

This essay proposes an approach to understanding human mass behavior, specifically politics. It provides a general model that might lead us to some new ways to think about

intervening in seemingly intractable social problems.

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Here are two categories of seemingly intractable social problems that are encompassed by this general model.

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A. A class of events that have been called “copycat crimes” in the past has recently, in the US, morphed into a sequence of mass shootings. As a group they have common signaling structures that can be studied and, once understood, possibly modified, even interrupted.

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B. Mass movements defined by opposition (e.g., vaccination, science), delusion (e.g., that the 2020 Presidential election was “stolen”, QAnon), and “isms” defined by their adherent groups (e.g., Trumpism), have common signaling structures.

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This essay is a work in process. It will eventually propose, not to “fix” these seemingly intractable problems (that is well beyond its scope), but to use an understanding of their internal structures to intervene in the problems’ effects.

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Emergence in Social Systems

Existing fixes don't work because they don't incorporate a model of emergence, necessary to understand the internal details of how mass social phenomena occur. This essay formalizes the concept of emergence and applies it to mass social phenomena.

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The purpose of this research is not to make statements about social behavior, but to offer a theoretical framework on top of which social scientists can build models that generate testable and falsifiable hypotheses about social behavior.

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There is one hypothesis, however, that is coming out of the last two years of my work: we misunderstand the structure of human belief. More and more it is seeming to me that the phenomenon we call belief is secondary to the processes of social affiliation.

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I believe it should be possible to build an object model that unifies individual psychological concepts such as attachment, attention, bias, and memes into an executable social model. Here is part of an early attempt.

http://melconway.com/CBH/Attachment_Model.pdf

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I am not encouraged for the future of such work, which would require high-bandwidth collaboration across the boundary between C.P. Snow's

Two Cultures. There are communication and institutional barriers to such collaboration.

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

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Here are the sections of this essay.

EMERGENCE: INTRODUCTION

AN EMERGENCE MODEL WITH SIMPLE EXAMPLES

ELEMENT COUPLERS

–"Force multiplier" (actually, force addition) couplers

–Coupling by signaling

–Hybrid couplers

POLITICS IS AN EMERGENCE PROCESS

WE'RE NOT THERE YET

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More to follow: Analysis of specific systems, with specification of elements and couplers:

PROTECTION RACKET

AMERICAN RIGHT-WING POLITICS

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EMERGENCE: INTRODUCTION

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Let's start with this 9-minute video from Robert Sapolsky. There are several lessons we humans might take from it: we come by misogyny

and violence naturally, and the behaviors of dominant alpha males can be determinative in a culture.

<https://www.youtube.com/watch?v=iyHVwUe66qw>

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Sapolsky described an event that removed all the alpha males in one baboon troop; they were killed by eating tainted meat, to which their aggressiveness gained them access. After they disappeared the culture of the troop changed radically toward a stable peaceability.

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“Culture.” What is it?

For the purpose of this essay, culture is an *emergent effect* of a population. Thinking about emergent effects in human populations is at the heart of this essay.

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The simple, and common, definition of emergence:

An emergent effect is a characteristic of a whole population that doesn't appear in any individual of the population.

But that's just the beginning.

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Understanding emergence requires that we think about populations using two distinct levels of description: the individuals in the

population, and the population itself, which is a different kind of thing from any of its individuals.

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This key finding puts into question much in the consensus model.

>>Insight into interventions begins when you focus less on the individuals and more on their

interactions

in order to understand how emergent effects occur.

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The literature is not helpful. If you look up “emergence” in Wikipedia you can be forgiven for concluding that emergence is an abstruse topic that only philosophers would want to argue about.

<https://en.wikipedia.org/wiki/Emergence>

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That’s a shame because as you will see here emergence is **fundamental to**, and is **everywhere in**, our experience.

In my view, everything in our experience that we can call a “thing” is an emergent phenomenon, but that’s beyond the scope of this essay.

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Let's start simply. Here's a lovely example about herding sheep that helps you see both levels of description of a population.

<https://twitter.com/ariehkovler/status/1408878326370930690>

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If you let your mind wander you might imagine you're watching the January 6, 2021 Capitol insurrection from above.

