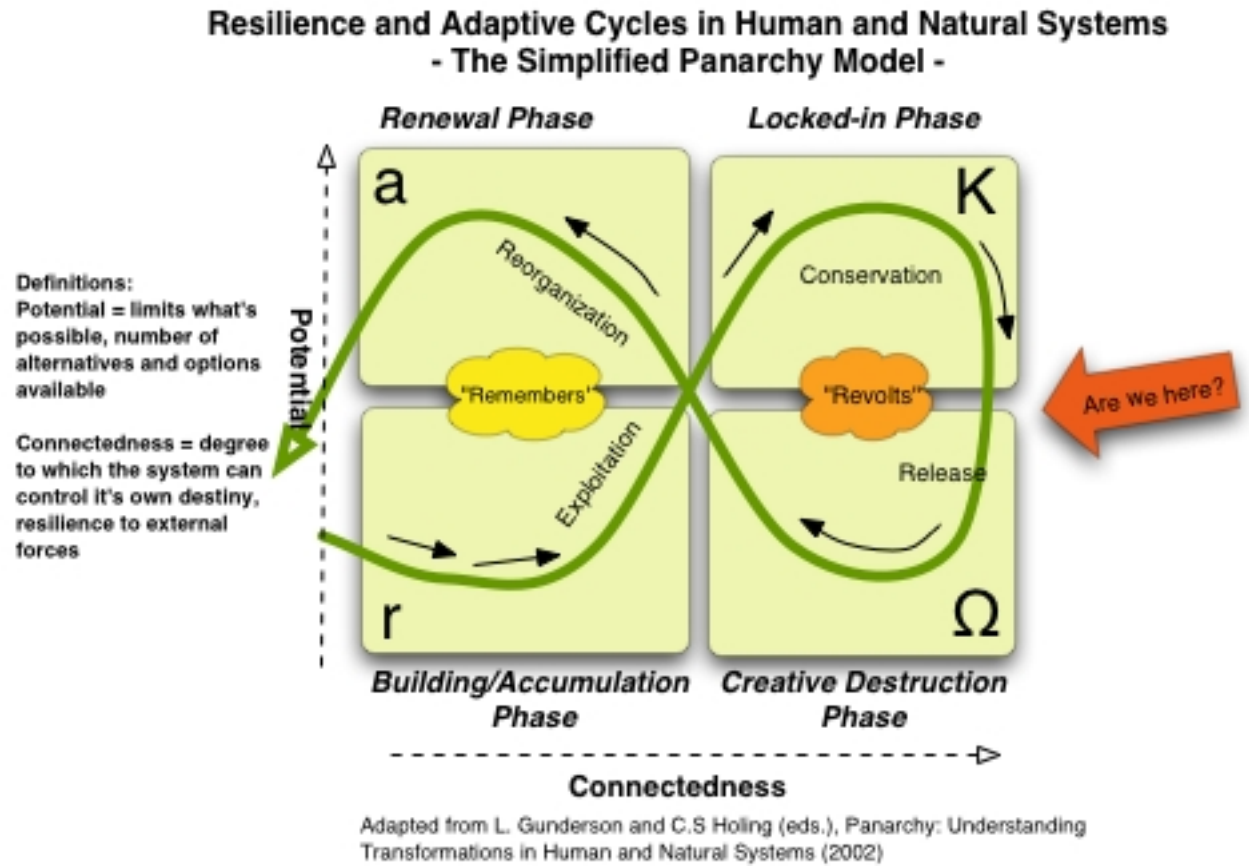
Jamming in the Flux: A Model for Systemic Change

What is the model for systemic change that inspired our logo—and much of our mission and vision as an organization? Called the Panarchy cycle, named after the unpredictable Greek god Pan, it was developed by the Resilience Alliance, a trans-disciplinary group of scholars, who created an integrative theory of how natural and social systems change.

