This essay reframes U.S. politics in systems terms. That reframing opens up a new approach to finding effective policy interventions into our major intractable problems, which can be grouped into these two broad categories:

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1. Policy immobility, for example: there is no credible and serious US plan to confront global warming. You'll see two other examples of immobility at the very end of this essay.
https://twitter.com/conways_law/status/1433463114826018817

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2. Adverse movement, for example: authoritarianism is metastasizing in the Republican party and elsewhere. See "After the Fall" by @brhodes.
https://www.penguinrandomhouse.com/books/609428/after-the-fall-by-ben-rhodes/

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The purpose of this reframing is to lead us to system models that will suggest new and more effective approaches to intervention.

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The general approach is based on the recognition that the problems in the two categories above are *emergent system phenomena*. I will

present a model of emergence that suggests how to look for effective interventions.

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Behind these models is a broad intent to be able to advance understanding by turning the models into agent-based simulations that can then be used experimentally to test and improve hypotheses.

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A general outline of the strategy follows below. I discuss the generic parts A and B in more detail after that. Parts C to E remain for research on specific models.

At the end of this essay I offer some <speculation> that summarizes what I am learning from my research.

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A. Choose the Clinical Diagnostic Stance.

B. Map the system onto one or more Emergence models.

C. Find vulnerable pathways in the Emergence process(es).

D. Devise interventions to affect those pathways.

E. Model and test those interventions.

F. Iterate from B.

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A. Choose the Clinical Diagnostic Stance.

"Diagnostic Stance" makes the distinction between *explaining* a phenomenon and *acting on* the phenomenon, as shown in this figure.

Diagnostic Stance	
Narrative	Clinical
What **happened** to **cause** this?	What **needs to happen** to **fix** this?

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Investigative journalists and scholars such as @anneapplebaum, @JaneMayerNYer, and @anelsona cover the narrative stance with distinction, but their commitments as scholars keep them from wandering into the clinical stance.

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We all suffer from not having an organized scholarship of the clinical stance.

This essay is meant to be a contribution to that scholarship. We start by firmly adopting the clinical stance with respect to the intractable political problems in the two categories named above.

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The history of medical practice before and after the adoption of the germ theory in the last half of the nineteenth century is directly applicable here. This table shows how the adoption of germ theory made clinical behaviors more specific and effective.

https://en.wikipedia.org/wiki/Germ_theory_of_disease

	Narrative Diagnostic Stance	**Clinical Diagnostic Stance**
Individual Physical Health **(Before Germ Theory)**	**External Agents:** Miasma, Spiritual Possession	**Blunt Interventions:** Bleeding, Exorcism, Burning
Individual Physical Health **(After Germ Theory)**	**Internal Agents:** Microorganisms (e.g., bacteria)	**Targeted Interventions**: Pathogen-specific therapies (e.g., antibiotics)

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Germ theory showed doctors where to act effectively: not against the external presentations of a disease but against its internal processes.

☞ A century and a half later politics has made no breakthrough comparable to germ theory.

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Evidence of an absence of analytic power in politics comparable to germ theory includes
1. Use of gross external characterizations such as "fascism", "authoritarianism", and "truth", and
2. Attributing agency to politicians for what are in fact system phenomena.

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This diagram suggests a possible future with a new "germ theory" as a way of thinking about, and intervening in, political processes. This germ theory will be the emergence model, described next.

	Narrative Diagnostic Stance	Clinical Diagnostic Stance
Politics (Now)	Journalism, Social media, Blogs, etc.	**Blunt Interventions:** Name-calling, Blaming, Platitudes
Politics (Using System-specific Emergence Models)	**All of the above plus Process Analysis:** TBD	**Targeted Interventions**: TBD (a guess: weakening dependency pathways; a tactic: civil litigation)

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B. Map the System In Question onto the Emergence model.