That too was an emergent phenomenon.

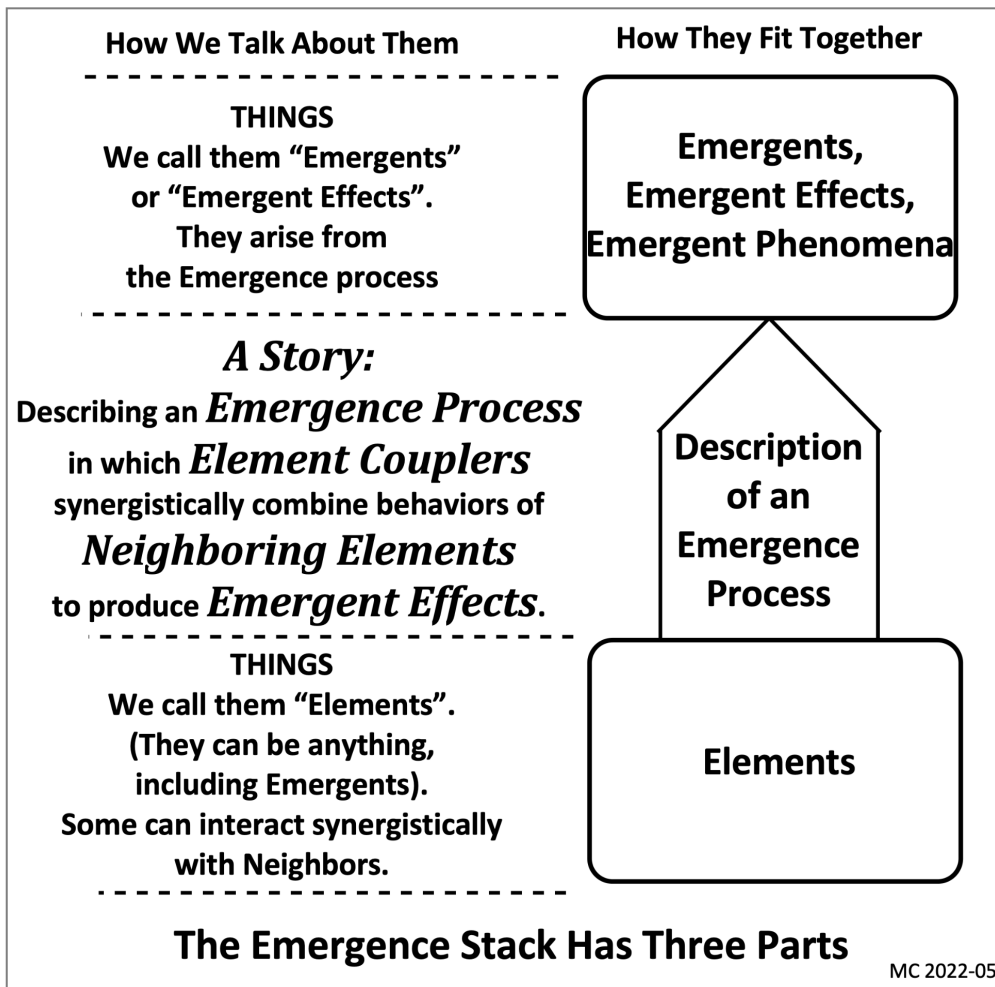
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AN EMERGENCE MODEL WITH SIMPLE EXAMPLES

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This three-part “emergence stack” is a model common to all the examples you’ll see in this essay.

The essence of emergence is in *interactions* among *neighboring* elements. As you will see, some of these interactions combine in special ways to produce larger effects.



Clearly, the meanings of “neighboring” and “interaction” must be made specific. This is where the work is: building a specific system model. See, e.g., the H2O/Titanic example below as a prototype.

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Conspiracies are emergents. Conspiracies around a shared lie, currently evident in profusion in the US around, e.g., election politics and vaccination, seem to have a common model. Here is earlier work that introduces some of the concepts. (Note tweets 3-12 in particular.)

https://twitter.com/conways_law/status/1285990003244503044

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From tweet 3: “A group holding an open lie is a conspiracy of personal compromise that weakens every member’s ability to escape from it.” I expect to find an object model that will permit building simulators that exhibit such sticky social behavior.

