

# Adapt or Die

## National Security from an Evolutionary Perspective

David Sloan Wilson  
President, Evolution Institute  
SUNY Distinguished Professor  
Departments of Biology and Anthropology  
Binghamton University

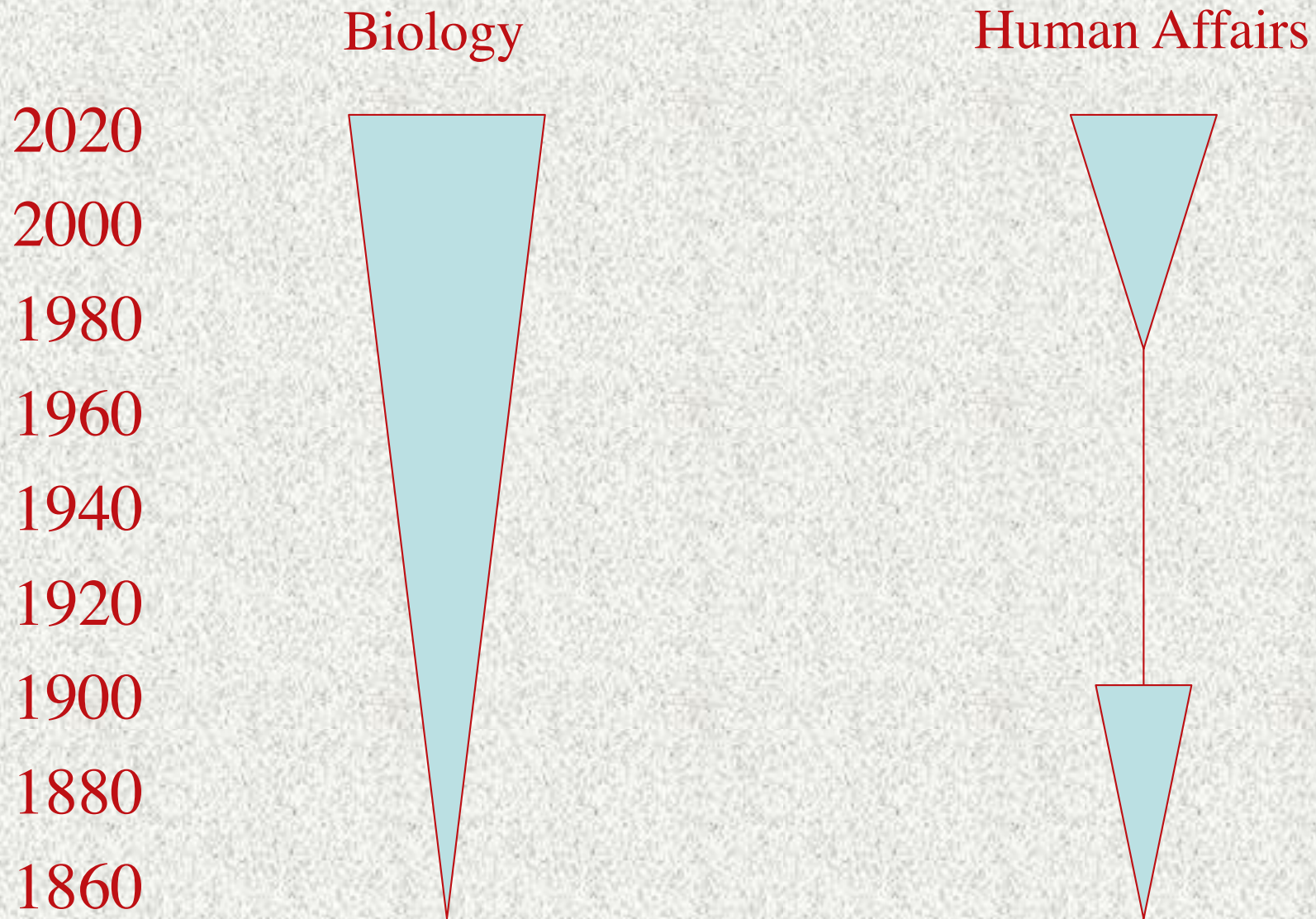
June 28 2018

# Some General Observations

- Policy discussions of all sorts use words such as "evolve" and "adapt" in the vernacular to describe the need for positive change.
- The metaphor of society as an organism stretches back to antiquity and is reflected in words such as "corporation" and phrases such as "body politic".

- Yet, these same discussions almost never draw upon evolutionary science as a source of insight.
- Instead, they rely upon real-world experience and an alphabet soup of social science disciplines that are poorly related to each other.

