



**BOOK
SUMMARY**

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GETTING OUT OF CONTROL: EMERGENT LEADERSHIP IN A COMPLEX WORLD

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Getting Out of Control focuses on the challenges and opportunities of governance in the face of complexity, providing insights into how leaders can improve how they respond to that complexity.

CHAPTER 1 | THE WORLD IS OUT OF CONTROL

We are exposed to more complexity and are part of more complex environments. Rapid change and compounded complexity means we have more choices than ever.

> However, an increase in choices does not mean an increase in control. We feel overwhelmed with options and fundamentally out of control of ourselves and the world.

> Human society has developed tools to process large amounts of information (e.g., trusted institutions – such as government agencies and news media – generate, filter, and transmit information), but the rapidly expanding information ecosystem has strained these.

CHAPTER 2 | OUR BRAINS, PROSPERITY, AND EMERGENT ORDER

Our brains are immensely complicated and extremely powerful, but they also have limits (e.g., we only remember strong experiences and we have cognitive biases). The capabilities and limits of our brains are the result of adaptation to our environment over time.

> As humans, we have augmented our brains through tools, such as language, societal institutions, ethical beliefs and values, and specialization.

> Most of the tools we have developed are emergent phenomena, developed by many people through usage, experimentation, and feedback over time. They have also created emergent order, by expanding our ability to accomplish ever more complex things.

> The economy is an example of the world's reliance on complex emergent order: incredibly complex problem-solving systems guide the decisions of millions without any central control, driving the widespread growth in wealth that has benefited humankind.

CHAPTER 3 | WHAT IS EMERGENT ORDER?

definition

Emergent order is the complex behavior of a system created by the interactions of many smaller components following simpler rules with no central control.

example



A **stadium "wave"** exhibits characteristics of emergent order:

> The system is the attendees at the event and the components are the individual attendees.

> The complex behavior is the coordinated, observable pattern of a wave moving around the stadium, which is more complicated than the behavior of the individuals. The rules followed are simple: stand when those near you stand and sit afterwards.

> No one controls the action of the wave: each individual participant judges when to stand based on their own internal state and the actions of others around them.

> Emergent order is **not** the same as:

1 **Randomness**: there are smaller components acting without central control, but the system exhibits no complex behavior (e.g., how a stadium fills up with attendees).

2 **Designed order**: there are smaller components, but acting with central control. Each individual is given directives that, taken together, create the intended result (e.g., a group of stadium attendees holding up placards that spell out "GO TEAM" across the stadium).

> Other examples of emergent order: other social norms (e.g., table manners), our bodies, the price system.

> Systems exhibiting emergence are complex systems. There is no standardized definition of **complexity**, but the following are common themes of complex systems:

1 **Anti-reductionism**: in complex systems, the behavior of the system is fundamentally different from and more sophisticated than the behaviors of the individual elements, such that the system cannot be accurately simplified.

2 **Boundaries, signals, and hierarchies**: the study of complex systems seeks to understand how parts, separated from each other by boundaries and interacting with each other through signals, can form a whole that does something different and unpredictable.

3 **Order emerges from chaos**: systems exhibiting emergent order form out of chaotic systems. Disorder facilitates emergent order by increasing the dynamism of the system. Chaotic systems are sensitive to initial conditions, meaning that differences in inputs can create disproportionately different outputs.

4 **Attractors**: attractors are positions in a system that the system tends to move toward. Complex systems often have multiple, different attractors.

5 **Autonomy, connectivity, and feedback**: smaller components have autonomy, meaning that they are not centrally controlled but act based on their own set of rules applied to the input from their environment and other components. Complex emergent behavior can only emerge where these simple components are highly connected (e.g., by providing (decentralized) feedback to each other).

> Emergent order is a natural phenomenon that is neither good nor bad, but amoral. It is how we choose to engage with it that carries moral significance. Emergent order does not guarantee desirable outcomes.

CHAPTER 4 | HOW EMERGENT ORDER EMERGED

This chapter traces how emergent order emerged in the following two fields:

- Economics:** Adam Smith's (1723 – 1790) explanation for why nations specialize is an emergent one. Specialization emerges without design. Instead, it is the desire of humans to barter and exchange that pushes workers to specialization.
 - > Smith's conception of emergence was more implied than expressed, but his ideas (and those of the larger Scottish Enlightenment) sowed the seeds for a broader exploration.
 - > F.A. Hayek's (1899 – 1992) concept of spontaneous order is synonymous with Chilson's use of the term emergent order. In complex conditions, order can be achieved without prior deliberate arrangement. Hayek consistently emphasized the limits of what we can predict and plan when dealing with emergent phenomena like markets.
- Biology:** Charles Darwin (1809 – 1882) proposed that species evolve over time through natural selection. Complex biological organisms are a result of emergent order. Since then, emergent order has been central to evolutionary biology.

The study of emergent order has itself also emerged.

