

ENGAGING EMERGENCE: Shaping the future as it unfolds

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Introduction

We live in a transformative time—one where old paradigms no longer help us solve the challenges we face and where new ways have not fully evolved. There is still much to learn about how to perceive, understand, and approach the issues we face. In past years, LILA has embraced themes addressing this dilemma, such as *Unlearning, Managing Complexity*, and *Adaptive Cultures*. This year we directly engage organizational structure, structuring, and practices in the context of continuous change and distributed activity: *Emergence in Organizations*.

Typically, organizational structures (teams, divisions, cross-divisional structures, etc.) get established at some point and then endure for a considerable period of time. Fueled by power dynamics, traditional cost models, inertia, and other forces, they often outlive their utility. Imagine instead organizational practices that build on nimble mechanisms to engage with crises and opportunities. In such organizations, work structures, relationships, and workflows are continually (re)constructed in sensitive near-real-time *reaction* to emerging problems and opportunities. Of course, these emergent states must be connected to enduring features to function well: the emergent parts of the organization operate within a larger framework of broad goals, purpose, and protocols for reconfiguration, and possibly some conventional divisions for standard and stable functions. These active tensions between enduring and emergent features, between planned and emergent purposes, and between practices that ensure stability and those that invite

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emergence, are powerful levers for shaping how organizations evolve and adaptive cultures unfold.

Throughout the year here at LILA, we have explored emergence through a variety of lenses. This Summit brief attempts to summarize some of our insights. The first part of this brief takes a "questions and answers" approach to revealing the sense we have made of engaging emergence over the course of the year. The ideas presented focus primarily on the work of our guest faculty members for the year: Benyamin Lichtenstein, Donald Maclean, Patricia Shaw, Nora Bateson, Gail Taylor, Mary Waller, and Jim Hazy. The second part of the brief introduces the work of the featured Summit guests, Professor Wendy Smith and Marina Gobel.

FAQ: Engaging Emergence: Shaping the Future as it Unfolds

What is emergence?

"Emergence" is generally defined as a process where component parts interact to form **synergies** that create **novel** and **often-unpredictable** phenomena that are far from mere incremental improvements. Since the emergent system arises from the synergies between component parts, it is more than the summation of those parts and therefore cannot be observed locally. The integration of the component parts in a synergistic manner adds fundamentally to the system, above and beyond that of the individual parts and their properties (Complexity Labs).

Emergence is about the constant development and creation of new form: "Form, to recall Klee's words, is death; form-giving is life." (*From Tim Ingold, in The Textility of Making*).

What are some examples of emergence?

The study of emergence is rooted in natural science. Examples include flocks of birds, schools of fish, termite mounds, and bees swarming or forming hives. However, not all combinations of things, or interactions, are emergent. For example, water as a combination of molecules is not emergent but the property of learning innovations laboratory at the harvard graduate school of education

wetness is emergent. It is an interaction between the wet substance, the water, and the human perception of wetness. Within organizations, many tacit rules and beliefs are emergent, in contrast with explicit policies. Informal networks that get things done are self-organizing and take advantage of emerging opportunities. Roles within teams are often emergent, as people fall, without prior planning, into synergistic roles.

What do we have to unlearn in order to engage with emergence?

Engaging with emergence Is unsettling in part because it challenges many of the ideas about how things work and ways of making sense of the world with which we are comfortable. This year, LILA identified some of areas that might be worth unlearning in order to engage emergence. These include:

Need for order and predictability: We as humans like to have control. Donald Maclean suggests that there are two prevalent theories about human action and strategy that speak to this need for order and definition: the rational theory and the cultural theory. The rational theory suggests that the actor is a rational being, and the cultural theory purports that we do not act for optimization but instead are driven by values and norms, relying on a rationality that is culturally constructed. Neither of these theories supports the fostering of human creativity, but, rather, our assumed need for control. Fostering emergence through creativity, then, requires a process of unlearning and letting go of dehumanizing processes in the workplace, denials of paradox, debate and discourse, control-creating mechanisms, and defensive routines. Emotions are what create the energy in the organization; these feelings are not meant to be reduced to extractions. Implicit defensive routines need to be articulated, recognized as counterproductive rules, and rejected.

<u>The role of the organization</u>: Given this premise, emergence is much more of an art than a science. It is not a technical, scientifically structured phenomenon, but one



that is focused on the human and on two fundamental questions about the organization's being:

- Is the organization working?
- What does it mean to be a part of this organization?

<u>The use of structures to control what happens</u>. There are tools available to manage within the new emergent system. Adaptable relationship structures help the system thrive. Rigid hierarchies will fight against the system, whereas ownership of 'how things get done' enables greater flexibility within the system and avoids getting stuck in rules that no longer apply. The techniques of dialog enable people to deal with the stress of uncertainty and figure things out. Adaptable norms rather than procedural rules seem to be more congruent in dynamic, interactive, and complex settings.

<u>Individualistic Leadership</u>: Gail Taylor's work suggests that we pay attention to the environments that we create, as they can be "dirt roads" through which we learn to engage with emergence or firm structures that keep us on a prescribed path. To navigate our emerging future, we must be conscious about finding our way with others. These connections help organizations deal with changing conditions. Leaders might consider hosting conversations that invite different perspectives and find ways to perturb well establish processes to get people to challenge existing assumptions. When trying to understand a situation, focus on both the information gained by zooming in to the details, as well as what you learn about the context by zooming out to a wider view. This is an iterative process where you are going back and forth between these two different forms of information as you learn more.

How might understanding emergence help the work we do in organizations?

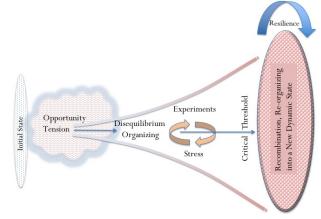
Organizations emerge from the dynamic interaction of workgroups, individuals, environment, competitors, etc. Likewise, institutions emerge, but not always with intention. As the institutions shape and are shaped by the context in which they are embedded, something new emerges.

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LILA guest speaker Benyamin Lichtenstein noted that emergence is pervasive, and the fact that the world is becoming more complex has led scholars to study emergence in many different ways. Dr. Lichtenstein has drawn from at least 15 complexity sciences to better understand emergence; and what inspired him the most was the study of dissipative structures. These are systems that are far from equilibrium due to a high injection of energy. In order to dissipate the energy, the systems create macro structures, which pull the energy out of the main system. This can happen on a macro scale in hurricanes or tornadoes, but dissipative structures also occur at a micro level. Scientists have shown that if you heat fluid in a petri dish and take away ability to boil, the molecules of the fluid form small tornadoes to dissipate the energy.

From an organizational perspective, dissipative structures inform the reaction of the organization to times of crisis. Dr. Lichtenstein describes the relationship between emergency (or crisis) and emergence, and even suggests that emergencies can be used to create emergence. However, he cautions that if there's a crisis coming, make sure you have enough slack in your system to deal with it. In response to crisis, the organization can go through what Lichtenstein calls generative emergence where an energy-injection cycle takes place. This cycle has five stages:

- 1. **DIS-EQUILIBRIUM.** The process starts when a stable system experiences disequilibrium. In fact, leaders can create disequilibrium to inject energy and disrupt routine thinking.
- 2. **STRESS AND EXPERIMENTATION.** Stress occurs. In order to deal with stress, we create experiments (try anything) to solve the problem and get the system back



to control.

3. ACCELERATED POSITIVE FEEDBACK. These experiments lead to accelerated positive feedback, which is uncomfortable and uncompromising.



4. RECOMBINATION. In some cases, the acceleration is more than the system can handle and it explodes. After that, it puts itself back together in a new way. Something breaks that gives either the new or the old an edge. The capacity of the system is transformed.

Can emergence and stability co-exist?

Donald Maclean suggests that there should be some way to create a dynamic system with enough fluidity to let some things through, but still keep an optimum level of control. For example, in a maternity ward, a new mother wants to know that the system has enough rigidity to keep track of which baby in the nursery is hers, and yet flexibly respond to her unique delivery needs!

But imagining an emergent organization can be terrifying – especially if you are the leader. Maclean invites us to consider the idea of conditioned emergence as a way in which we may actively welcome and benefit from emergence in three ways:

- Reframing order-generating rules: If we can spot patterns of behavior, this identification can disable our sentimental routines, the actions that are no longer conscious and that had made the organization successful. Once we know what the rules are and what patterns they generate, we must identify what we need to do to free ourselves from them.
- Creating far-from-equilibrium conditions: We want to create a "soft play area" in which to try out new things. We should be aware of, and potentially even prime others for, the risk involved.
- 3. Managing positive feedback: Negative feedback is feedback that causes the system to revert to a predesigned equilibrium. In working to maintain the system that was designed to eradicate error, we may avoid error, but we are unlikely to create innovation. Positive feedback, on the other hand, accelerates change away from the equilibrium into an unknown system, full of risk. We



should allow for positive feedback, while not completely abandoning negative feedback.

What is the relationship between emergence and predictability?

Under stress, organizations self-organize to relieve pressure— energy is pushed into the system (more than it can handle) and has to dissipate. It may work faster, increase energy output, allow experimentation, and generate options. The leader's role is to orchestrate the process of transitioning from calm to stressful state and back to calm state by reinforcing behaviors that enable the energy to dissipate and that dampen elements that cause pressure to build. Leaders manage rhythms that occur within the organization and act on the structural attractors that enable people to switch from stable state to new state and back to stable state.

Jim Hazy shared his work on complexity lessons for leadership. Understanding complexity helps us comprehend what leadership for emergence entails. There are three different types of complexity that make it difficult to predict emergent outcomes. (Gringolini, 2015; West 2015)

- 1. Temporal Complexity: You can't predict exactly when an event will happen
- Spatial Complexity: You can't predict exactly where an event will happen which department, workgroup
- Social Interaction Complexity: You can't predict who will imitate whom, who will cooperate with whom or who will believe & learn from whom
 Effective leadership requires accepting complexity.

How does viewing organizations as living systems help us engage with emergence?

Nora Bateson reminds us that systems are not static or controllable, but instead, what makes and transforms a system is its learning, a messy and constant process that happens as the different organisms interact, time passes, and context evolves. An organism that can sense these shifts can best respond to them and remain alive. According to Patricia Shaw, systems thinking can give you an explanation looking back but it doesn't help you work with the current situation. You can't predict the complex moves more than a few interactions ahead. After that the interactions



produce emergent effects. Instead, we need to truly understand that we are in the movement of events and that self-organization is a self-patterning process.

How might viewing the organization as an ecology help understand how to engage emergence?

Bateson draws our attention to how multiple contexts come together to form complex systems, noting the interdependency between contexts that gives resilience to both living and non-living systems. The term *transcontextuality* describes contextual overlap that is reinforcing and where, importantly, it may be loose enough to initiate shifts. For example, to improve healthcare, we must understand the ecology of contexts that influence healthcare (e.g economic, political, educational, religious, linguistic, etc.). While they may seem separate, they interrelate as an ecology in important ways. Finding the transcontextuality of where they overlap can point to opportunities for emergence. This is an important shift from a systems perspective of whole and parts to an ecological perspective recognizing overlapping contexts in which the web of interactions produces unpredictable outcomes. When we try to organize work into functional units, we might gain the illusion of control and predictability but at the same time, we are limiting our field of vision and possibly leaving out critical information. It might seem as though we are simplifying complex issues. But as Bateson warns, "the opposite of complexity is not simplicity ... It is reductionism." Reductionism leaves out the critical element of context.

What does leadership for emergence look like?

In stable environments, traditional leadership that focuses on getting people organized, getting them working on the tasks, or motivating them still applies. However, in complex environments, traditional theories of leadership - including heroic theories, charismatic leadership, and emotional intelligence - don't go far enough. These theories mainly suggest ways leaders might motivate other people, organize them or move in one direction. Underlying these practices are based on the belief that leaders "make" employees do things. Given that we know that in complexity, leaders are just another agent, albeit a powerful one, we need to look



at the interplay between leader and follower. Hazy says that "leaders guide the emergence of new order at a larger scale than the individual." As Dave Perkins stated, a leader is an agent that has "action traction."



Hazy suggests we first understand how our own development impacts the

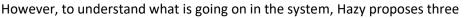
leadership -follower dynamic. At the base of the pyramid of our individual development, we are dependent on adults and we get used to that. As we grow up we want to become our own person and seek independence. As we

mature, we become interdependent. We carry all these needs within us all the time. Leadership approaches need to address all of these.

At the base of the pyramid is the most basic type of leadership – the leadership of charisma that creates the sense that employees depend on their leader. The second level is leadership that promotes independence. This leadership is transformational as it promotes feelings of autonomy and making things happen. This leadership touches on the human desire of being our own independent person. The third level of the pyramid is leadership that promotes interdependence through means of sharing and collaboration.

Hazy explains that different leadership processes activate different motivations. And it can occur that we have a mismatch between where followers are at and how the leader is trying to lead.

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patterns of complexity that
map onto follower
developmental stages. First,
at the most basic level, is
what he calls "Random Walks"
creating a sense of security
associated with being

together. This is the foundation for **community building**. Lower-level community building leadership can bring in more resources as it makes people want to be part of the organization.

At the second level is "Circulation Structure." When there is new energy in the system (i.e.threat) driving individual behavior, the individuals in the organization start to move in new directions. The interaction between the external force, the internal activity, and rules start to form structures in the organization. This creates **administrative organizations** with internal circulation that does not create a push forward, but it does create the momentum for later action.

Third, and highest, is "Collective Directional Alignment." This type of alignment creates order, not only inside the organization but in the broader ecosystem. It influences how other systems behave and act. This creates **generative** work where anyone becomes an actor in its ecosystem.

So, what does this have to do with Leadership? Leadership mechanisms influence cooperative dynamics at critical leverage points. We spend a lot of leadership efforts on developing operating capabilities but don't dedicate enough time to dynamic capabilities. But as change occurs and the old way starts collapsing, only the work of dynamic capabilities can manage the change effectively. We need to create systems that can reintegrate continuously.

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How can leaders help to shape what emerges at the organizational level?

Complexity makes it hard to predict what will happen in time, space, or a social interaction. As leaders, we use models to make sense of the world (i.e. predict what will happen or explain what did happen). Through actions (based on the models) leaders determine how to approach situations. In emergent situations, we may encounter events for which our current models may not serve us, making it harder to predict what happens. We know something will emerge, but we can't predict what or where it will emerge.

A leaders' actions create the space for organizational activities to move forward. This means experimenting with multiple possibilities, seeing what happens, and then determining which path to take. Leaders create a path by developing a model that makes things more predictable. A key insight is to pay attention to the micro interactions of people, not just general trends. It is these micro-moves that underlie complex patterns that are not revealed by 'averaging' behavior over time.

Donald Maclean suggests that the role of a leader in emergence is a midwifery process, to bring into being that which is being born. The leader needs a good level of discernment, that is, the ability to predict what might be happening before it happens, and, in doing so, help to determine what emerges.

In the bardic tradition, bards went into the wilderness and wandered through different communities. They listened to people talking, listened to the landscape, the future, and their ancestors, and came up with stylized understandings of what was being said to them about the present and what the future might be. As they discerned possible new patterns they began to voice them in a way that was compelling - like actors that have practiced their lines. The bard's role is to help people imagine how they will fill in the story together – to take them "upstream." The bardic tradition connects to the inner landscape, and creates a role and a place for purpose.

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The bards co-create models of the world that then motivate individuals to shape the world according to those models. Indeed, all behavior is driven by individuals putting their models into the world, and those models help move their interaction patterns in ways that are more efficient. These patterns are path dependent – once individuals choose to interact in a certain way, they tend to continue to interact in that way, unless there is something that leads them in a different direction. Leaders can influence these models by creating structural attractors (Peter Allen) that define paths for people to take, thus changing behavior and getting people moving in the direction you want.

If you think of how a river winds its way through a landscape, several factors affect the path it takes. It winds because of the silt in the ground and the local constraints. In organizations, physical or social structures (normative environments) act as attractors to action. Leadership facilitate the creation of those attractors, the norms, and the rules of engagement by putting the model into environment. These models channel action and form structural attractors. Leaders reinforce (through structure) the self-organizing, emergent behavior so that everyone walking this path has the same model.

Therefore, structural attractors are self-reinforcing artifacts within the organization that exert normative influence. Main entry gates are a structural attractor for guests of the organization. Though there are many ways to enter the building, having a main entrance that is bigger, more open, and has a receptionist attracts guests to use that entrance. Structural attractors can also organize signals that exert informational influence (Dave Snowden). A structural attractor makes events more predictable.

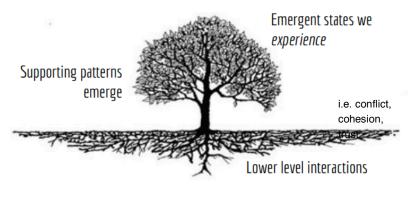
Research in ecology and social science suggest that transformation emerges from the interconnections between entities and their effects on one another. It's in the relationship of mutual learning, rather than the imposed structure, that emergence is enabled. Nora Bateson proposes the notion of *symmathesy* to describe this learning-together relationship. Instead of "parts" and "wholes", let us think of



boundaries in *symmathesy* as interfaces of learning. This way of understanding challenges the nature of hierarchy in organizations, because a central concept of mutual learning is that anyone in any situation has something to offer.

Can leaders shape what emerges at the team level?

Research by Mary Waller suggests that one strategy for influencing emerging situations is to shape the lower-level interactions that lead to emergent states. Emergence in teams happens as individual team members interact with each other. Over time these interactions give rise to three different types of emergent phenomena: lower level **interactions** (roots) feed **supporting patterns** (trunk and branches) that emerge that feed **emergent states** (leaves) we experience.



i.e. routines

Waller 2018

It is difficult to see the patterns in the trunk and branches as the team is working together—it is easier to see the emergent states (leaves, fruit). Often teams focus on the leaves and fruit because they are measurable, but they forget to pay attention to the patterns of behavior that shape the emergent states. The patterns and states are all dependent on the lower-level interactions. If we shape the lower level interactions, we can give rise to different types of patterns that can lead to healthier leaves and create lasting change in emergent states.



Mary's research suggests that there are three important moments when team dynamics come into play:

- Setting the Tone: Interaction patterns in teams emerge quickly, they solidify and become difficult to change. Leaders should intentionally create patterns that promote reciprocal balanced communications without imposing a structure.
- In the Thick of It: When teams are in the middle of crises, successful teams accept ambiguity, share information and postpone decision making.
 Leaders should create opportunities to establish shared mental models and processes to update them, without creating too many interaction patterns that can get in the way of a quick pivot when faced with an emerging situation.
- 3. Switching Gears: Teams in dynamic settings are forced to switch between routine and non-routine settings. Leaders should help teams switch quickly from planning to action by establishing routines that enable them to quickly assess the situation, plan and test out next steps, and come back together.

Emergence is a constantly changing pattern. It requires work and improvisation. We can engage with emergence through "micro-moves" in everyday work. And we "build the muscle" of moving between the smallest details to the larger field of intention ("zooming in and zooming out"). Working with emergence requires us to loosen the constraints and create the conditions that enable assessments of what is emerging and the amplification of what is adaptive in the context of broader organizational ecosystems.

