Excerpts (Chapters 1-3) from *Confluence: Tools for Thinking about How Organized Plans and Self-organized Patterns Flow Together*.

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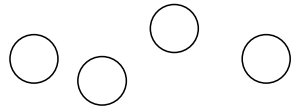
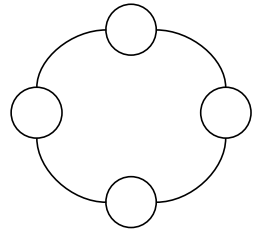
1 Introduction

What this book is about

Here are some things.



Let's say that these things interact with each other. Because they interact, we will call them *interactors*. How do they interact? Like this.



Notice that these particular interactors—for whatever reason—are connected *only* to their closest neighbors. Their interactions are *local*, not global.

Also notice that this particular group of interactors forms a circle. Nobody decided to form a circle, but a circle formed. Why? *Because of the way the interactors connected to each other*. Each one reached out to its closest neighbors in such a way that the entire group became circular.

When a *global* pattern (such as this circle) emerges out of the nature of local interactions, it's called *self-organization*. A self-organized pattern *looks* like somebody planned it, but nobody planned it. *It formed itself*.[1]

You can see examples of self-organization all around you. Did you ever sit on a beach and pile up grains of sand? The pile of sand got higher and higher, and then at some point, the top of the pile always came sliding back down, didn't it? That sudden, global collapse emerged out of many local interactions between each grain of sand and its closest neighbors. That was self-organization.[2]

Did you ever watch a flock of birds pass overhead? Did it seem like someone was calling out directions, telling them all to fly this way or that way? But of course nobody was. The global shape of the flock *emerged* out of many local interactions between each bird and its closest neighbors. Each bird kept saying to its neighbors, in effect, "Hey, keep your distance, I'm flying here," mixed

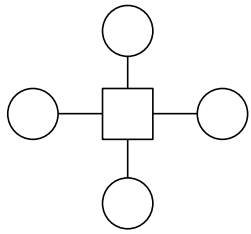
together with, "Hey, where are you going? Wait for me!" And out of those many local interactions, the flock took shape. That was self-organization.[3]

Self-organization happens in people too. Once I was walking on a sidewalk in a big city along with about fifty strangers. Suddenly we all heard a loud bang. In half a second, the entire crowd of people collapsed into a dense clump on the side of the building. We stood there, close together, holding our breaths, for a few more seconds. Then, when nothing else happened, we dispersed and walked on. Nobody said anything. Nobody looked at anybody. It just happened. Each of us experienced a momentary impulse to minimize the distance between ourselves and our closest neighbors, and the crowd shrunk. But then the impulse passed and we regained our previous pattern. That was self-organization.[4]

You can probably think of a time when you saw self-organization happening. Traffic slowing down, a crowd rushing forth, bees swarming, patterns in the sand on the shore of a lake. You've seen it. Everyone has.[5]

Organizers and their plans

Now let's add another thing to our diagram. This thing is a very different sort of thing. See if you can guess what it does from this picture.



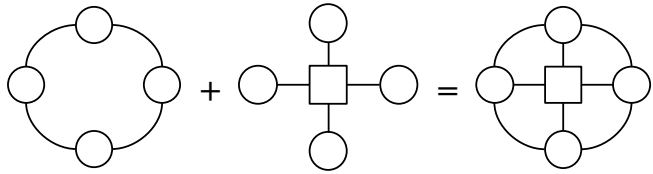
The square thing in the middle is an *organizer*. Organizers, unlike interactors, can see and reach *beyond* their closest neighbors. When an organizer wants to create a global pattern, it moves itself to a place where it can get hold of the interactors—as it has done here, by jumping into the middle of the circle—and it grabs hold of the interactors and puts them where it wants them to be.

Say you're standing in the lobby of a building. That building didn't grow there. Somebody built it, and somebody decided what its lobby should look like. The people who did those things were organizers. Now say you're standing in somebody's kitchen, and you open a cabinet. The food in that cabinet didn't grow there. Somebody put it there. Whoever did that was an organizer.

All humans are organizers, but not all organizers are human. Any being that is capable of intentionally arranging anything can be an organizer. In some species of fish, for example, the male builds a mating mound on the lake or ocean floor, spending days carefully arranging millions of sand grains and pebbles into a perfectly circular pattern. That's organization. *Self*-organization is what happens *after* the fish stops maintaining its circular construction.[6]

Two forces flowing together

Now we get to why this book is called *Confluence*. If you look around in the world, you are almost *never* going to find pure organization or pure self-organization. In the real world, intentional plans and spontaneous patterns intermingle and interact, like two rivers flowing together.



Picture yourself standing in a busy central plaza in a big city. You look around and see famous buildings, monuments, streetcars, taxis, trucks, street food, locals, tourists, photographers, pigeons, pets.

Some aspects of the situation you see were carefully planned: the building facades, the streetcar lines, the advertisements, the storm gutters, the police presence. Other aspects of the situation formed spontaneously due to local interactions. Three teenagers, strangers to each other, noticed that they were all carrying guitars, started talking, and struck up an impromptu music session. Some tourists gawking at the monuments gathered around to watch. A few locals saw the crowd and wandered over from their walk to the office to see what was up. The old folks on their usual bench watched it all happen while they fed their usual pigeons. The pigeons ignored everything except the bread.

A city center is the best place to see organization and self-organization come together. People-watching takes on a whole new dimension when you start thinking about interactors and organizers. You can learn a lot by watching the two forces mix together in kaleidoscopic combinations.

Why I wrote this book

Every life, every group, and every effort is a long series of *situations*. Things begin; things happen; things change; things end. We all keep needing to make sense of the situations we find ourselves in, individually and collectively, over and over. That's how we know we are still alive.

We all develop *habits* of situational awareness: things we do, things we notice, things we ignore. The purpose of this book is to *help you develop a new habit* of situational awareness, one that pays particular attention to the ways in which organization and self-organization flow together.

Why develop this habit? Because it's useful. The two forces of organization and self-organization flow through all of our lives, whether we know it or not. Thinking about how they flow together can help us make sense of things that happen, think about how things got to be the way they are, weigh our options, consider risks and opportunities, and understand other points of view.

How do I know this? Because I have been relying on the habit for decades, and because I have helped other people use it to improve their own situational awareness. For example, these are some true stories of people who used the ideas in this book to think about situations they were facing.

- A group of first responders realized that they had been paying too little attention to a potentially important aspect of their work.
- A team of evaluators realized that the two forms of evaluation on which they had been relying—global measurement and local engagement—could support rather than conflict with each other.
- A group of military analysts compared aspects of organization and self-organization in recent and historical conflicts, then used the insights they gained to reconsider risks and opportunities in the current situation.
- A teacher found a new way to explain the reasoning behind some difficult-to-explain teaching concepts.
- A group of government policy makers saw that their assessments of risk were influenced by a surprising variety of factors, some of which worked against each other.

I believe this habit of situational awareness could be useful to every person, family, community, and organization. That's why I wrote this book.

Who this book is for

You. It's for you. I wrote this book for anyone who is interested in this topic. It's not only for people in a specific field or with a particular background or level of education. It's for everyone.

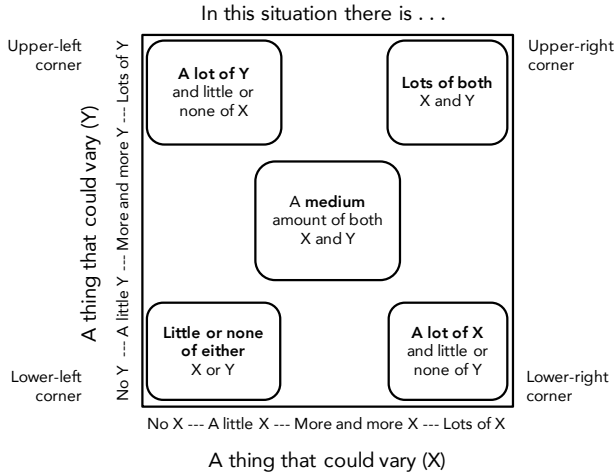
If this is the first time you've encountered the concept of self-organization, you might be a little daunted by it. Don't be. I believe we all understand it intuitively. If you've ever watched a cloud or a crowd take shape, you know what self-organization is. Sure, there's plenty more you can learn about it. Mathematicians and scientists spend decades exploring its many fascinating details. But you don't need a mathematical or scientific background to think about self-organization at its most basic level. All you need is curiosity.

What to expect in this book

The first part of the book introduces you to a tool you can use to think about how organization and self-organization flow together in situations that matter to you. The second part of the book describes six similar tools you can use to explore situations in more detail.

Part One
A Thinking Tool and an Exercise that Uses It

In this book we will use a type of tool I call a *thinking space*: a two-dimensional diagram defined by labeled axes. One thing increases in amount or degree from left to right, and another thing increases from bottom to top. Placing a situation into the space describes it with respect to those two things.



If your axes were tomatoes (X) and celery (Y), and your favorite soup had lots of tomatoes but no celery, you would place it in the lower-right corner.

The axes of a thinking space aren't there to measure anything. They are there to help you think. If you're working in a group, they are there to help you talk to each other. If you and I were neighbors, say, and we were talking about resilience in our community, we might use a thinking space to explore how mutual aid flows together with personal responsibility.

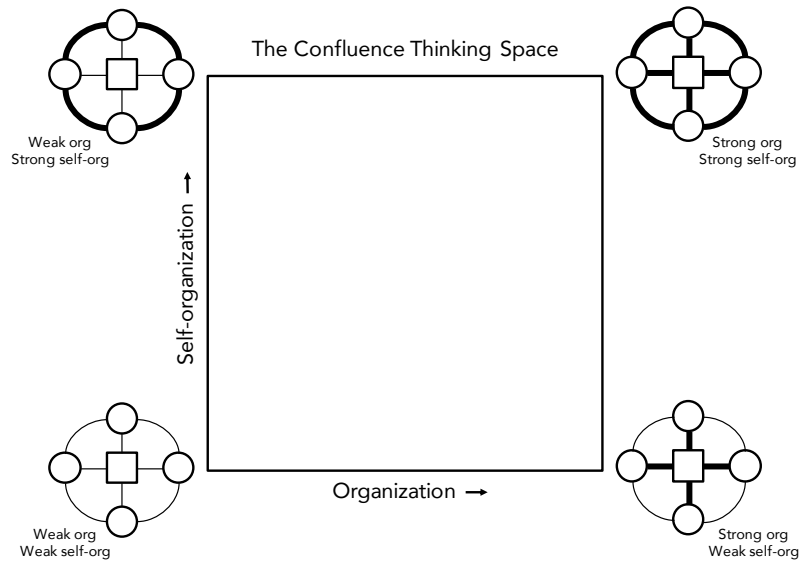
A thinking space always starts out empty, because it's waiting for you to fill it up. It's like an empty notebook or a blank canvas. Filling up the space helps you think about the situations you put into it.

Chapter Two describes a thinking space that explores how organization and self-organization flow together. To help you understand the space, the chapter goes through several example situations. Chapter Three shows you an exercise that helps you use the space to think about situations *you* care about.

2 The Confluence Thinking Space

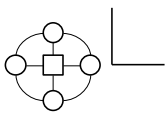
Thinking about how organization and self-organization flow together

Here's our first thinking space. The amount of organization increases from left to right, and the amount of self-organization rises from bottom to top.[1] The corner diagrams describe the conditions at each corner point. Thin and thick lines represent weak and strong connections.



Now let's fill up the space. We'll start by thinking about situations that can be found near the four corners of the space. Then we'll consider some situations that range across the space.

Weak organization, weak self-organization



Near the lower-left corner of the space, organization and self-organization are both weak. Each thing—organizer or interactor—has only the most fragile of connections to the things around it.

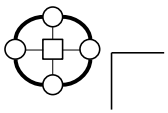
This is where we find ourselves during natural disasters. Fires, hurricanes, tornadoes, and earthquakes are self-organized patterns, so they themselves are not in this corner; but they push *us* into it. During such disasters, the connections we normally rely on are torn apart. It's hard to get control of

the situation, and it's hard to get new patterns to form, because the ongoing emergency keeps pulling apart any connections we manage to create.

Still, it's rare for even the most dire emergency to stay in this corner for long. People who work in disaster preparedness try their hardest to keep situations from approaching this corner of the space, and once a situation does land there, they try their hardest to pull it *back* out of the corner as quickly as possible. Every town has plans that help its first responders recover control. And people like you and me maintain multiple ways to reach out to our neighbors, friends, and family members in an emergency. The emergency kits we keep in our kitchens and garages help us to quickly rebuild severed connections.

Would a war zone be located in this corner? It depends on how narrowly you define the situation. Certainly there are few reliable connections in the midst of a pitched battle. But on a longer time scale, across many battles, the forces of organization (strategy, training, transportation) and self-organization (networks, negotiations) keep warfare some distance from this corner.

Weak organization, strong self-organization



Near the upper-left corner of the space, most connections are among interactors. If there are any organizers in the picture, they have little influence on what happens.

This is what the earth looked like throughout the roughly four billion years before there were organisms that intentionally shaped their environments. Probably the first examples of organization in earth's history were spider webs, which date to about 300 million years ago.[2] Dinosaur nests, some communal and repeatedly used, began to appear about 200 million years ago.[3] Such weak organizers had relatively small impacts on their environments. Still, they moved the situation a baby step away from *pure* self-organization, because they created organized structures by intentionally manipulating objects around them.

What does an organizer need to be an organizer? By my reckoning, even a weak organizer must have three essential traits: awareness, intent, and access.

Awareness

An organizer needs the ability to see beyond its closest neighbors. That's why the organizer in my diagram has plopped itself right down in the middle of the group: so it can see everybody. People in crowds get up onto rooftops, into trees, and onto the shoulders of their friends because they are trying to organize the space around them—even if it's just the square meter of space around them—to better suit their needs.[4]

Intent

An organizer needs the ability to make plans and carry them out. Grains of sand can't be organizers. They can't see anything at all, but more importantly, they can't make plans. As soon as you start talking about *living* things, the question of whether they have awareness and intention becomes a matter of debate. An individual bacterium can't see the colony of which it is a part, and

(so far at least) it looks like bacteria can't make plans. But once you move up to organisms with even a few hundred neurons, they start to be able to organize the things they find around them.

Animals in many species, from insects to birds to rodents to primates, build organized structures for protection (burrows, dens, nests), predation (traps, webs), and communication (mating displays). The influences of instinct, learning, problem-solving, and communication vary on a spectrum from near-automaticity to the apparent expression of individual preferences. When I use the term "organizer," I mean to refer to this entire spectrum.

As I see it, an organizer doesn't need to know *why* it is organizing things to be organizing them. A fish building a circular mating mound has no idea why the mound has to be circular. It might not even know that the mound has anything to do with mating. But it knows *that it wants to build a circular mound*—and that's intention. Yes, the fish's intention is embedded inside a higher level of self-organization, in the form of evolution. But so are our intentions. We can't always explain why we build the things we build either.[5]

Access

An organizer needs the ability to reach and grab and *move* the things around it. A person who has fallen off a cliff might have plenty of awareness and intention, but without the ability to grab onto anything around them, they can't organize the situation they are in.[6] That's why we build railings on cliffs: to organize the situation while we can and before we can't.

Looking for pure self-organization

Does a state of pure self-organization exist anywhere on this planet? Considering the fact that a plastic shopping bag—a sign of our strong organizational impact—was recently found at the bottom of the Mariana Trench, I think we can consider the upper-left corner of the confluence space to be practically empty at this point.[7] But there are still many situations that *approach* this corner.

One way to find such situations is to look where people aren't. Some of the places on earth that are thriving, ecologically speaking, are places in which human beings can no longer live, such as the area around the Chernobyl nuclear plant, or the Korean demilitarized zone. Of course, there are organisms in every human-deserted space that intentionally change their environments. But the *extent* to which they do this is so much smaller than what we do (in terms of energy, matter, and area) that the mix of organization and self-organization is much nearer this corner than in any place where you will find people.

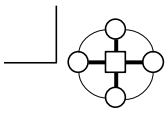
Another way to find nearly-pure self-organized patterns is to focus on a smaller frame of reference. Where there are forests, fields, or seashores, self-organization is not hard to find. But even in a busy city park you can find small areas, perhaps in places that are difficult to mow or landscape, where traces of organization are weak or absent. These are great places to learn about self-organization. You can watch whole communities of tiny things interact with their closest neighbors, and you can see how their local interactions form global patterns. A series of books called *One Small Square*, by Donald M. Silver

and Patricia Wynne, encourages young people to do just that: zoom in to a scale at which they can see self-organization at work, even in the middle of a city park or suburban back yard.[8]

Are there places where you can observe pure self-organization among people? Not really. Every place where you can find people has structures and rules that were set up by organizers to control what happens there. You might think people milling about in a public park are self-organized, and they are—but only *partly*, because the park was designed, and people watch over it. You might think cars in traffic are self-organized, and they are—but only partly, because the roads were designed, and the cars were designed, and most of the people in the cars are following schedules that were set up by other people. Even the people in my crowd-bunching-up story were partly influenced by the design of the building and the sidewalk.[9]

So we in our human world never quite reach pure self-organization. But that's not a *bad* thing. Organization is only bad when it's out of place or out of balance. That's what this book is for—*to talk about the balance* between organization and self-organization and how to adjust it (when we can) to meet our needs in the situations we find ourselves in.

Strong organization, weak self-organization



Tucked into the lower-right corner of the confluence space is where an organizer feels most at home. In a state of pure organization, each interactor is connected *only* to the organizer, and not at all to the other interactors. Not a single pattern forms unless the organizer has decided to create it. The organizer has a place for everything, and it keeps everything in its place.

Because life itself is a self-organized phenomenon, pure organization is as impossible as pure self-organization. The places that come closest to this corner are cleanrooms: medical, industrial, and scientific spaces where every attempt is made to eradicate self-organized patterns. In an ISO 1 category cleanroom, for example, exactly ten airborne particles of 0.1 micrometers or larger are allowed per cubic meter of air.[10]

It takes a lot of effort to keep self-organization at bay. People who work in cleanrooms not only must wear special suits and masks; they must also *walk slowly*, because they spread more bacterial cells around when they move than when they stand still. Human beings *leak* self-organization.

When I think of this corner of this space, I always think of *Life After People*, a 2008 documentary series that explored what would happen to the buildings, power plants, and other organized structures we have built if we suddenly disappeared from the earth.[11] It was fascinating to learn how so many things we think of as permanent—not just buildings and power plants, but whole cities—require constant maintenance to prevent them from disintegrating.

The segments of that series I found the most interesting were its visits to ghost towns and abandoned structures, because I grew up in a ghost town. From around 1860 to 1880, my childhood neighborhood was a bustling oil

boom town, one of many that "sprang up almost in a day," according to a local history book.[12] In the span of a few decades, "most of these towns disappeared, some leaving not even a sign to mark the spot where they once stood." Our town once had hundreds of inhabitants, a post office, two churches, two schools, a fancy hotel, a general store, factories, repair shops, and a "forest" of oil derricks connected via a network of pipes. (Our house, built in 1861, was the general store.) All of that organization is gone now. There's nothing left but a few dozen people in a handful of houses strung along a road.[13]

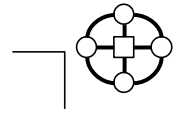
When we were children, my siblings and I spent many hours wandering the woods looking for "haunted houses," as we used to call them. (We thought every neighborhood was full of haunted houses.) We found several, and we kept visiting them over the decades, watching as they transformed from neglected but still livable houses to heaps of mangled wood and stone. Eventually the forest ate them up. But if you knew what to look for, you could still find a few traces of the old homesteads. You might come across a path that seemed too smooth to be natural, or a bit of barbed wire stuck to a tree, or a stone with chisel marks on it. Even the fact that the woods were still woods came down to a deed sitting in somebody's filing cabinet.

The structures we build never completely disappear, but they never stay the way we made them either. Not without effort. That's how it goes. We organize things, and the things self-organize as fast as we organize them. And I'm not just talking about bacteria or old houses now. I'm talking about people. Because we ourselves are interactors. We organize and self-organize at the same time. We build rules and we work our way around them. We build towns and we abandon them. We build cleanrooms and we contaminate them. Our nature pulls us both toward and away from pure organization. That's why nothing we do or create stays in this corner for long.

With all this talk of decay, you might be wondering why I haven't mentioned *entropy*, the universal tendency of things to fall apart into random disorder. Organization and self-organization are both anti-entropic forces, in the sense that they bring things together. You could think of entropy as a third dimension in the confluence space, but I'm not sure you'd get a lot out of doing that. Besides, I've noticed that people often mistake self-organization for entropy because of our tendency to ignore things *we* didn't make happen. When we think of something as decayed, it is often not actually falling apart, but coming together in a different way. The bacterial and fungal colonies that grow on our abandoned buildings are as anti-entropic, in their own way, as the buildings they replace.

Strong organization, strong self-organization

The upper-right corner of the confluence space, where organization and self-organization are both strong, is a special place. In the other three corners, though a situation might briefly approach the corner, it will rarely stay there for long.



Near the upper-right corner, however, you can find many situations that stay firmly in place for long periods of time.

We don't have to look far to find an example of a situation near this corner. Just go back several pages to the busy city plaza I mentioned before. Cities are perfect examples of places where strong organization meets strong self-organization. Responsible people spend their careers poring over maps and designing structures and procedures to preserve order in cities. And the structures and procedures they design are constantly washed over by waves of people and the self-organized patterns they form.[14] That's why I always recommend that people go to a city plaza if they want to see how organization and self-organization blend together, because that's where you can see the two forces interacting most strongly.

But a city is not the only such example. Any situation in which groups of people come together for any reason tends to work its way into this corner over time. If you take a close look at any corporation, government agency, military branch, or other organization, you are bound to find structures and procedures inextricably tangled up with self-organized patterns.[15] People in such organizations follow the rules, but they also know how and when to bend them. Everyone knows who gets to tell them what to do, but they also know who they can turn to when they need to do something else.[16] That's a good thing and a bad thing. Sometimes it leads to corruption and injustice, but sometimes it prevents the machine from crushing the people under it. As Eugene McCarthy famously said, "The only thing that saves us from the bureaucracy is inefficiency."[17]

Crossing the confluence space

Now that we have explored the four corners of the space, let's consider a few situations that range across it.