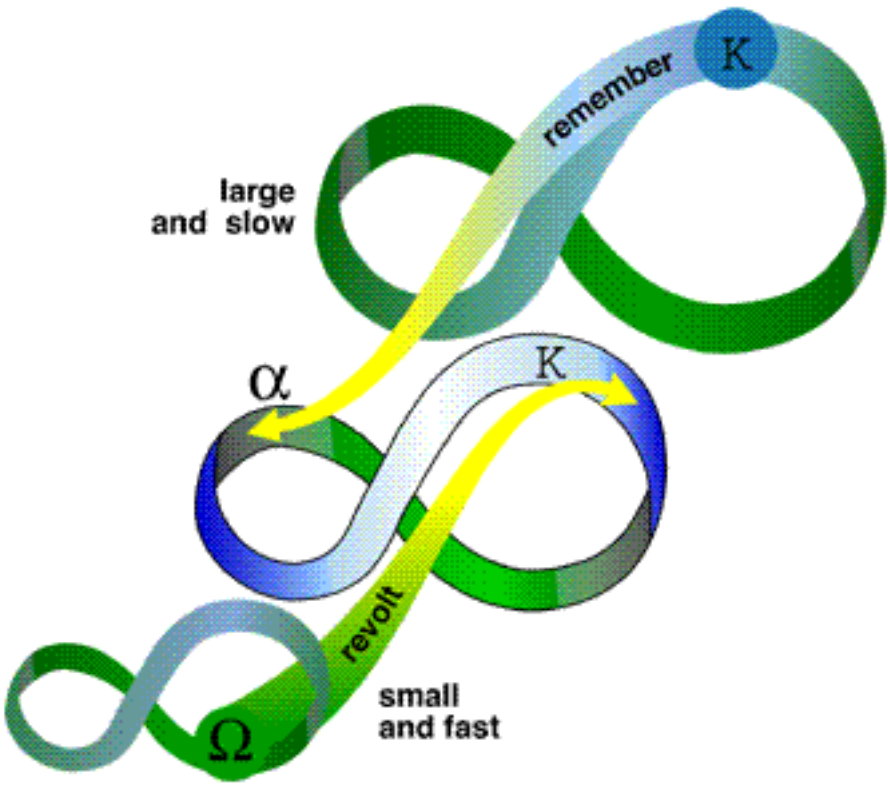
Explaining the Model, in brief

Depicted as a figure-of-eight, the Panarchy cycle consists of four phases, which we simplify below:

1. The **exploitation phase**, when a system is building itself. Examples: a new species establishing their niche, a demographic boom, or a company capturing new market-share.
2. The **conversation phase**, when a system has established itself and is maintaining its structures and systems. Examples: A mature ecosystem, bureaucracies, political systems, or an industry with cartels or a few large players.
3. The **creative destruction** phase, when these structures and systems are challenged and broken down. Examples: a natural disaster, species die-off, political revolution, new scientific breakthrough, or new market entrant.
4. The **renewal phase**, where new and old elements are recombined to form a new system. While aspects of the system "revolts" in the previous phase, elements of the old system are "remembered" or revived. Examples: Dormant species germinating after a forest fire, post-revolutionary political systems, industry transformation and uptake of new innovations or technologies.



Though two-dimensional here, it's a three-dimensional model, looking like the DNA spiral (see below). This is because all adaptive systems have a set of nested cycles going on at different scales. This is what makes them resilient. "Revolts" can happen at a smaller scale, without disrupting the entire system. For instance, the North Atlantic cod fishery collapsed, but the overall ocean system has not collapsed…at least not yet. Another example: in a large corporation, a business unit may create a new market niche (exploiting/building phase), while the overall business model might be facing long-term decline (conversation phase.)



Opportunities for Change in Times of Flux

To quote the statistician George Box, "all models are wrong, but some are useful." We find several things useful about this model. Firstly, it spans disciplines and sectors, natural and human systems. Secondly, it sheds new light on the conditions for the resiliency in any system—from a company, ecosystem, or country— at many different scales. Thirdly, it helps us understand our current moment of global systemic change, providing important big picture context so that we can navigate through this period more wisely and strategically.

C.S. "Buzz" Hollings, the path-breaking ecologist and leader of this work, argues that that we are entering the "creative destruction" phase—in different parts of the world, at different rates and scales— with the following implications:

> "During such times, uncertainty is high, control is weakened and confused, and unpredictability is great. But space is also created for reorganization and innovation. **It is**

> **therefore also a time when individual cells, individual organisms or individual people have the greatest chance of influencing events…** It is the time when a Gandhi or a Hitler can use events of the past to transform the future for great good or great ill." [Emphasis added]

What does this mean for leaders and change-makers —in governments, companies, and civil society?

For one, we can expect continued turbulence, disorder, disruption and possibly decline as the old structures break down and the new ones emerge. This will include: the disruption of business models (especially industrial-aged ones), political systems, social norms and values, and ecologies as they adapt to the multiple drivers of change affecting the planet. "Transformation is not easy and gradual. It is tough and abrupt," writes Hollings. As neurobiologist Bill Calvin puts its, "climate change is like a drunk. When it moves, it lurches." So while the future is unknown, this much we can anticipate with some degree of certainty.

Within this turbulence, however, there are also unprecedented opportunities for deep innovation and new leadership. Ideas and people that were previously on the fringes can move into the center. As business theorist Richard Normann said, "contextual change is the cradle of new institutions."

The good news is that this is already happening around the world: within civil society, entrepreneurial start-ups, cities, and communities. It's also happening in large corporations, like Nike and GE (though some activists understandably have a hard time seeing these as sincere interventions.) All of this is creating new pools of social ingenuity to select from and scale, when we enter the "renewal" phase. But we need a lot more of this kind of innovation— particularly political innovation, which follows the waves of technological and social innovation. This is essential to mitigate the severity of the transition, creating the conditions for the least amount of "destruction" and the best amount of "creation." In fact, one reason to be hopeful is that all transitions are not inevitably violent. Recall the fall of the USSR and end of South Africa's apartheid, both of which happened

quickly and relatively peacefully, though both have had their negative consequences.

Allowing innovation to flourish, from the bottom-up, is a critical strategy, something that may fly in the face of the “plan-predict-control” approach to planning, which was perfected during the conversation phase. In fact, Hollings argues that, "the only way to approach such a period — where uncertainty is very large and one cannot predict what the future holds — is not to predict, but to act inventively and exuberantly in diverse, adventures in living and experiment."

The biggest barrier, our mental models

If we want to trigger breakthrough change— in organizations, in our communities, at a larger global scale—we need good models and theories of change. These are important because they help make sense of things. They simplify complexity, focus dialogue and action, generate ideas to be tested in the field. Models and theories are key drivers of change, pushing science and innovation forward. And most importantly, they help us learn by creating new neural pathways, new cognitive tools for seeing future possibilities.

Despite their power, a common reaction from many leaders is to reject theory as being too academic, abstract, not practical or relevant. This is largely because: a) thinking abstractly is hard and requires time, which is in short supply these days b) many leaders in the English-speaking world have been under-trained to think abstractly. While models and theories have their limitations, the truth is we can't avoid them. Whether we're conscious of it or not, we all carry models in our head of how the world works, and use these to navigate through life.

In fact, often the biggest obstacle to change is that we carry into new situations outdated or incomplete mental models—especially now, a time when many assumptions are shifting and in flux. So being able to scrutinize our own mental models, while embracing new ones to stretch our thinking, is thus the first step in any change process.

The good news: it’s increasingly acceptable to talk about theories

of change and changing our way of thinking, judging by the proliferation of research and publications on the subject.

Bridging different worldviews

While the fact that we're entering a global "creative destructive" phase may seem self-evident to many, not a novel insight. But for many others this isn't obvious, but anathema to their worldview. Having a testable, rigorous theory like this goes a long way to bridging these ideological divides.

Clearly, the biggest worldview rift cleaving the world today is a fundamental ideological difference over how change is perceived. To reduce this grossly, we have roughly two groups in collision: conservatives and progressives. For conservatives, change is perceived as a negative thing, an enemy of tradition, which should be preserved. For progressives, change is inherently good, a driver of life and renewal, while tradition and the status quo is something to be challenged and overturned. Most people have a combination of both tendencies in themselves; all of us love and hate change.

But the Panarchy model shows that all healthy, resilient civilizations have an ideological division of labor between progressives and conservatives: a system of checks and balances where both elements — continuity and change — are present and allow themselves to be at work. While we don't like talking with people with fundamentally different views, finding useful models that open dialogue is essential if real change is going to happen without force or violence. Our hope is that modified models like the Panarchy cycle, accompanied with real life stories and examples, might be the sturdy planks in one of the conceptual bridges in rebuilding a better world.

Further Resources

Panarchy: Understanding Transformations in Human and Natural Systems, edited by L.H. Gunderson and C.S. Holling (Island Press: 2002)