Workshop on Historical Systemic Collapse
Memo #1
Background & Participants
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Workshop on Historical Systemic Collapse

Proposal to New Ideas in the Social Sciences CFP, Princeton University

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Since our formation in 2013, the PIIRS Global Systemic Risk (GSR) research community (risk.princeton.edu) has assembled a team of 24 Princeton faculty from 17 different departments and programs in order to apply a multidisciplinary approach to studying systemic failures in multiple domains, such as agriculture, hydrology, electricity, finance, epidemiology, infrastructure, etc. During the past four years, we have sought to develop a qualitative and quantitative understanding of our current systems. We have also built a trans-Atlantic network including colleagues from Cambridge, Oxford, Sciences Po, Humboldt University, the Stockholm Resilience Centre, and the European University Institute in Florence.

The GSR project has been exploring the contemporary world for four years. Our next step is to study historical collapses by applying systems-thinking in order to empirically understand the process of cascading failure. We believe that there is a rich historical record to be mined for possible patterns of collapse and failure of previous systems, and that we can use these cases to perhaps create qualitative and quantitative models of what collapse looks like. While contemporary technology and the level of global integration may be new, many of the systems, mechanisms, dynamics, and fundamental foundations of civilization (food, water, health/epidemiology, trade/transportation, political peace/security, and dependence on technologies) are the same. Seemingly different historical failures may have systemic commonalities that have not yet been studied from an interdisciplinary point of view.

The timing of this workshop is inspired by a sense of urgency that recent modern crises (and near disasters) have generated. The Global Financial Crisis (2008), the Fukushima disaster (2011), and the Ebola outbreak (2014) are examples of how modern technology and increasingly interdependent complex global systems have created new risks on an unprecedented scale. Over the next decade, there appears to be a higher than usual probability of a catastrophic crisis occurring which pushes the current social, political, and economic configuration irreversibly into a different state. Broadly speaking, this is because of (1) the weakening of the negative feedback loops that keep the current configuration in place, and (2) a strengthening of the latent positive feedback loops that would cause an initially minor crisis to cascade into a full-scale collapse.

We propose a two-part Workshop on Historical Systemic Collapse that has two motivations.

For the first, we may begin with Joseph Tainter's definition of social complexity: "the size of a society, the number and distinctiveness of its parts, the variety of specialized roles that it

incorporates, the number of distinct social personalities present, and the variety of mechanisms for organizing these into a coherent, functioning whole" (1988). The maintenance of this complexity requires ever more amounts of physical and social energy to maintain, and this in and of itself becomes an increasing strain on society. Peter Turchin has a similar fascination with what he might call "organization" as described in the *Ultrasociety.* This may be best expressed by the exponential increase in both population and per capita energy use that has endangered our survival as a species. In short, we take for granted an unprecedented level of social organization in the modern world, the fragility of which is a critical topic of study.

Essentially all social science is interested in the process through which individual organisms combine to form more complex, organized wholes. Humans may be unique in that we are able to do so while self-aware and not dependent on a genetic instinct to live socially (see E.O. Wilson). Today, we have created an unprecedented level of organized and complex aggregation with globalization. The number and types of nodes and the different links between them now form a three-dimensional spider web across the globe. The question is: how sustainable is this system?

The second motivation follows the work by Kai Erikson and his belief that social life may sometimes be best understood through the prism of catastrophe. The argument is simple: if we wish to understand the most important social structures, we might best analyze what happens when these and their supporting institutions disappear. How much crime without police, how much illness without medicine, how much exchange without markets? When significant aspects of society come apart, we can better appreciate what they contributed to the status quo ante and how societies evolve to deal with their development. We have significant amounts of historical analysis of catastrophes, but have mined relatively little of this for sociological insights.

Bringing these two motivations together, we propose a Workshop on Historical Systemic Collapse. Historical study is traditionally centered around culture, societies, peoples, and individual biography. A novel approach we hope to investigate and contribute to the field is to focus on the critical systems within these historical collapses, and which mechanisms and events contributed to or precipitated systemic failure. Examples of the kind of phenomena we are interested in include the Eurasian chaos from the 4th to 6th Centuries CE, the collapse of Amerindian societies both before and after conquest, the outbreak of the "second thirty years war" of 1914-1945, and the fall of the Soviet Union.

By providing a comparative analysis of various collapses, we hope to ascertain whether there are systemic failures that are overlooked and undervalued in our modern-day systems. The ultimate goal is to make the systems which underpin our modern civilization more robust and resilient. Many of these historical collapses have decimated populations, and the ultimate goal of the project would be to learn original insights through the lens of systems-thinking towards the goal of preventing the catastrophic loss of life.

The workshop would consist of two meetings. In the first smaller event (Fall 2018), we would gather 8-10 social and historical experts on complex societies and their downfalls. This would include historians and social scientists. This one-day meeting would work on defining what we mean by collapse, what the critical measures of collapse may be, and how it could be studied. Most importantly, the first workshop would produce a call for papers requesting expertise on a series of

events that we decide merit comparative analysis. We hope to include several colleagues from the University, but particularly from History and EEB. We have been in contact with well-known experts on systemic collapse on both ecological and social levels, as well as several colleagues at the University. We would also draw upon our network of European universities and colleagues. (Since we do not know if we will obtain funding, we have kept our contacts informal, but the level of interest is quite high. Those listed below have agreed to participate in the workshop).

The second meeting (Fall 2019) would be a two-day workshop that includes the successful applicants to the CFP. We could have 4-5 panels, each focusing on a type of threat and/or domain of catastrophe (infrastructure, agriculture, political order, etc.). Each panel could feature (a) an historian of the period issue in question, (b) a contemporary expert on that domain, and (c) a scholar on societal risk/collapse. Each conversation would serve as the genesis of a chapter in a possible book.

Princeton Faculty Participants:

- Miguel Centeno, Sociology and WWS
- Bryan Grenfell, EEB and WWS
- Jessica Metcalf, EEB and WWS
- Sheldon Garon, History
- Stan Katz, WWS
- Jake Shapiro, Politics and WWS
- Emmanuel Kreike, History
- Molly Greene, History
- Adam Elga, Philosophy
- Zia Mian, WWS
- John Haldon, History and the Climate Change and History Research Initiative at Princeton
- Wolfgang Danspeckgruber, WWS
- Eldar Shafir, Psychology and WWS

Outside of Princeton

- Paul Larcey, Cambridge University
- Juan Rocha, Stockholm Resilience Centre
- Eric Cline, George Washington University
- Peter Turchin, University of Connecticut
- Joseph Tainter, Utah State
- George Derlugyan, NYUAD
- John Hall, McGill University
- Anders Sandberg, Oxford Future of Humanity Institute (FHI)

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