# The Study of Evolution in Relation To...



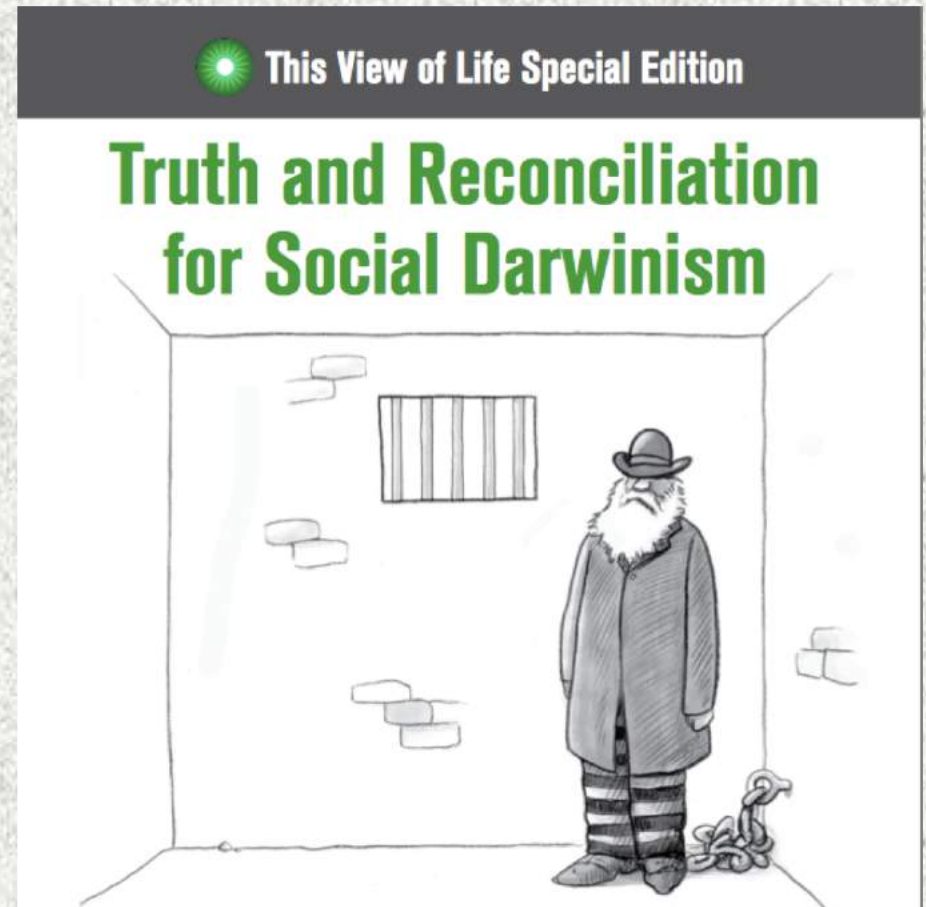


# Evolutionary Biology became Gene-centric

- Darwin defined heredity as a resemblance between offspring and parents, **caused by any mechanism.**
- Once genes were discovered, they became regarded as the only mechanism of heredity, as if the only way that offspring resemble their parents is by sharing genes.
- Around the world, for experts and laypeople alike, say the word “evolution” and almost everyone hears the word ”genes”.
- **The study of cultural change was ceded to other disciplines.**

# The Human Social Sciences Became Evo-phobic

- A common view is that Darwinian thinking led to the justification of inequality.
- The real history is more complex and interesting.
- Social science disciplines had their own reasons to declare independence from biology and even psychology.





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# Why Did Sociology Declare Independence From Biology (And Can They Be Reunited)? An Interview with Russell Schutt



Russell Schutt, U-Mass Boston 7



ANTHROPOLOGY

HISTORY

# Cultural Anthropology and Cultural Evolution: Tear Down This Wall! A Conversation with Robert Paul



Robert Paul, Emory U.8



# The Bottom Line

- Each branch of the social sciences became sophisticated in its own way, but not in relation to evolutionary theory or each other. The result: Alphabet Soup.
- Most social scientists and policy experts:
  - Accept evolution as a powerful theory for the rest of life, our physical bodies, and a few basic urges such as to eat and have sex.
  - Assume that our rich behavioral and cultural diversity operates according to a different set of rules.
  - Assume that their branch of knowledge is consistent with evolutionary theory, even though it was not part of their own education and is absent from their current discourse.

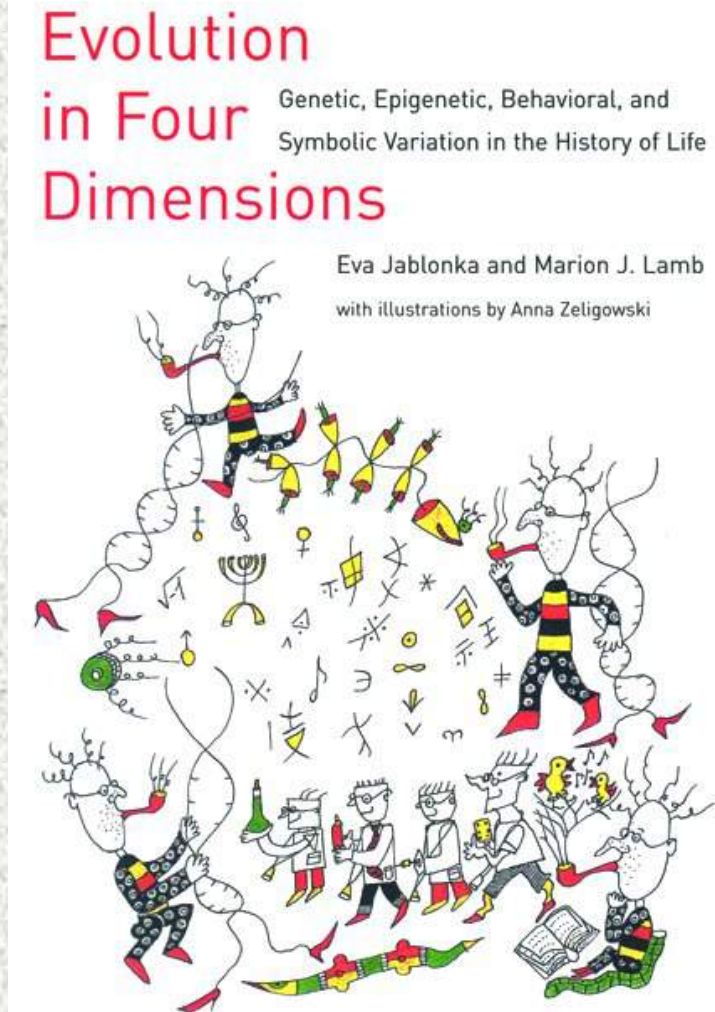
# Back on Track

- Starting in the 1980's, terms such as “evolutionary psychology”, “evolutionary anthropology”, and “evolutionary economics” began to be used, signaling an effort to rethink these disciplines from a modern evolutionary perspective.
- By now in full swing, numbering in the thousands...
- ...but this is still a tiny fraction of the worldwide academic community...
- ...and an even tinier fraction of the policy-making community.
- Here are some canonical texts

# Evolution in Four Dimensions

This book goes back to basics by focusing on **all mechanisms of inheritance**:

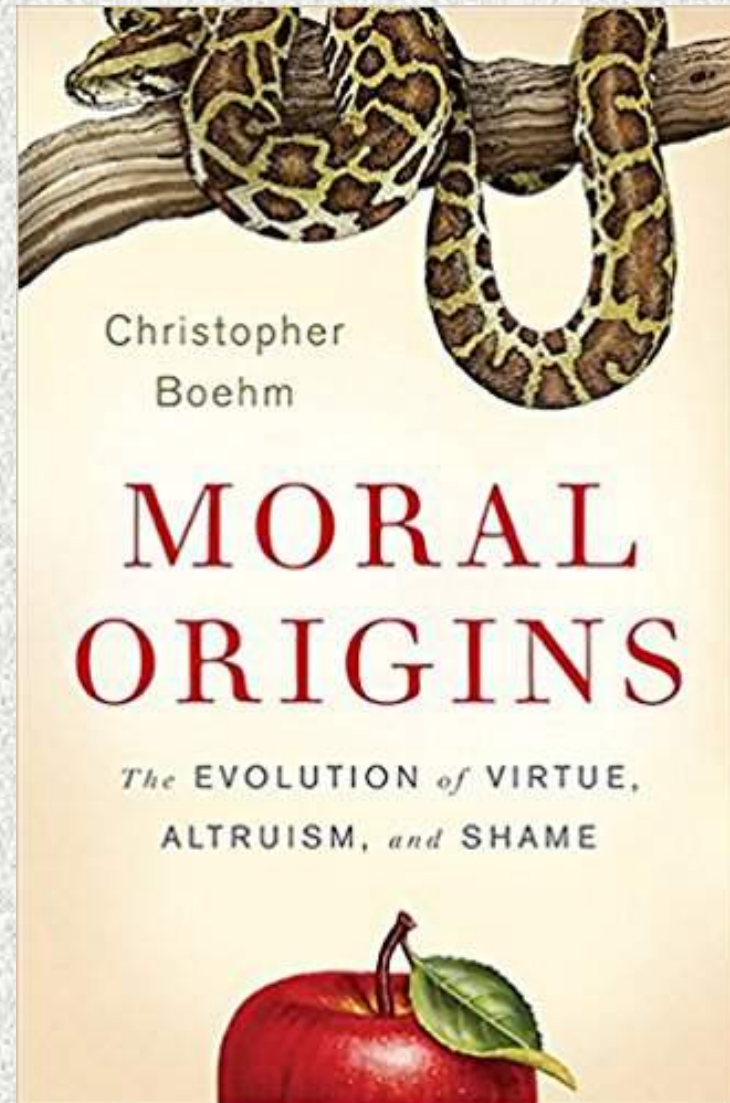
- Genetics
- Epigenetics
- Forms of social learning found in many species.
- Forms of symbolic thought that are distinctively human.





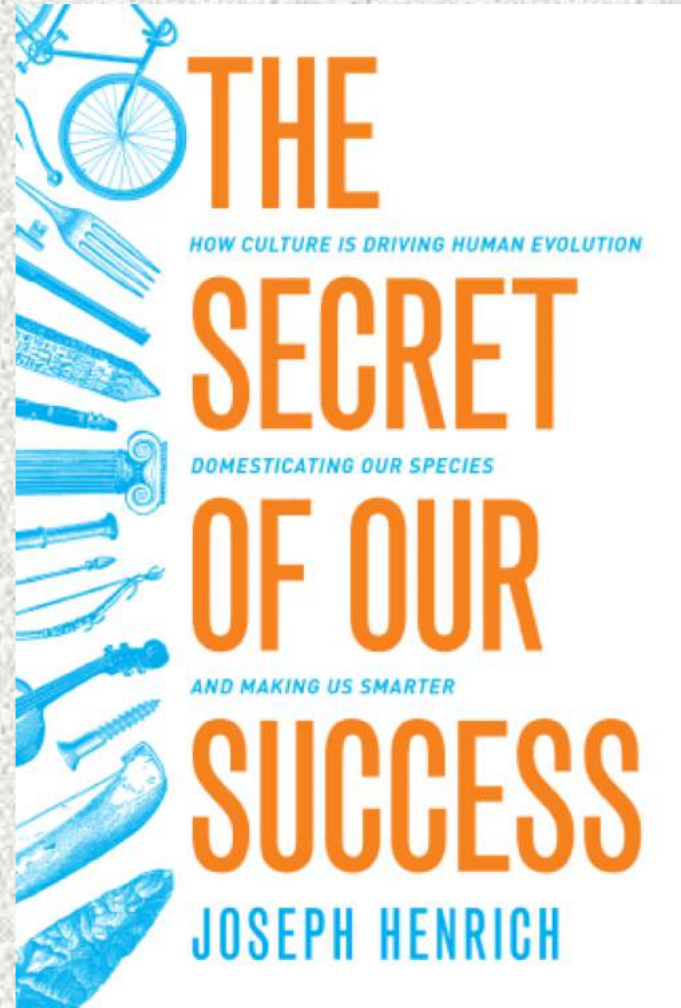
# Human Origins

- This book covers 99% of our history as a species, living and evolving in the context of small highly cooperative groups.