"Emergence" is a widely used but terribly imprecise term. Here we're not applying other work on this topic and building our own model. https://en.wikipedia.org/wiki/Emergence
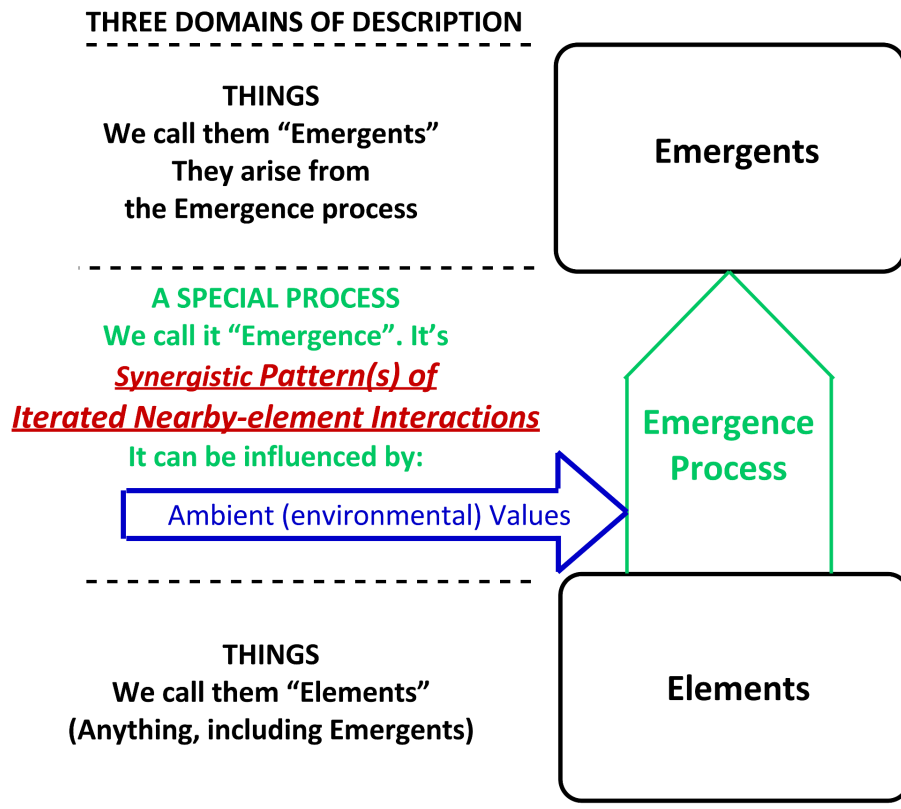
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What will distinguish this model is its care concerning the linguistic categories into which we define our terms. A general lack of care with

categories has led to imprecision around the concept of emergence, and to political theory in general.

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This figure is our definition of emergence. It distinguishes three "domains of description". Phenomena in the bottom (element) and top (emergent) domains of description are simply things. Phenomena in the middle (emergence) domain are processes that connect the two domains.

THREE DOMAINS OF DESCRIPTION

THINGS
We call them "Emergents"
They arise from
the Emergence process

Emergents

A SPECIAL PROCESS
We call it "Emergence". It's
Synergistic Pattern(s) of
Iterated Nearby-element Interactions
It can be influenced by:

Ambient (environmental) Values

Emergence Process

THINGS
We call them "Elements"
(Anything, including Emergents)

Elements

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The essence of emergence is in red:

☞ Synergistic Pattern(s) of Iterated Nearby-element Interactions.

This seems to be the common aspect of all the cases I've studied. (The definition of "nearby" is model-specific.)

This is, however, a hypothesis. I'll be getting specific.

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The emergence process is subject to externally imposed conditions; that dependency is represented by the blue arrow. An example: temperature determines whether a collection of H2O molecules manifests as gas, liquid, or solid.
https://twitter.com/conways_law/status/1363591249198989312

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This dependency on ambient factors plays a decisive role in the application of the emergence model to social systems. I'll discuss this in the <speculation> at the end.

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Emergence is not obscure; it's everywhere. Here are two everyday examples.

1. Families are emergents. The individuals in the family are the elements, and the interpersonal bonding activities characteristic of families form the emergence process.

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In this simple example you might say that emergence is aggregation and a family is simply a collection of the individual members. That might work in this case, but in other cases treating emergents simply as collections will lead us into category error.
https://en.wikipedia.org/wiki/Category_mistake

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This common aphorism illustrates the category error:

"The whole is greater than the sum of the parts."