> In his book *Emergence* (2001), Steven Johnson describes how the study of emergent order has moved through 3 historical phases:

Phase 1	Phase 2	Phase 3 current phase
Researchers across a wide range of fields sought to recognize and understand various complex systems without realizing there was a coherent principle joining their research.	Scholars began making connections across various fields and realized emergent order itself was an independent phenomenon worth studying.	Researchers are creating artificial systems that rely on emergent order (e.g., to recommend movies or populate game environments).

CHAPTER 5 | LEADERSHIP WITHOUT CONTROL

The desirable characteristics of emergent systems (e.g., adaptability, evolvability, resilience) come with necessary trade-offs. For example, they cannot be controlled, predicted, or understood.

- > Modern information technology has undermined the illusion that leaders are in control.
- > Research has pointed to the business benefits of leadership without control. Characteristics that enable adaptive, innovative, and nimble systems include distributed leadership, widely shared cultural values and simple rules, and employees who are free to move from less promising to more promising projects.
 - > For relatively simple-to-define problems, the trade-offs of a centralized approach might be relatively minor. However, for problems which are themselves emergent and complex, the trade-offs between static, top-down solutions reliant on illusory control versus nimble, dynamic, and adaptive emergent processes can be very stark.
- > Messiness is often necessary to facilitate emergent order. One way to increase our tolerance for messiness is to think of processes, not products. This emphasizes that each process has a history of which we may not be aware, but which may influence its future, and that change is inevitable. It also reveals the interconnectedness of things.

CHAPTER 6 | YOUR ROLE IN EMERGENT SYSTEMS

You sit at an intersection between emergent systems: smaller-than-human systems (e.g., your body and brain) can be affected by your choices and, at the same time, you are a participant in many bigger-than-human systems (e.g., your family and society).

- > The larger the system, the less influence you exercise over its total shape.
- > The chapter looks at an example of each side of the intersection:
 - Firms (bigger-than-human systems):** Ronald Coase argued that companies form to reduce transaction costs, trading the robustness and flexibility of pure market transactions for the increased efficiency of planning.
 - > But, firms are still collective endeavors of autonomous individuals and, thus, exhibit internal emergent phenomena.
 - > Successful corporate leaders foster an environment that capitalizes on the emergent orders within their companies. Less successful corporate leaders often struggle against these phenomena.
 - > Transaction costs are a specific kind of signal that drive organizations to adjust boundaries. New technology or business practices can change transaction costs, putting pressure on organizational boundaries to evolve.
 - Human body (smaller-than-human systems):** each body is a collection of parts that cooperate to form a whole, with a boundary that distinguishes it from everything around it.
 - > We often outsource our body's functions (e.g., by using utensils, vehicles, information management tools).
 - > Like changed transaction costs can remake a company, employing new tools and techniques can change the shape of our lives.

CHAPTER 7 | EMERGENT LEADERSHIP IN PUBLIC POLICY

The key leadership challenge is to acknowledge the **knowledge problem**. Because they seek to regulate complex systems, regulators cannot gather all relevant information for the following reasons:

- 1 The necessary knowledge in an emergent system is dispersed, both geographically and temporally.
- 2 Much relevant knowledge in an emergent system is latent, meaning it cannot be described to another party.
- 3 Much of the collectible information is irreducible, meaning it cannot be summarized without losing essential content.

Knowledge with these characteristics is illegible to the regulator, limiting the regulator's ability to regulate effectively.

- > Not many regulators acknowledge the knowledge problem. Instead, they try to impose legibility on situations they seek to govern.
 - > When legibility is imposed for a purpose (e.g., easing tax collection), it necessarily simplifies and fails to fully capture the local knowledge it summarizes. This could distort the real world, eliminating useful emergent order mechanisms because regulators are focused on their particular regulatory need.

CHAPTER 7 | EMERGENT LEADERSHIP IN PUBLIC POLICY (cont'd)

The response to the knowledge problem should be one of regulatory humility, recognizing the inherent limitations of regulation and acting in accordance with those limitations.

> Regulatory humility counsels against forcing complex, emergent systems into simple regulatory boxes.

Chilson derives 4 tactics for government interventions into emergent orders:

- 1 **Minimize simplistic legibility:** this can be done in 2 ways. We can choose methods of governing that need less information and we can avoid oversimplification as much as possible.
- 2 **Temper ambitious plans with prudence and humility:** the mindset seeking top-down (usually revolutionary) designed solutions to particular problems should be avoided.
 - > Government solutions are not the only solutions.
 - > Where government solutions are needed, leaders should take incremental steps towards their goals, allowing for opportunities to receive feedback and adjust. Approaches that can be reversed without too much disturbance if things go badly are preferred.
- 3 **Reduce the planner's ability to impose a plan:** if the planner cannot force adoption of a plan, it needs to persuade people, which requires compromise and emergent decision-making.
- 4 **Increase the ability of participants to resist plans they dislike:** government approaches that leave more choices to affected individuals provide one way to let participants weigh in.

CHAPTER 8 | CASE STUDIES

This chapter looks at two contentious issues in technology policy – privacy and content moderation – to see how these 4 tactics could be applied.