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I intend to elaborate on the protection racket model by specifying its role and signal classes. Hypothesis: in spite of the complexity of the system, there is a relatively small and fixed number of role and signal classes.

https://twitter.com/conways_law/status/1336372786424582145

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ELEMENT COUPLERS

–“Force multiplier” (actually, force addition) couplers

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Example: The armor wall of a Greek Hoplite phalanx was an emergent. From Wikipedia: “The revolutionary part of the shield was the grip.”

<https://en.wikipedia.org/wiki/Hoplite>



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The Story: The two-part grip (upper forearm and hand) permitted a tight mechanical coupling between each shield and its immediate neighbors. The force of a blow to a shield was distributed to its neighbors, reducing the force on the infantryman holding the shield.

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Example: If you think of water as a bunch of H₂O molecules, what sank the Titanic? The iceberg (in fact every "phase of matter") is an emergent. Here is the simplified physics Story.



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Each H₂O molecule experiences two kinds of forces from its neighbors.

1. Since the temperature is above absolute zero, the molecules are in motion. When they collide, each molecule experiences the force of the collision.

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2. Also, there are small electrostatic forces between neighboring molecules. It's these forces that, when the temperature is low enough that the collision forces are small, cause the neighboring molecules to arrange themselves into crystalline structures: ice.

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So, above freezing temperature, the molecules slide around their neighbors and the stuff acts like a liquid. Put enough of the stuff in a container and you can put a ship in it, the water will conform to the shape of the ship, and the ship will float.

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But below freezing temperature, the molecules orient themselves and stick to each other, and the stuff acts rigid. Get enough ice together in one piece and run a ship into it, and the iceberg will tear open the steel hull of the ship and sink it.

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The character of the H₂O molecule that causes it to arrange into crystalline structures is

an orders-of-magnitude force multiplier

that magnifies the tiny intermolecular forces by coupling millions of molecules. This is emergence in action.

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ELEMENT COUPLERS

–Coupling by signaling

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Example: Murmurations of starlings are emergent phenomena. This article describes how researchers discovered the Story: each bird positions itself with respect to only its immediate 6 or 7 neighbors.

<https://www.npr.org/sections/13.7/2017/01/04/506400719/video-swooping-starlings-in-murmuration>

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Example: Mass shooter manifestos can cite each other self-consciously and contain references to common memes, such as “replacement” and “critical race theory”. The perpetrators themselves communicate via social media.

<https://www.nbcnews.com/news/us-news/buffalo-supermarket-shooting-suspect-posted-apparent-manifesto-repeated-rcna28889>

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Example: In a professional music ensemble the purpose of rehearsals is not to train the musicians--they know their parts--the purpose of rehearsals is to train *the ensemble*.

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[@MJPiercello](https://twitter.com/MJPiercello) characterizes the signaling that is continually going on among musicians in an ensemble as a “dynamic tensegrity machine”.

<https://twitter.com/MJPiercello/status/1521132478324482048>

The similarity to flocking of birds and fish is inescapable.

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Example: A family is an emergent. It’s not the same as the people in the family; it’s a thing that arises as a result of an arrangement among the people.

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ELEMENT COUPLERS

–Hybrid couplers

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Of current interest is the emergent property “combat effectiveness” of a military unit.

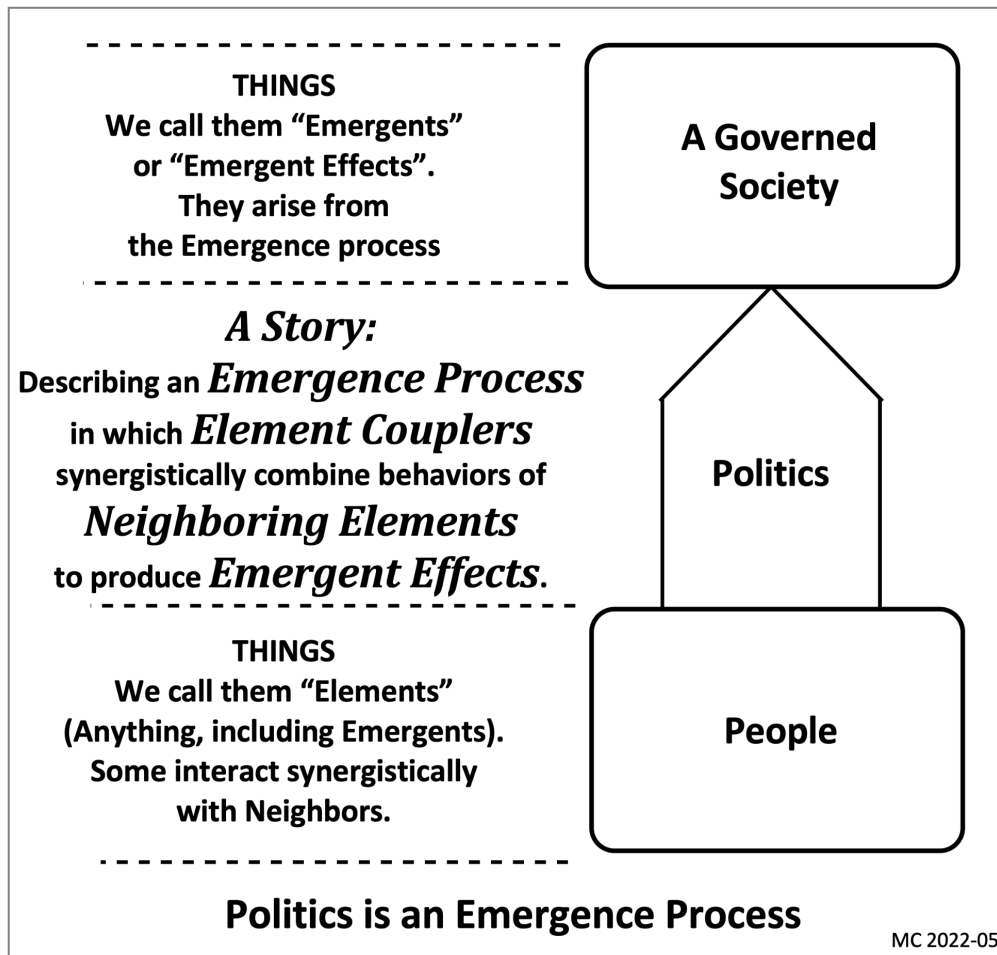
https://en.wikipedia.org/wiki/Combat_effectiveness

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POLITICS IS AN EMERGENCE PROCESS

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Governed societies and social organizations are emergents. Compare this graphic to the Emergence Model above. The Story is what is taught in law schools and Civics courses.



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According to this article, we have been migrating and disrupting each other’s lives for over 1/4 million years, but it was only about 50,000

years ago that our small bands were able to survive without failing or losing their separate genetic identities.

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

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All that time we were figuring out how to survive together, i.e., we were inventing politics.

The H₂O example above refers to the character of the water molecule as a “force multiplier”.

https://twitter.com/conways_law/status/1410609502060122122

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The coupler in politics that binds individuals together (analogously to the binding of H₂O molecules) is

group identity.

What causes group cohesion is signaling (from summonses to dirty looks to death threats) that inhibits people from stepping out of line.

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Over the lifetime of our species we’ve been enlarging, in fits and starts, the sizes of our identity groups.

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WE’RE NOT THERE YET

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But the job is not complete. The “climate crisis” can be described as an irreconcilable inconsistency between two identity groups: investors in public corporations as a class and the inhabitants of the Biosphere as a class.

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PBS has documented the dynamics of this inconsistency in its 3-part Frontline series “The Power of Big Oil”.

<https://www.pbs.org/video/the-power-of-big-oil-part-one-denial-redxh6/>

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In this paper I describe what is essentially a tragic flaw in the structure of our financial system that, for now, makes the inconsistency irreconcilable.

<https://melconway.com/Home/pdf/mapcamp2021-mc.pdf>

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More to come.