In general, the "whole" (i.e., the emergent) is not necessarily even commensurate with the parts, and the aphorism is nonsense, as in the next example.

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2. The product of an orchestra performing a symphony is an emergent. The elements are the musicians playing their parts according to the music in front of them, usually led by a conductor. The emergent is the hard-to-nail-down universal human experience we call "the music".

25/70

(Note the two different uses of "the music" in the above paragraph. Such category conflation is a big part of our problem.)
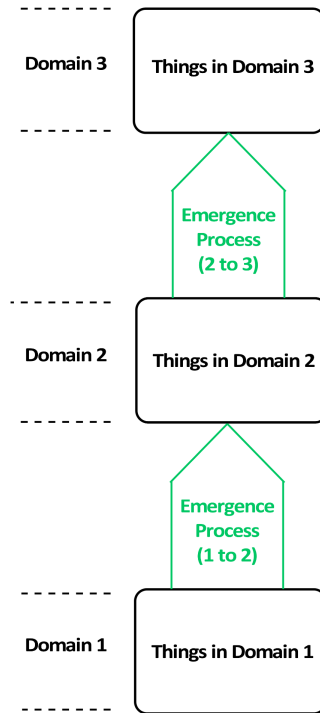
What is the emergence process in this case? I can't answer that except to suggest that it seems to go on in the bodies of the individual listeners.

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The domains can be stacked. (My view is that such neat categories are not in Nature but are inventions we have devised for organizing our experience.)

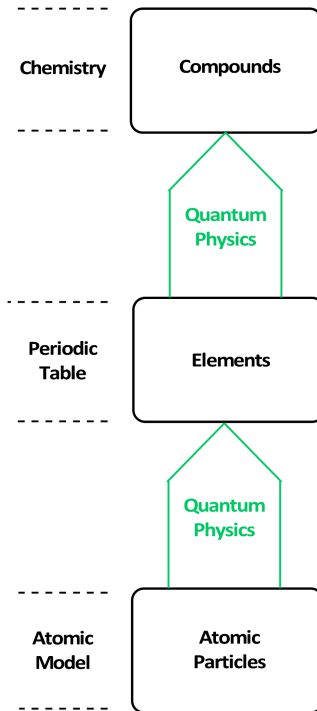We can expect to find multi-domain *networks* in social systems.

27/70

In this clip of Richard Feynman talking about waves he characterizes Nature as a "mess". It is we who create concepts and category boundaries to make sense of our experience.
https://www.youtube.com/watch?v=egB9p5ZbrEg

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For example, what we call "scientific knowledge" is the explanatory glue in the emergence processes that connects domains by showing how the effects of the synergistic element interactions combine to produce emergent phenomena.
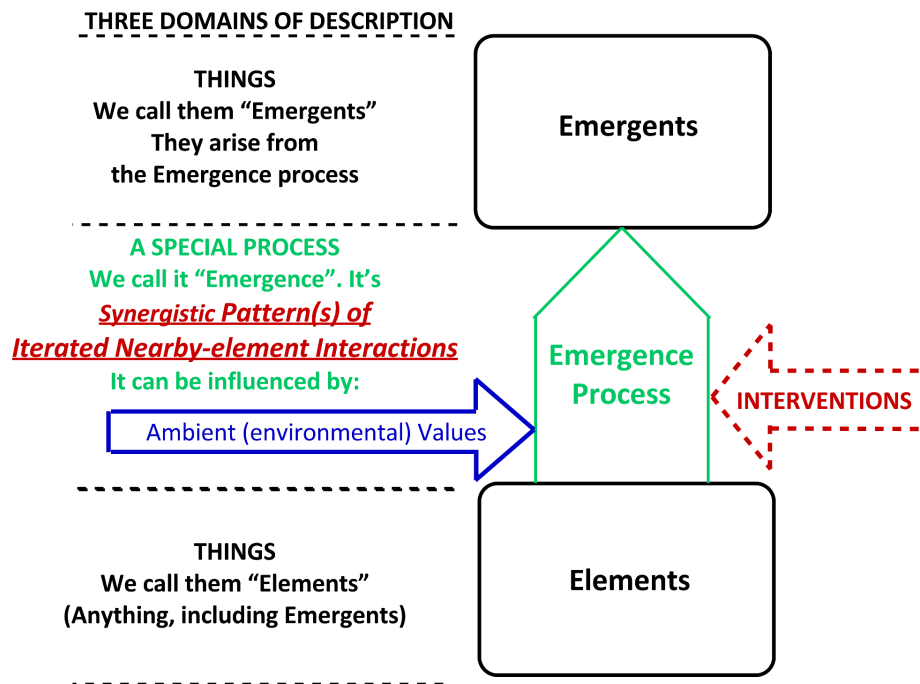