> The case studies illustrate that we can facilitate emergent order solutions to highly complex policy problems if we:

- 1 Preserve important local context rather forcing a centralized vision of the problem.
- 2 Seek to progress through incremental experiments rather than by deploying grand and complex schemes.
- 3 Search for voluntary approaches that do not require mandates.
- 4 Empower boots on the ground stakeholders to contribute their local knowledge

CHAPTER 9 | YOUR ACTIONS STILL MATTER: THEY CAN CHANGE YOU

One way to change yourself is to change your environment. This has the following implications:

- 1 If we think of the term environment to broadly mean anything outside of our conscious decision-making process (e.g., habits), it opens up more ways to change ourselves by changing our environment.
- 2 To productively change our environment, we need to observe and experiment as there can be unpredictable effects.
- 3 When our environment changes significantly, our habits are at risk. But, it is also a good time to review and improve habits.

Habits are part of our environment. When we form one, we move something from our conscious decision-making process into our environment.

> Understanding emergent order can help with habit-building and habit-breaking: we can form habits without ever consciously choosing to do so.

- > Because they are the result of an emergent process, habits can be very resilient to changed conditions. But, they can be reshaped or broken with consistent feedback from our conscious minds or from the environment.
 - > Awareness is important: observing and judging the influences on you and observing and testing the things that you do as a result.
 - > Self-improvement is a process, not an event: as emergent systems and part of emergent systems, we are resistant to rapid major changes but resilient and accepting of small variations over time.
 - > Attempts to control can undermine change: improvement is an exercise in understanding what we can and cannot control.

CHAPTER 10 | YOUR ACTIONS STILL MATTER: THEY CAN CHANGE THE WORLD

While you cannot control the world, you can influence it.

- > Our desire for narrative can drive us to see history as a series of stories about powerful individuals (i.e., the "Great Man" theory).
 - > However, this theory is incorrect. Herbert Spencer (1820 – 1903) argued that great men were primarily products of their environment. This reflects an emergent order view of history: everyone can and does contribute to the society we live in.
 - > The apparent control over history of our heroes is primarily a result of our human need to simplify complex phenomena into stories we can understand and share.
- > If you want change, you cannot wait for solutions to emerge. Emergent order is an explanation, not a justification.
 - > It is important to realize your position as an input into a complex process, gain humility, and be willing to evolve alongside the system.
 - > Stoicism is the philosophy that most practically addresses how we should act given emergent order.

↳ **Stoics** view only one thing as under our control: our choices about how we use the impressions of the world we receive. It follows that we should focus where we have the strongest chance of affecting change, namely locally.

↳ However, the Stoics did not have an explicit theory of influence: their approach is to treat things "according to their nature". This can lead to a sort of deterministic passivity. They failed to realize that the nature of many things is the result of an emergent process and that the actions of individuals affect that emergent process.

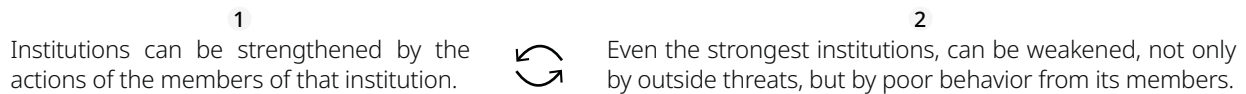
CHAPTER 11 | YOU NEED YOUR COMMUNITIES AND YOUR COMMUNITIES NEED YOU

Communities are emergent phenomena and understanding emergent order helps us understand why participating in them is important and how we can best contribute.

definition

Communities are a local subset of **institutions**: organizations of people intended to serve a specific purpose or function. An institution is defined by (1) its purpose and (2) the institutional structures that attempt to serve that purpose.

Institutions are **emergent**: while they have a central purpose, it is the collective action of individuals pursuing that purpose that shapes the institution. This has the following implications:



Communities are under **threat**:

- > Since the early 20th century, the US has transferred responsibility away from society's most primary institutions (e.g., families, friends, local organizations) toward state and federal government. Key institutions willingly gave up authority to the government.
- > Online communities lack depth because they encourage shallow interactions, driven by the advertising model of social media. And, their informality removes restraint and protection, unleashing harassment.
 - > However, new online platforms are very young and will likely benefit from continued experimentations. Furthermore, many always-reachable special interest communities would not exist without them.

We shape communities and communities shape us: institutions magnify the effort of the individuals who are part of them and, at the same time, our commitments to others in our communities shape what we do.

We participate in many different, overlapping communities at the same time.

- > Elinor Ostrom and Vincent Ostrom call these overlapping sets "**polycentricity**". They showed how people face and solve difficult problems through overlapping communities rather than top-down bureaucracies.
 - > However, it is hard to identify the existence and function of polycentricity. This has led to polycentric approaches being overlooked.

CHAPTER 12 | SIX PRINCIPLES OF THE EMERGENT MINDSET

definition

Emergent mindset: a mindset sensitive to the dynamic nature of the world, cognizant of our limited control, respectful of the emergent nature of our own minds and bodies, and serious about the importance of the choices we make.

The 6 principles that form the emergent mindset are the following:

