

Dealing with complex systems

Andrew Odlyzko

School of Mathematics
and Digital Technology Center

University of Minnesota

`odlyzko@umn.edu`

`http://www.dtc.umn.edu/~odlyzko`

December 10, 2019

Wall Street view of telecom:

P. de Sa et. al, *Bernstein Research* report, June 2014:
With the incremental cost of providing that extra minute of calling, or extra byte of data, close to zero, carriers generally try to price based on what they think they can get away with, constrained by competition, customer inertia (either voluntary or enforced by contracts), regulation (or threats thereof), and their execution capabilities.

Modern economy:

- increasingly dominated by search for choke points
- minimal real investments
- assisted by confusology (the “post-truth” world)

Manipulation and human nature:

As brainy social animals, human beings evolved to be consummate actors whose survival and ability to reproduce depend on the quality of our performances. We enter the world prepared to perform roles and manage the impressions of others, with the ultimate evolutionary aim of getting along and getting ahead in the social groups that define who we are.

D. P. McAdams, "The mind of Donald Trump,"
The Atlantic, June 2015.

Manipulation and human nature (cont'd):

- Santayana: “masks”
- Bernays, Lippman: advertising, propaganda
- Goffman: *The Presentation of Self in Every Day Life*
- Cialdini: “influence”
- ...

New opacity:

- “Transparency is the new opacity” (title of paper by C. Bradley)
- NDAs
- general complexity
- ratio of PR professionals to news reporters grew from 1.9 in 1998 to 6.4 in 2018

Self-deception and willing suspension of disbelief:

- perception as “controlled hallucination” theory
- Lake Wobegon Effect: overestimates of abilities
- overconfidence effect
- “Steve Jobs reality distortion field”
- Silicon Valley “fake it till you make it” mantra

More examples, modern and ancient:

- U.S. health care industry
- “The itsy-bitsy, teenie-weenie, very litigious Kiini bikini.”
- Tom Sawyer, whitewashing a fence, and his “great, magnificent inspiration”
- financial bubbles