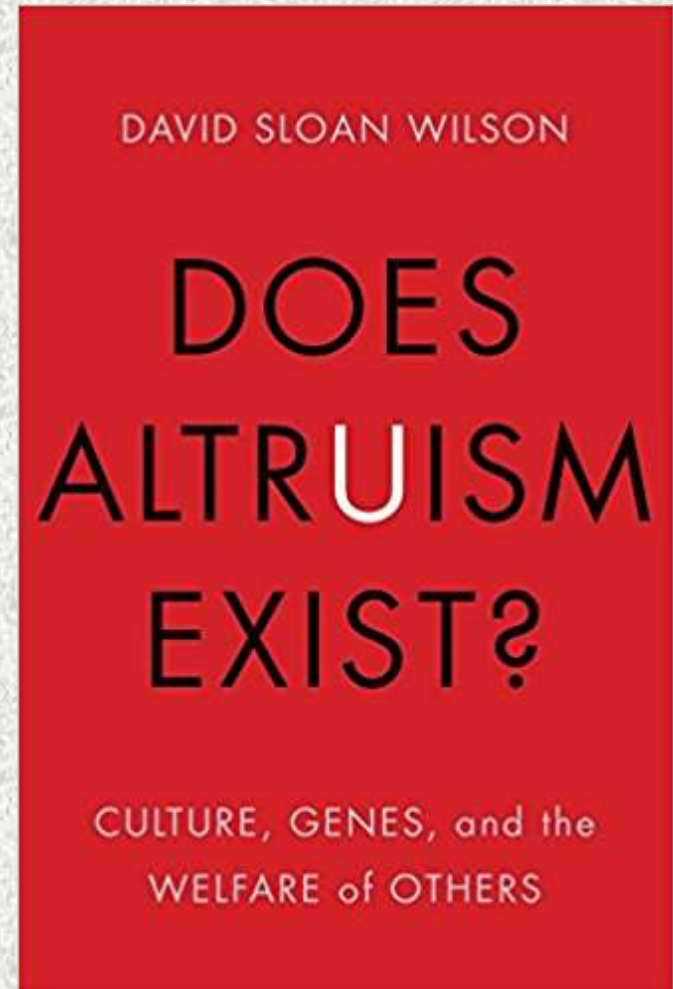
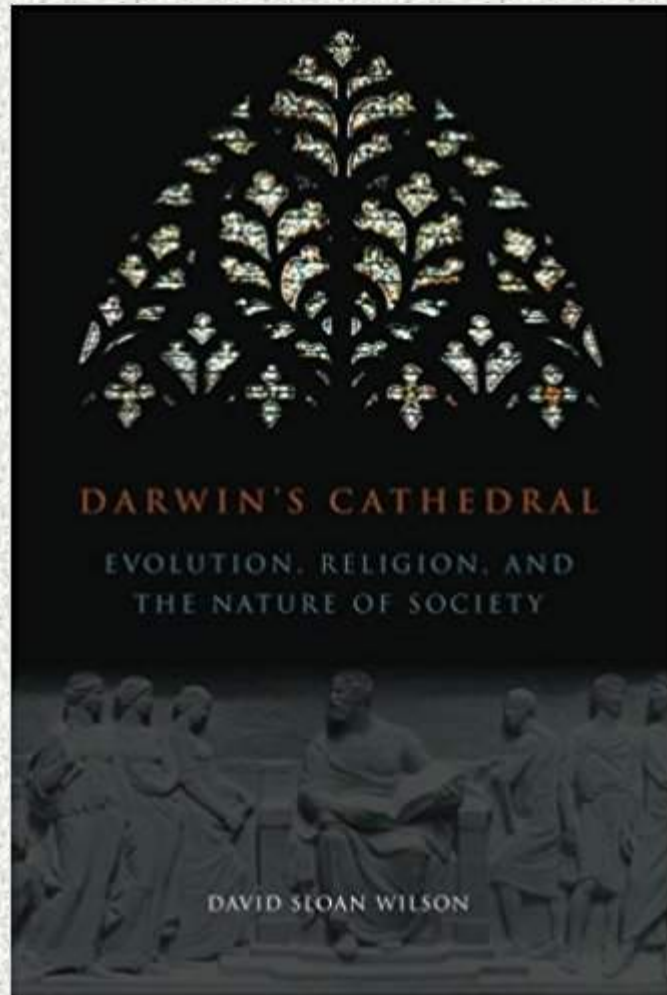
# Our Genetic Capacity for Cultural Change

- We are genetically adapted to transmit large amounts of learned information across generations.
- Social constructivists aren't wrong, but they need to become evolutionary social constructivists.
- "Niche construction"





# Religion and Altruism





# Human History

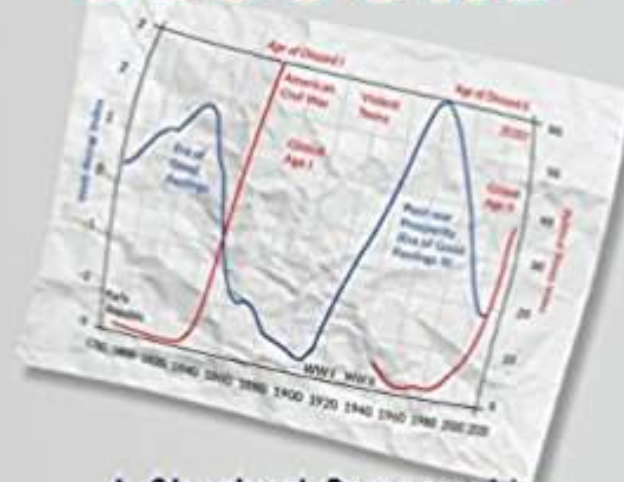
## ULTRA SOCIETY



how 10,000 years of war  
made humans the greatest  
cooperators on earth

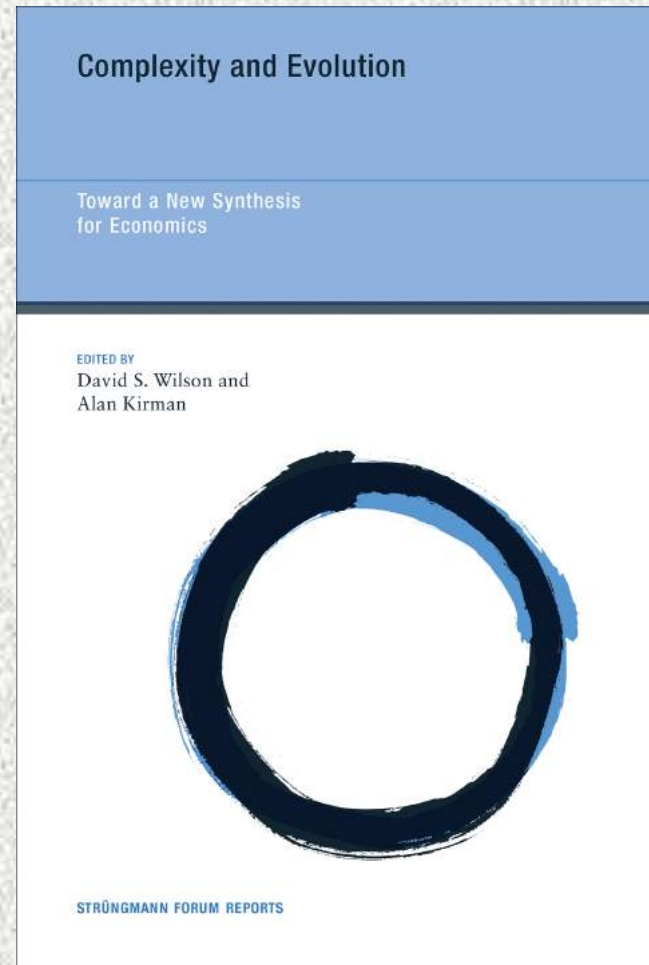
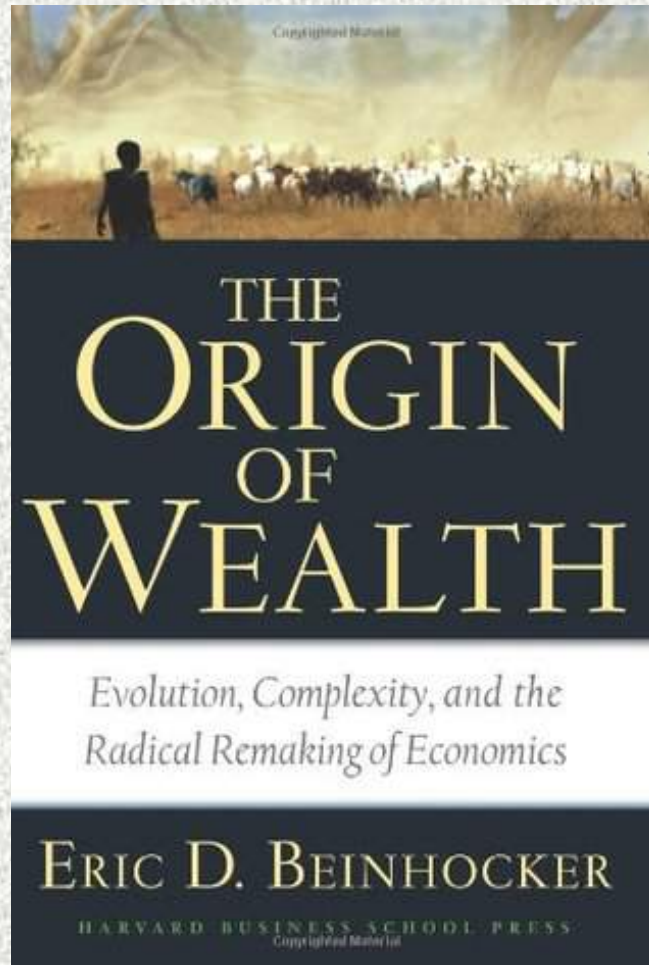
**PETER TURCHIN**

## AGES OF DISCORD



A Structural-Demographic  
Analysis of American History  
**PETER TURCHIN**

# Economics



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## How to Construct a New Invisible Hand: A Conversation with Peter Barnes

A middle path between laissez faire and centralized planning.

**David S. Wilson, Peter Barnes**

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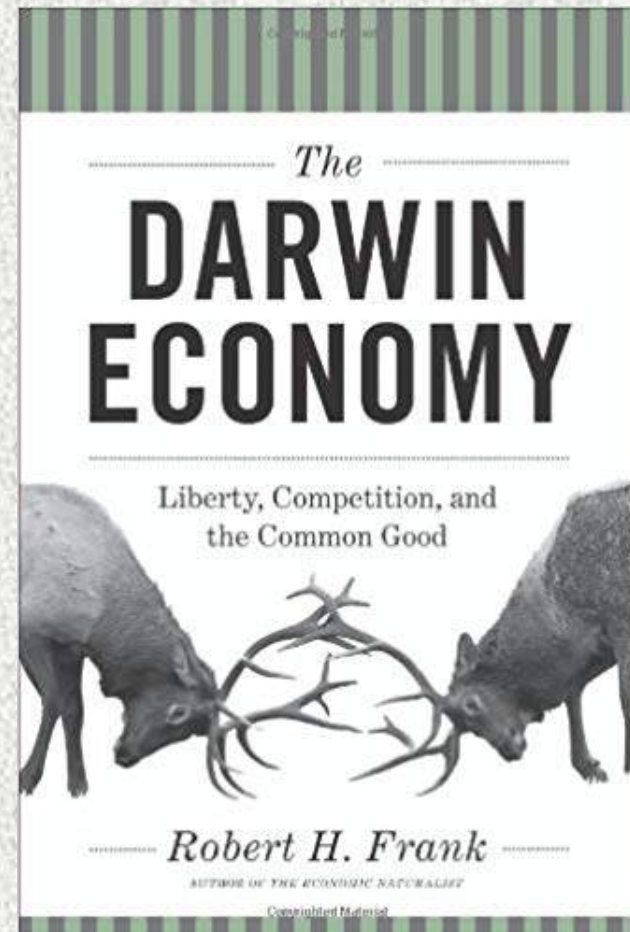


# The Added Value of a Unified Evolutionary Perspective

- A passport to the study of all subjects using the same conceptual “toolkit”.
- Organizes existing knowledge.
- Directs the search for new knowledge.
- Identifies widespread assumptions that are not consistent with evolutionary theory.

# Example: Relative vs. Absolute Fitness Thinking In Economics

- Evolutionary theory is based on **relative fitness**.
- Orthodox economic theory is based on the maximization of an individual's **absolute utility**.
- Economists have had decades to realize and correct their mistake, and for the most part they haven't.
- Frank predicts that Darwin, not Smith, will eventually be regarded as the father of economics.



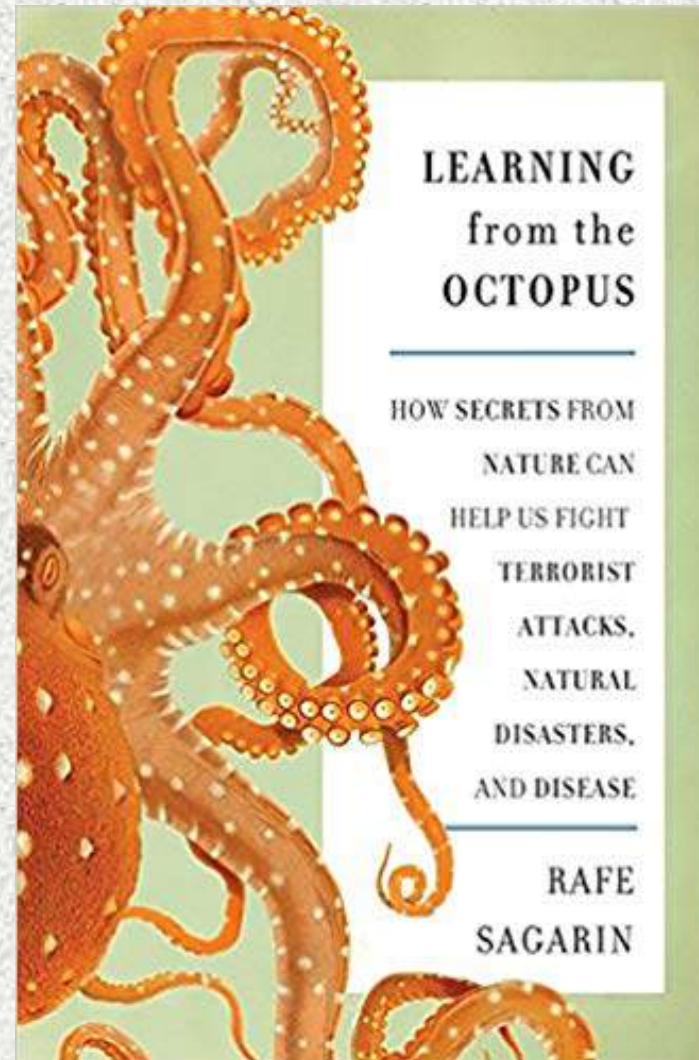
# National Security

- A new application for me.
- Invited by Donald Glascoff to participate in a workshop titled “Rethinking the National Security State.”
- Organized by Karen Greenberg at Fordham Law School’s Center on National Security.
- Used the opportunity to conduct a reconnaissance on National Security from an evolutionary perspective.



# My fellow evolutionary travelers...

- Scott Atran
- Michele Gelfand
- Dan Fessler
- Rafe Sagarin (1971-2015)



2012

# Novel Insights...

- Multilevel Selection Theory.
- Evolution in Warp Drive.
- Small groups as fundamental units of human social organization.
- Carefully managed evolutionary processes as a middle path between laissez faire and centralized planning.
- How to catalyze evolutionary thinking on national security issues.

# The logic of within-group selection





# The logic of between-group selection



**NEARLY EVERY DECISION YOU MAKE  
AS A TEAM PLAYER WILL BE  
DIFFERENT THAN PLAYING THE  
REGULAR GAME OF MONOPOLY**

# Multilevel Selection

- Natural selection within groups is like a single game of Monopoly → disruptive self-seeking behaviors.
- Natural Selection between groups is like a Monopoly tournament → teamwork.
- Teamwork does not come for free! It requires a process of selection at the team level and is opposed by selection among individuals within teams.
- This is profoundly different than the concept of the invisible hand in economics or “balance of nature” in ecology, which pretends that the pursuit of lower-level self-interest robustly benefits the common good.



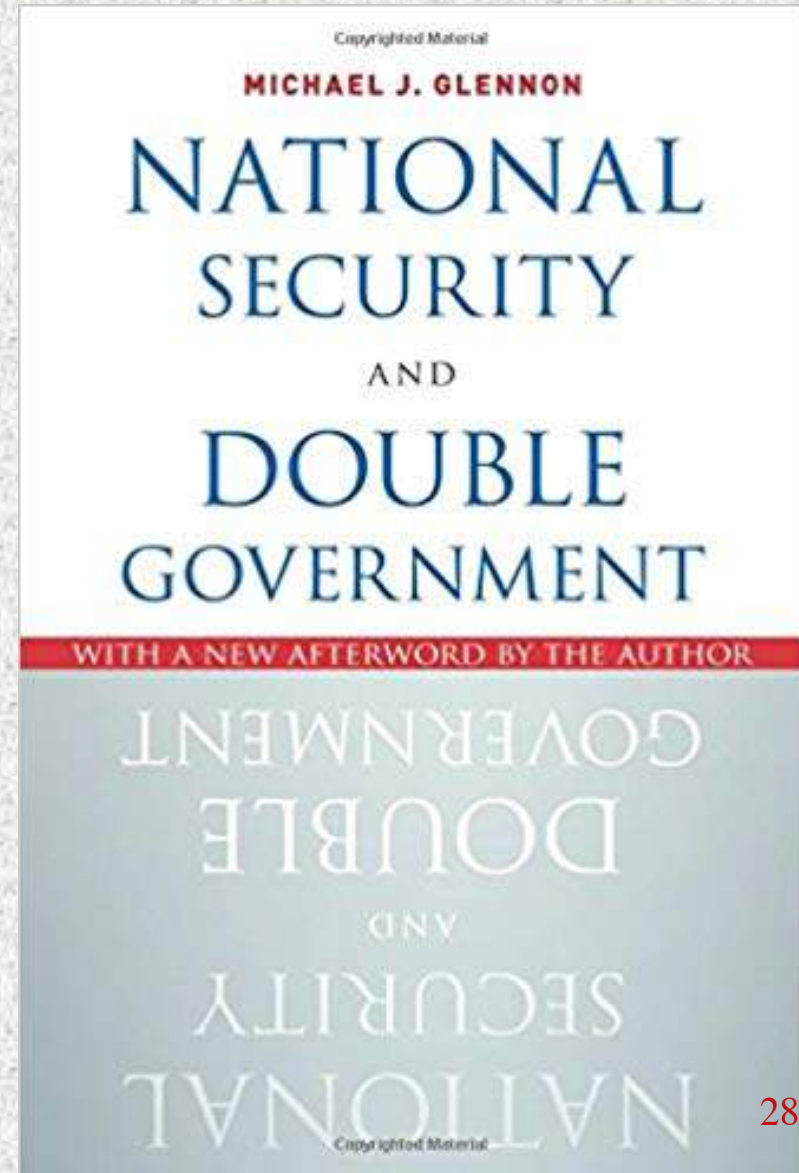
# In a multi-tier hierarchy...

- What's good for me can be bad for my family.
- What's good for my family can be bad for my clan.
- What's good for my clan can be bad for my nation.
- What's good for my nation can be bad for the planet.
- As a general rule: Adaptation at any given level requires a process of selection *at that level* and tends to be *undermined* by selection at lower levels.



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# Evolution in Warp Drive

- All of the rapid changes swirling around us can be understood as both **products of evolution** and **evolutionary processes in their own right**.
- Individual behavioral change (selection by consequences).
- The social transmission of learned information (cultural evolution).
- Each evolutionary process has its own inheritance system that is to some extent unique, but all follow the same basic evolutionary dynamics.



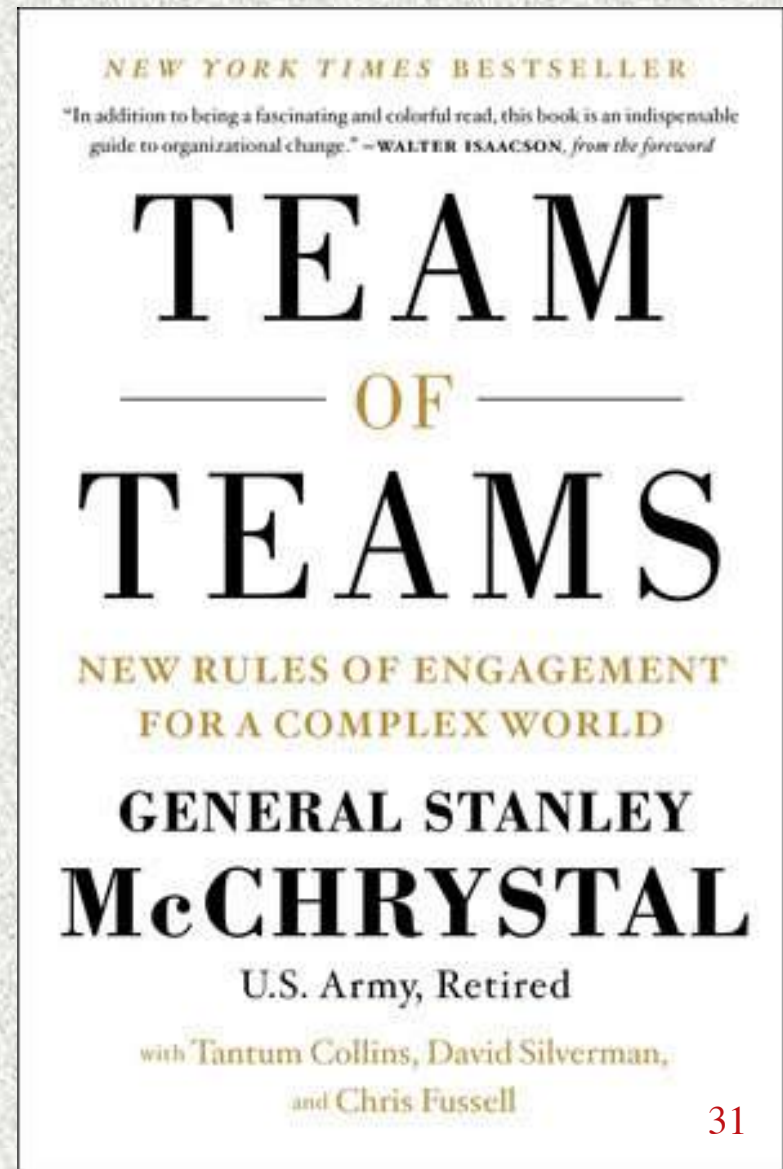
# Evolution in Warp Drive

Most behaviors and cultural forms that are considered **pathological** are in fact **adaptive** in the evolutionary sense of the word.

- benefitting me but not you.
- benefitting us but not them.
- providing benefits now but not later.
- Individual change and cultural evolution are taking place whether we want them to or not.
- Left unmanaged, they will take us where we don't want to go.
- Policy formulation=managing evolutionary processes to align them with normative goals.

# Small Groups as Fundamental units of Human Social Organization.

- Our social psychology evolved in the context of small highly cooperative groups.
- Small groups remain a fundamental building block of larger-scale societies, which need to be multi-cellular in evolutionary terms.
- A generalization of the concept of polycentric governance developed by political scientists Elinor & Vincent Ostrom.





# Core Design Principles for the Efficacy of Groups

- 1) Strong group identity and purpose
- 2) Proportional equivalence of costs and benefits
- 3) Inclusive decision making
- 4) Monitoring
- 5) Graduated sanctions
- 6) Fast, fair conflict resolution
- 7) Local autonomy
- 8) Appropriate relations with other groups





## Two change methods that won't work:

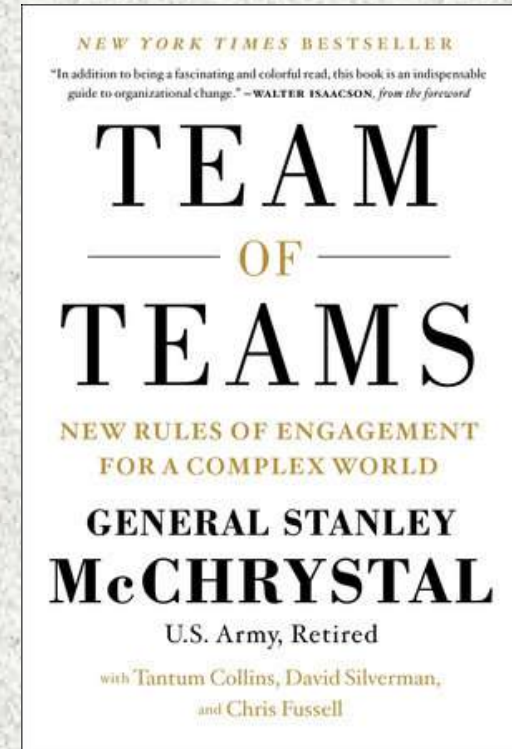
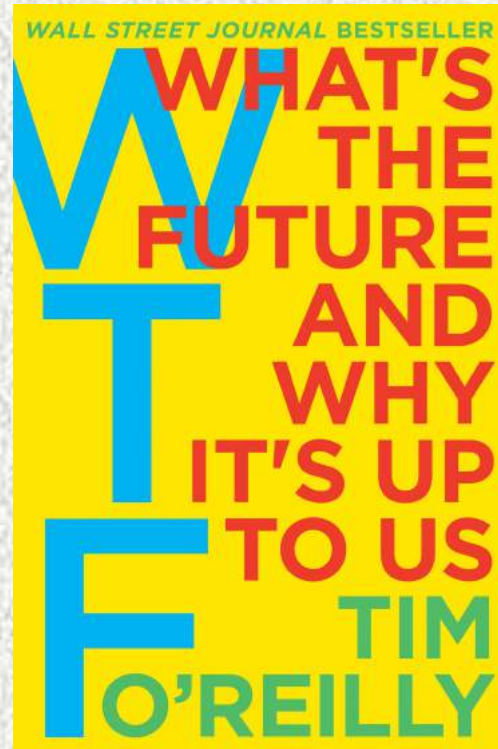
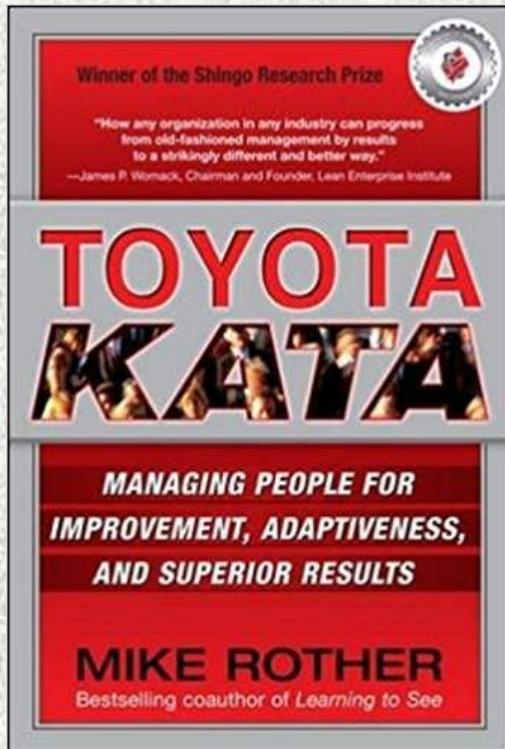
- 1) Laissez faire
- 2) Centralized planning

What can work: A carefully managed evolutionary process.

- A clearly defined target of selection.
- Monitoring planned and unplanned variation.
- Insuring continuance and replication of the most fit.

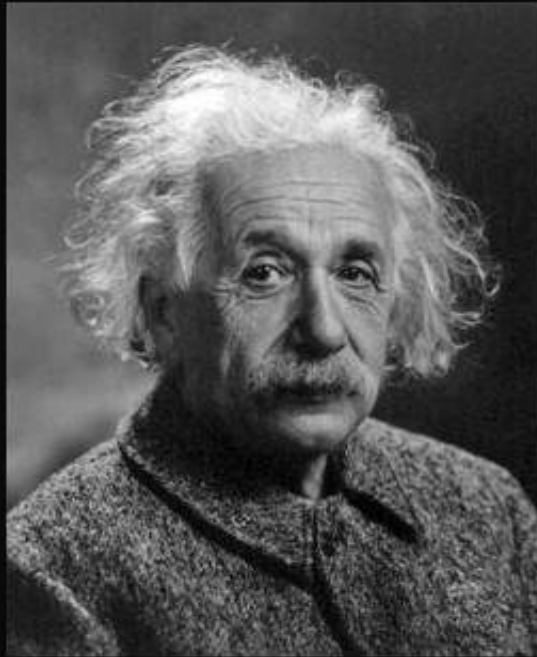
“The Evolution of Evolvability”

Examples of highly adaptable cultures already exist...



...but can be generalized and improved from an explicit evolutionary perspective.

## How to catalyze evolutionary thinking on national security issues.



Whether you can observe a thing or not depends on the theory which you use. It is the theory which decides what can be observed.

(Albert Einstein)

izquotes.com

- Merely becoming familiar with modern evolutionary science in relation to human affairs will enable you to connect the dots for yourself.





My reflection when I first made myself master of  
the central idea of the Origin was, How  
extremely stupid not to have thought of that.

(Thomas Henry Huxley)

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# How to catalyze evolutionary thinking on national security issues.

- Invite evolutionists to join existing policy discussions.
- Organize new workshops and other events.
- Research programs and real-world applications that can take place simultaneously.
- Although this talk has been at the proverbial 30,000 foot level, it is even more interesting to delve into particular topics in detail.