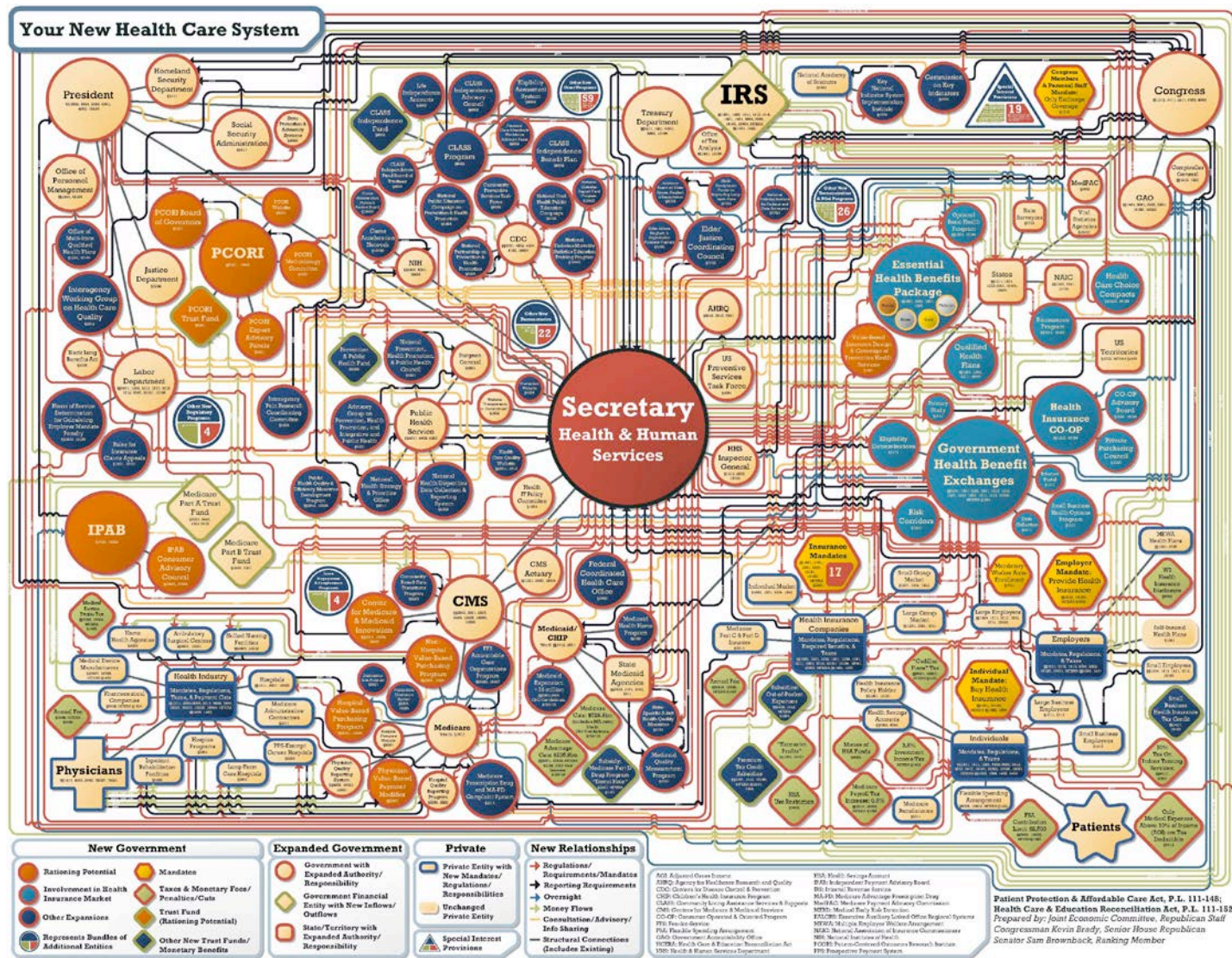
“[A] kludge is an inelegant patch put in place to solve an unexpected problem and designed to be backward-compatible with the rest of an existing system. When you add up enough kludges, you get a very complicated program that has no clear organizing principle, is exceedingly difficult to understand, and is subject to crashes.”