Patricia Shaw haw invites us to see conversation as both communication and as an emergent social activity and as such, a key tool for engaging emergence. Conversations are physical, self-regulating, and changing based on the speaker's experience (gestures, tensions, reactions of the listener) as speaking, responding, and meaning-making are happening simultaneously. She suggests that we move from trying to understand how to 'make change happen' to 'participating in the happening of change' as it emerges. The method for

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encouraging this shift of attention is "live sense-making conversations" in which, together, people account for change and continuity in their organizations as they have and are experiencing it. Creating the space for conversations allows us to engage in a process of mutual learning about what is happening among different contexts. Through these conversations, we learn what is happening, , how it is we have made sense before, and how we might make sense in another way. New connections get made, new ideas and ways of organizing come out of new connecting processes.

What happens if we don't like what emerges?

As leaders we may be hesitant to "allow" emergence to unfold because we don't know what will develop. Shaw suggests that we need to abandon the idea that our thinking rational mind can design better futures. This requires us to let go of the illusion that we can control and predict the future. Teams must recognize that designs (even intelligent ones) will always create a forced fit when placed in turbulent settings. We need to break from the idea that the future is designed. This begs the question of how individuals and organizations engage with morphing. One way is by telling of stories that help us ask, "What is happening now?" and figure out where to go next. This is part of the constant patterning and ordering of emergence. Even if one seeks refuge on a temporary island of stability, movements of change are beginning to develop at the edges. Emergence requires thinking about organizations as webs of interactions. Even the boundaries set within organizations are emergent. Emergence can look ungainly, but it is a vital activity. Leaders must give up a need to do it their way and see alternate approaches as worthy. Emergence also requires full participation from a variety of individuals. A definition of emergence to consider is "a process of change by joint and collective inquiry that values multiple approaches to a problem."

A final thought

All our moves are playing a part in shaping what emerges; it is just that we cannot know fully what may turn out to be particularly influential or insignificant before we make the moves, we can only stay really in touch with what is happening as we live into the moves we find ourselves making.

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Summit Keynote Speaker: Professor Wendy Smith

Dr. Wendy Smith is associate professor of organizational behavior a the Alfred Lerner School of Business at the University of Delaware. Wendy is a pioneer in conceptualizing paradox, paradoxical thinking, and paradoxical leadership - how leaders and senior teams effectively respond to contradictory agendas. She studies how organizations and their leaders simultaneously explore new possibilities

while exploiting existing competencies, and how social enterprises simultaneously attend to social missions and financial goals.

In her latest research, Wendy has been focusing on how leaders communicate and engage others in complex ideas in an emergent way. This process is less about how we give sense to others and more about how we create the conditions to unpack ideas, so others have the capability and a level of readiness to expand their thinking. The leader's role then is to create the possibility for them to engage with new ideas. Stories are one practice area that Wendy has been investigating as a technique to engage and expand people's repertoire. The other practice is the idea of organizational guardrails – bounded structures that prevent the organization from going too far from their mission and yet, enable flexibility and experimentation within the boundaries. Her research has found that guardrails are valuable but only if leadership practices also allow for the system to be dynamic.

Summit Keynote Speaker: Marina Gorbis

Marina Gorbis is Executive Director of the Institute for the Future (IFTF), a 50-year old nonprofit research and consulting organization based in Silicon Valley. Marina's research has focused on transformations in the world of work and new forms of value creation. She launched the <u>Workable Futures Initiative</u> at IFTF with the aim of developing a deeper understanding of new work patterns and to prototype a generation of Positive Platforms for work. She has introduced the concept of

<u>Universal Basic Assets</u> (UBA) as a framework for thinking about different types of assets and the role they play in economic security. The UBA framework also highlights at a variety of approaches and tools we can use to achieve wider asset distribution and greater equity.

Marina's book, <u>The Nature of the Future: Dispatches from the Socialstructed</u> <u>World</u> explores many of these themes and

For the past five years, Marina Gorbis has been studying how a combination of technologies is transforming organizations and work. This research draws connections between the changes in our technology infrastructure and our organizational landscape. In her talk, she will share some of her most recent findings on the transformations in the world of work and new forms of value creation, as well as their implications for workers, managers, organizational leaders, and policymakers.



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