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Why are we pursuing this seemingly obscure side trip?

☞ Because the emergence model is our germ theory.

It will show us how we can find productive interventions by understanding and modifying the patterns of element interactions.

THREE DOMAINS OF DESCRIPTION

THINGS
We call them "Emergents"
They arise from
the Emergence process

Emergents

A SPECIAL PROCESS
We call it "Emergence". It's
Synergistic Pattern(s) of
Iterated Nearby-element Interactions
It can be influenced by:

Ambient (environmental) Values

Emergence Process

INTERVENTIONS

THINGS
We call them "Elements"
(Anything, including Emergents)

Elements

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To find these interventions in a specific system under study we will have to do the hard work of understanding how the synergistic element interactions work in this system.

In politics this will require multidisciplinary teams, as you will see in the <speculation>.

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The armor wall of a Greek Hoplite phalanx was an emergent. From Wikipedia: "The revolutionary part of the shield was the grip." The two-part grip coupled adjacent soldiers and permitted the synergistic addition of forward forces from a line of soldiers.
https://en.wikipedia.org/wiki/Hoplite

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The resulting wall of force would have to be broken by weakening a coupling, typically by wounding one soldier where he was not armored. This is an application of the above intervention model.

33/70

<speculation>
This thread ⬇ is a placeholder for extension of this essay. The key idea: Persistent affinity groups are emergents, held together by the synergy

of attachment relationships maintained by repeated reminders, now largely from social media.

https://twitter.com/conways_law/status/1371879706656714758

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The success of a social network like Facebook is measured by its ability to create emergents, i.e., persistent affinity groups.

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The description in red in the above figure defining emergence, "Synergistic Pattern(s) of Iterated Nearby-element Interactions", can be seen as the core of a requirement statement for a social network's recommendation algorithms.

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That statement embodies the power of a social network to do good or to do damage.

☞ It is using the emergence model, and not using industrial-era antitrust metrics such as competition and monopoly, that the regulation of social networks should be considered.

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If you drill down in the above placeholder thread you will see a synthesis of psychological theory and object-oriented design.

One reason for this approach is the intent stated at the top here: to turn models into agent-based simulations in order to advance the science.

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Another reason for this approach is liberation from the angst endlessly expressed by commentators that tens of millions of Americans are "living a lie" regarding the last election or COVID vaccines.

We must learn to understand this behavior as a system phenomenon.

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Model: Human behavioral responses have been built up by accretion over tens of thousands of years. Recent layers were added at our mothers' knees and in kindergarten: tell the truth and be nice to people. These layers are fragile and can be distorted by stress.

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Enough stress and a threshold is crossed into nonlinearity, disabling some outer layer(s), and changing behavior. In psychotherapy this is known as going outside the window of tolerance. This is what we're seeing on a large scale.

https://www.nicabm.com/trauma-how-to-help-your-clients-understand-their-window-of-tolerance/

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When people are in fight-or-flight mode (or some chronic version of that) it is futile to try to convince them of the truth. Attempting that can even be seen as a form of malpractice; I see it in public commentary daily. We need to up our system-thinking game.

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In this paper ⬇ I show that public policy over the last half century in the US has led to cumulative increases in financial stress in a large portion of the population.
http://melconway.com/CBH/Historical_Overview.pdf

43/70

Many have argued that *identity stress* (e.g., emphasis on differences in race, religion, political party, ethnicity) has been a persistent, and persistently aggravated, feature of human history.
https://en.wikipedia.org/wiki/Thirty_Years%27_War

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Now we are seeing the effects of COVID-19 and climate change adding to that destabilizing stress burden. This aggregate stress burden can be

expected to continue to increase in the foreseeable future. What will be the consequences of that?

https://twitter.com/conways_law/status/1435623481803165697

45/70

If we assume, as some theories of personality do, that

1. an individual's behavior in a situation is an emergent of the many parts of that individual's personality, and

2. the way these parts interact to determine behavioral outcome is a function of ambient values, then

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...we can arrive at a model that shows a direct relationship from the ambient stress burden on an individual to the chance that that person can be driven out of the window of tolerance by a small trigger, such as might come in an Internet conversation or a public event.

47/70

That gives us a model of mass radicalization.

A curious observation comes out of this. We might notice that Republicans today are generally not being driven en masse *for* ideas but *against* ideas, for example, using face masks and vaccination, and listening to scientists.

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This suggests that one of the particularly sticky layers of the personality that survives the stress burden is an inherently oppositional part that can manifest in children and adolescents as Oppositional Defiant Disorder.
https://www.mayoclinic.org/diseases-conditions/oppositional-defiant-disorder/symptoms-causes/syc-20375831

49/70

Another, less sticky and more recently acquired personality layer is the one we use to override identity-group attachment and base our behavior on evidence and logic, or perhaps solely on our own internal logic.

50/70

Recognizing the fragility of this relatively new layer, our literature can celebrate those who override identity-group attachment as heroes.
https://en.wikipedia.org/wiki/Saint_Joan_(play)

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The (selective) withering of that recent layer, leaving identity-group attachment as the dominant influence on behavior, is behind anti-vax,

antiscience, and "Stop the Steal" movements, and is a factor in cult and conspiracy-group adherence.
https://twitter.com/conways_law/status/1390701201872797697

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An informal interpretation of the layered personality model is that the stress burden causes reversal, at least temporarily, of personality development.

53/70

As another application of the interaction of an individual's layered personality and the ambient stress burden, consider the common use of the word "hate" to describe participants of the 2017 Unite the Right rally in Charlottesville, VA.
https://en.wikipedia.org/wiki/Unite_the_Right_rally

54/70

Using the word "hating" in commentary suggests agency to me. It's true that the bared teeth of a cornered animal can suggest power and danger, but what they don't suggest is agency. Something else is operating in that animal.

55/70

I have argued in the Historical Overview paper above that the ambient economic stress burden on a large portion of the US population has been increasing since the 1970's.

56/70

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There is a takeaway here regarding policy. Public policy is a major contributor to the stress burden on individuals. Each person has different thresholds; therefore

☞ The social incoherence of the population will vary directly with the policy-driven aggregate stress burden.

57/70

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Measures of social coherence, particularly since the 1990's, have shown a positive correlation between aggregate stress burden and social incoherence. This was accelerated when the Tea Party movement emerged in 2009.
https://en.wikipedia.org/wiki/Tea_Party_movement

58/70

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Within the diverse US population of individuals with varying thresholds for nonlinearity, we can expect a positive correlation between aggregate stress burden and the number of individuals crossing into nonlinearity of some form for example,

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...planting pipe bombs, carrying loaded assault weapons into schools, throwing fits on airplanes, phoning death threats to politicians and civil servants, acting on magical conspiracy theories, joining violent insurrections, eating disorders, and suicide.
https://www.latimes.com/politics/story/2021-09-20/threats-members-of-congress
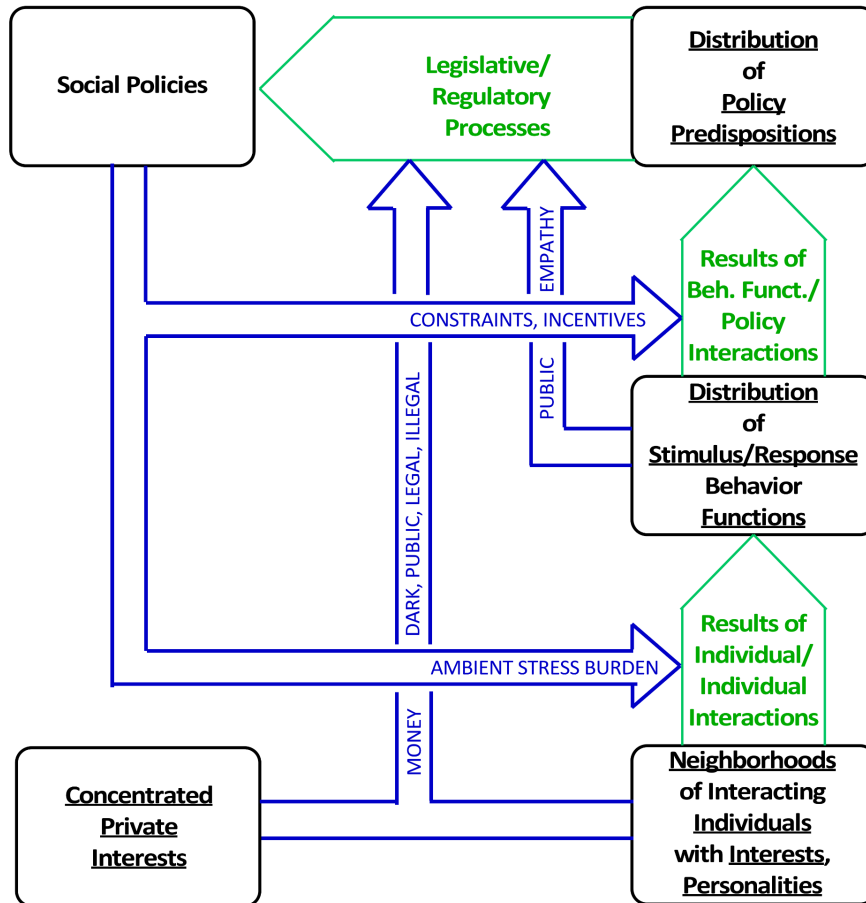
60/70

This correlation between public policy and stress-induced social incoherence suggests that holistic, population-directed approaches be considered as alternatives to targeted prohibitions (for example, anti-gun legislation) for intervening in antisocial emergents.

61/70

This figure is a prototype of the kind of model that might be used to examine how individual psychology mediates between social policy and social coherence. Note the multiple feedback loops.

62/70

Today the survival of the Republic will require a general acceptance that an important purpose of the Government is to create policy that maintains its people in their windows of tolerance.

This is, in effect, a restatement of the Preamble of the US Constitution.

63/70

We don't have that acceptance now. The work of scholars such as @anneapplebaum, @JaneMayerNYer, @anelsona, and @brhodes, and the above feedback loop, suggest that we are locked in a situation that won't permit it.

64/70

That feedback is the source of our largest political problems; it is behind policy immobility, which leads to our inadequate responses to climate change and to increasing social incoherence.
https://twitter.com/conways_law/status/1438935052969201664

65/70

How can we modify the parameters of that feedback to change its political effect from aggravation to moderation?

☞ That is today's biggest social research problem, as seen from the clinical diagnostic stance. Who is addressing it?

66/70

Our scholars have told us much of what's going on. Now we have to create emergence models and find workable interventions.

Our diverse-population models tell us that we might not even have to *eliminate* any problematic causes.

67/70

Thresholds are everywhere; we might only have to mitigate the key causes enough that they don't lead to emergence of social pathology. We have always lived with bad behavior around us.

There is hope, but we have a lot of work ahead, and not much time.

68/70

More to the point, can we even organize ourselves to address this problem effectively? I have seen scant evidence of our willingness or ability to learn from, or teach, each other so we can jointly pursue the necessary cross-discipline work.

https://twitter.com/conways_law/status/1404490309527031817

69/70

As a research community we have our own immobility issues. Can we rise above those while there is time?

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