## Kludgeocracy:

- obstructs private action / problem solving
- invites abuse of gov. power (rough justice)
- drives complexity (disputes on disputes)
- advantages elites (hard to navigate)

Kludgeocracy in America, *National Affairs* (Fall 2013)

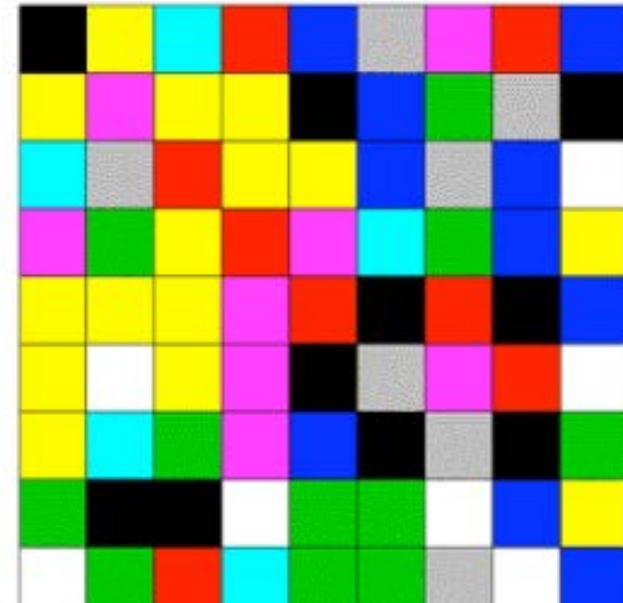
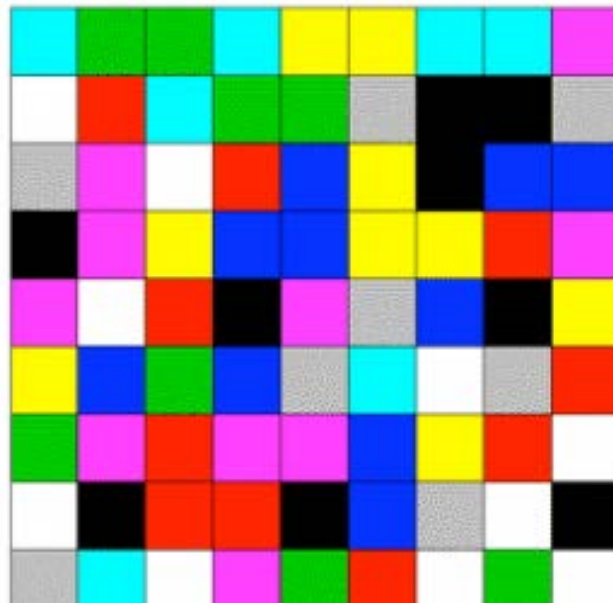
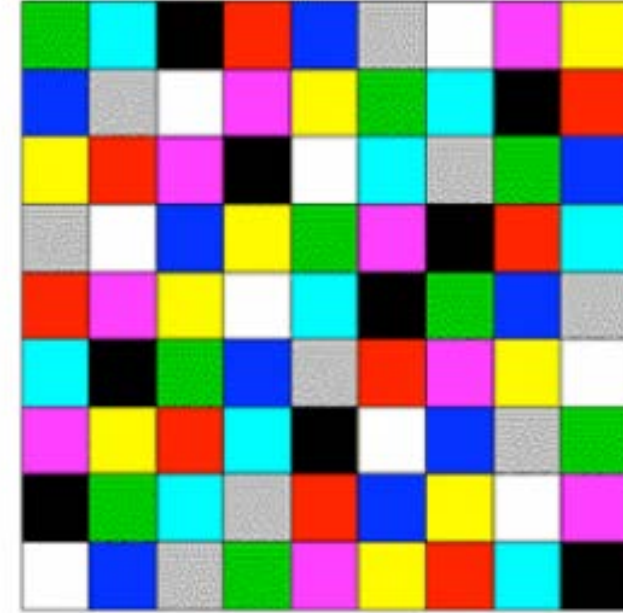
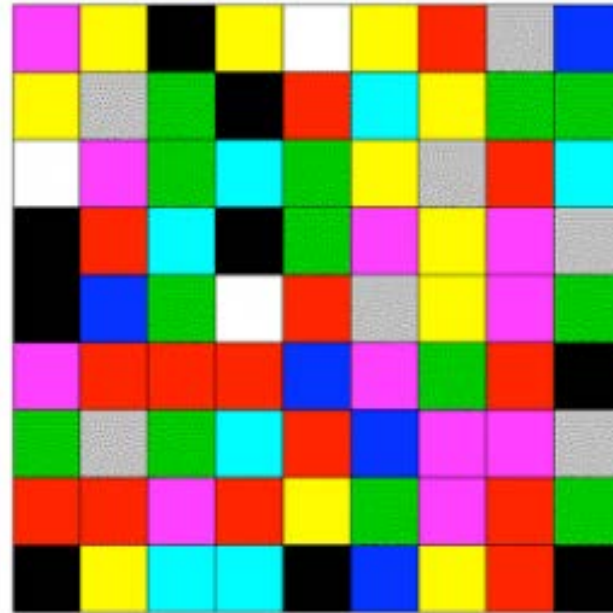
<https://www.nationalaffairs.com/publications/detail/kludgeocracy-in-america>



Patient Protection and Affordable Care Act, P.L. 111-148; Health Care and Education Reconciliation Act, P.L. 111-151  
 Prepared by: Joint Economic Committee, Republican Staff  
 Congressman Kevin Brady, Senior House Republican  
 Senator Sam Brownback Ranking Member

# The Illusion of Order

Which set of squares is *not* random?



Sir David Spiegelhalter  
<https://understandinguncertainty.org/node/1066>





Norman Borlaug

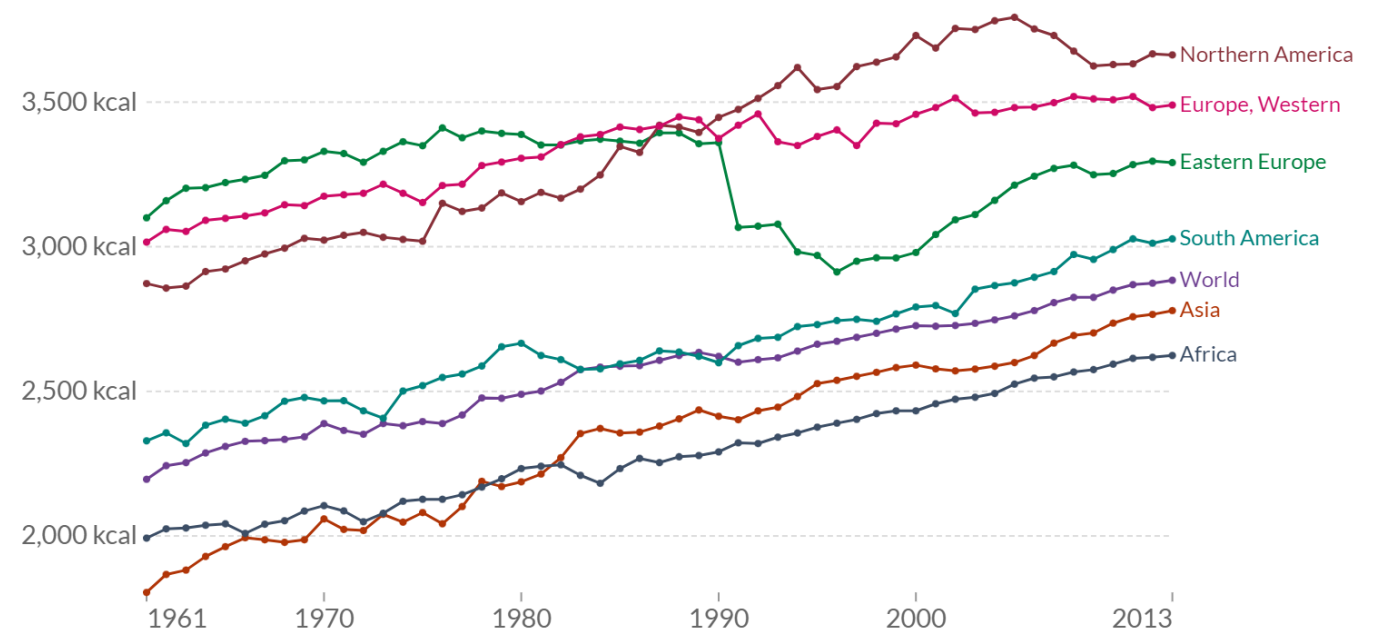
# The Need for Innovation

## Daily supply of calories, 1961 to 2013

Caloric supply is measured in kilocalories per person per day.



[+ Add region](#)

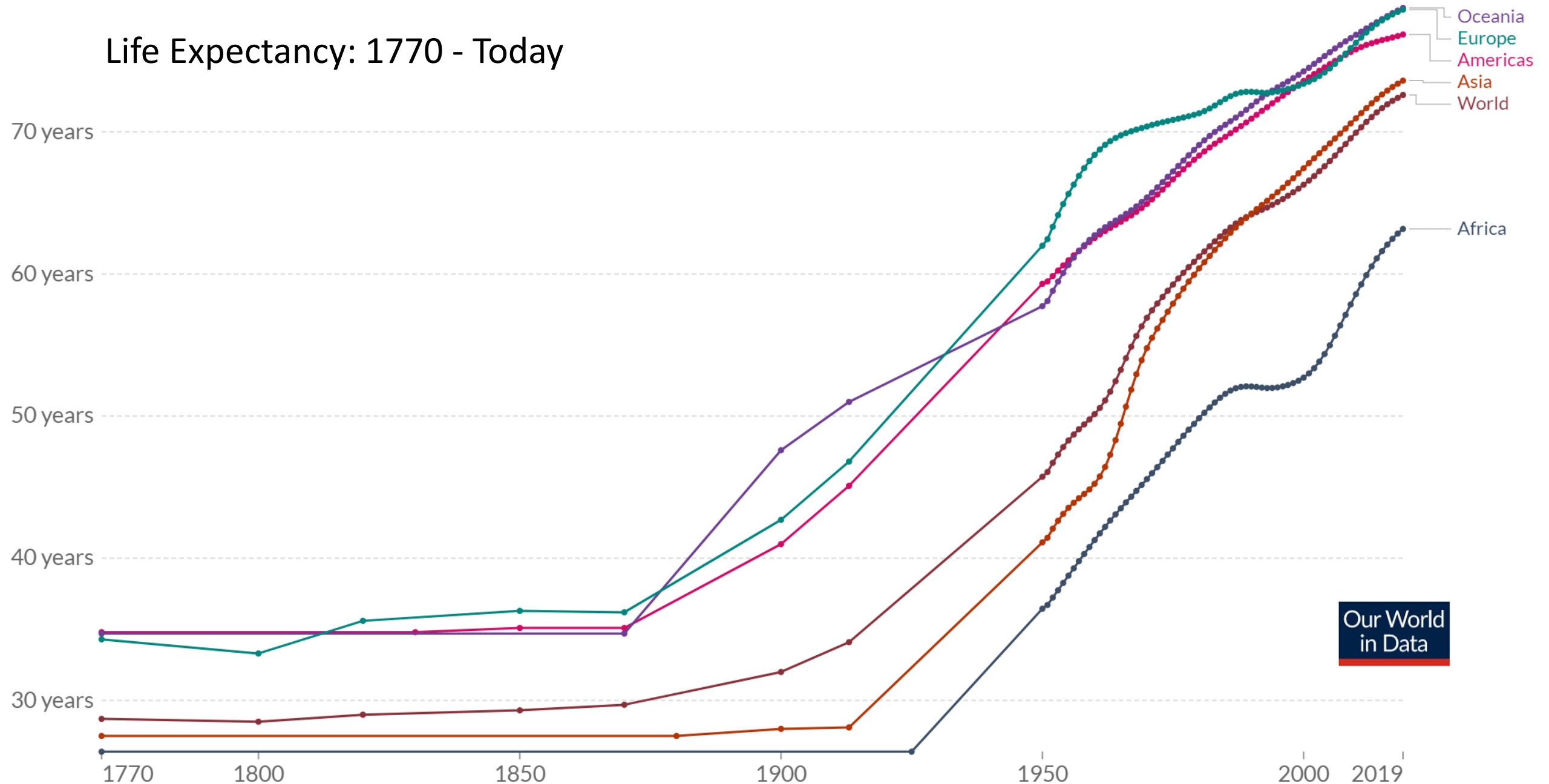


Source: UN Food and Agriculture Organization (FAO)

Note: Data measures the food available for consumption at the household level but does not account for any food wasted or not eaten at the consumption level.

OurWorldInData.org/food-supply • CC BY

# Life Expectancy: 1770 - Today



Source: Riley (2005), Clio Infra (2015), and UN Population Division (2019)

OurWorldInData.org/life-expectancy • CC BY

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.

# Antitrust and Public Choice Economics

vague standards

broader decision space

incentive to test boundaries

more lawyers, more lawsuits

rent seeking, soft corruption

more expense, more red tape

dropping return on complexity

high risk of system collapse

# Antitrust Litigation (1969 - 1982)

“The case now centers on a market situation that existed two or three technological generations ago.” - N.Y. Times, 1981

- Core claim: Bottleneck on IBM mainframe interfaces.
- Goal: Stop interface change / innovation; create “stability” for third-party vendors.
- 1975-80: ~1,000 witnesses called.
- At one point: ~200 lawyers on the case for IBM.
- During the litigation: PCs overtook mainframes.
- Suit dismissed as “without merit” in 1982.
- In the '80s and '90s, IBM “routinely fell victim to ‘pricing death strategy’ – a reluctance to lower prices below cost, even on products that weren’t selling.” (CNET, 2002)

Lesson learned?

***Boom Times for Lawyers as Washington Pursues Big Tech***

- N.Y. Times, June 29, 2021

# The End of the World?

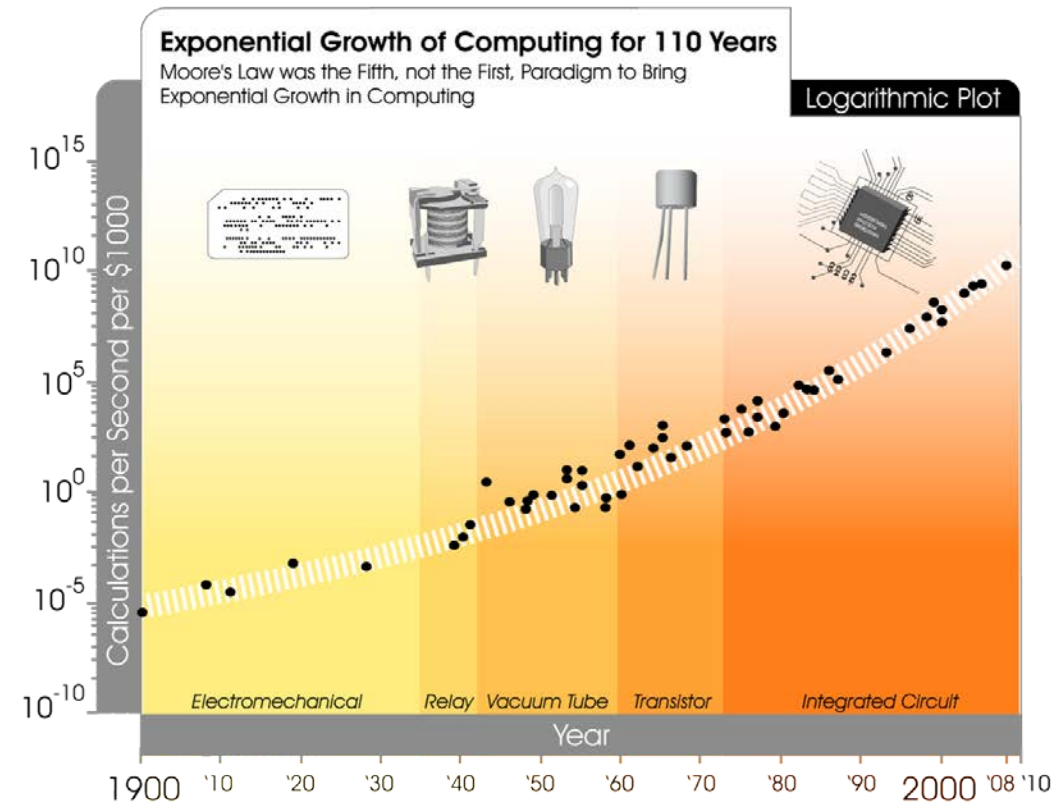
Tainter:

- “Sociopolitical organization ... is a major arena of declining marginal returns, and one for which no substitute product can be developed.”
- “Technological innovation and increasing productivity can forestall declining marginal returns only so long.”
- “Collapse, if and when it comes again, will this time be global. ... World civilization will disintegrate as a whole.”

# Singularity or Bust?

- R&D + productivity growth: 1 researcher, 1930 = 20 researchers, 2017.\*
- Constant *rate* of growth = exponential *amount* of growth.

“To sustain open-ended growth in light of resource limitation requires continuous cycles of paradigm-shifting innovations.” - Geoffrey West (Santa Fe Institute)



Source: Ray Kurzweil

\* Bloom, Jones, et al., *Ideas aren't running out, but they are getting more expensive to find*, <https://bit.ly/3CAIInC> (2017)

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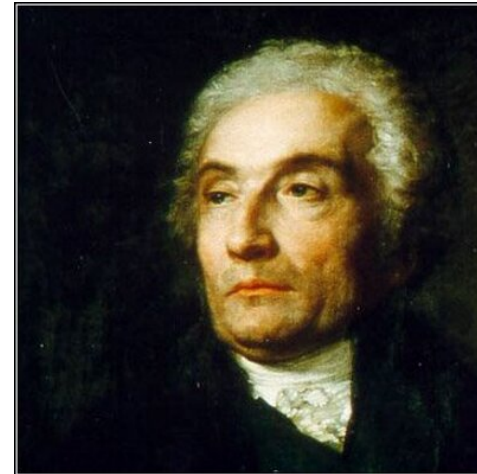
The cycle of innovation “is continually repeated, thereby pushing potential collapse as far into the future as the creativity, inventiveness, and resourcefulness of human beings allow.”

Geoffrey West





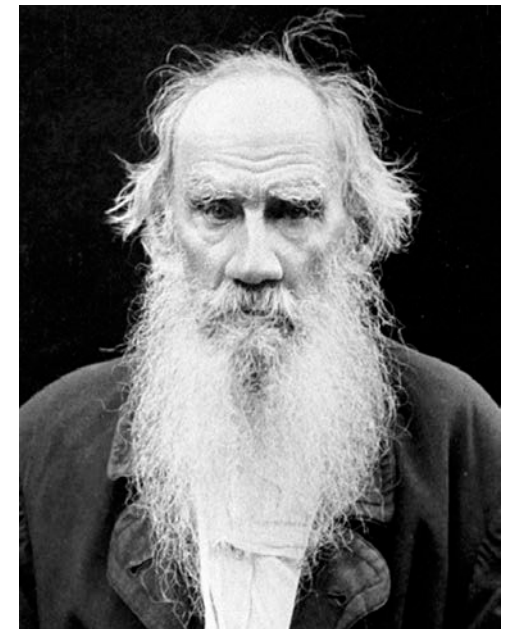
“[B]attles are won by acts of faith. ... [L]ife itself is a battle of this sort, and any attempt to describe it in rational terms is really a kind of dreadful distortion, a smoothing over, tidying up, ordering of something which is by nature deeply irrational, deeply untidy, and obeys no discoverable laws or rules.”



Joseph de Maistre



Isaiah Berlin



Tolstoy

“To adherents of axiomatic rationality and behavioral economics alike, optimism is a ‘bias’, leading to errors in calculations of subjective expected utility. We are not so sure.”

- King & Kay