The life of a skyscraper

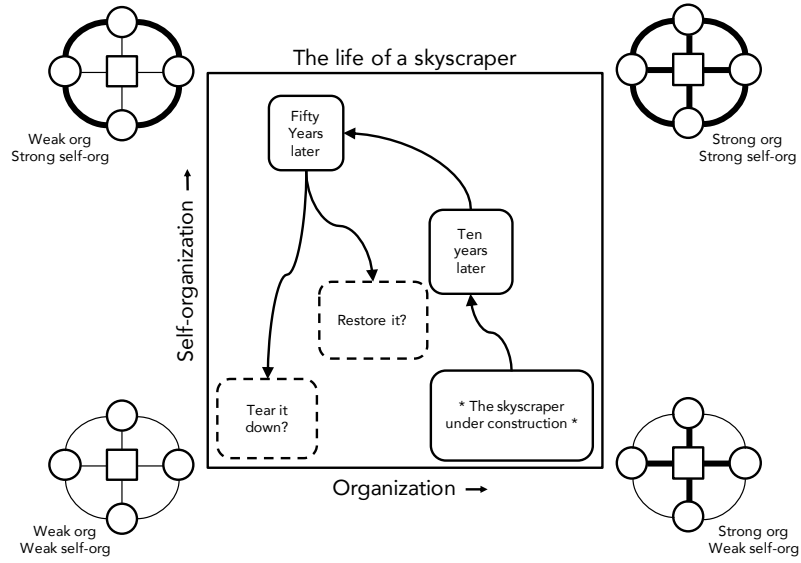
A modern skyscraper rises into the clouds. Its detailed design is based on its expert architect's global *awareness*, careful *intention*, and privileged *access*. The architect, and the small number of other professionals who are involved in building the skyscraper, are strongly connected to the city's rules, standards, and building codes. They are only weakly connected to the diverse community of people who will live in, work in, and visit the building. The situation is highly organized: near the lower-right corner of the confluence space.

Now let's visit the same skyscraper ten years later. Corporations have leased and customized some floors of the building. Popular restaurants have developed faithful followings. Extended families have moved in. Tenant groups have formed. Friends gather to walk together at lunchtime. City ordinances and building maintenance tasks still require constant attention to organization, but not as strongly as when the building was under construction. Self-organization

has grown, and it has tugged the whole situation upward in the confluence space. Now the building is close to the middle of the space.

Fifty years later, the same skyscraper is the subject of contentious debate in the city council. One group wants to demolish the eyesore to make way for modern construction. Another wants to restore the building as a hallmark of the city's cultural history. Few people want to live or work in the building anymore, but those who do defend its unique character and community. The building itself requires constant repair to counter the forces of self-organization. Vines from abandoned balcony gardens have taken over entire walls. Alcoves meant to provide quiet meeting spaces proved in retrospect perfectly designed to attract rodents and trash. Charming patios that were once washed clean by sunlight are now shaded, damp, and covered with mold.

Now the city has a decision to make. Will it pull the situation back to the right side of the space by allocating time and money to *re-organizing* the building? Or will it pull the situation in the opposite direction, to the lower-left corner, by tearing the building down and removing all connections—organized and self-organized—and starting over with a clean slate?



(Note that in this diagram, as in all of my diagrams that tell a story, the first situation is marked with asterisks, so you know where to start reading.)

A beaver builds a dam

A young beaver is moving through the forest. It has recently left its birth home and is looking for a place to raise a family. As the beaver walks along, it hears water running through shallow streams. Where the sound of running water is loudest, the beaver begins to work. It pushes rocks, sticks, and mud

into the stream. It chews through the trunks of small trees and anchors the cut tree trunks in the river bottom. All of these obstructions slow down the water flow as it approaches the dam. The leaves on the small trees provide food for the beaver, and the pond keeps them in cold storage under the water—which grows colder due to its increased depth.

Beavers build dams so they can escape from predators by diving under the water. When a beaver can find a building site next to deep water, it will build a burrow or lodge on the water's edge. But when a beaver can't find the conditions it needs, it will create them itself by building a dam.

Beaver dams are organized structures, though self-organization is involved in the form of instinct shaped by natural selection. The instinct to build where the water is loudest, for example, helps the beaver in two ways. First, streams are loudest where they are narrowest and shallowest, thus easiest to dam. Second, once the dam is built, the sound of running water is a sure sign of a leak.

But dam-building is not entirely instinctual. Beavers learn how to build better dams through imitation and experience. Young beavers watch older beavers build, and all beavers engage in a certain amount of site-specific problem solving as they shape their dams to suit the flow of water in each stream.

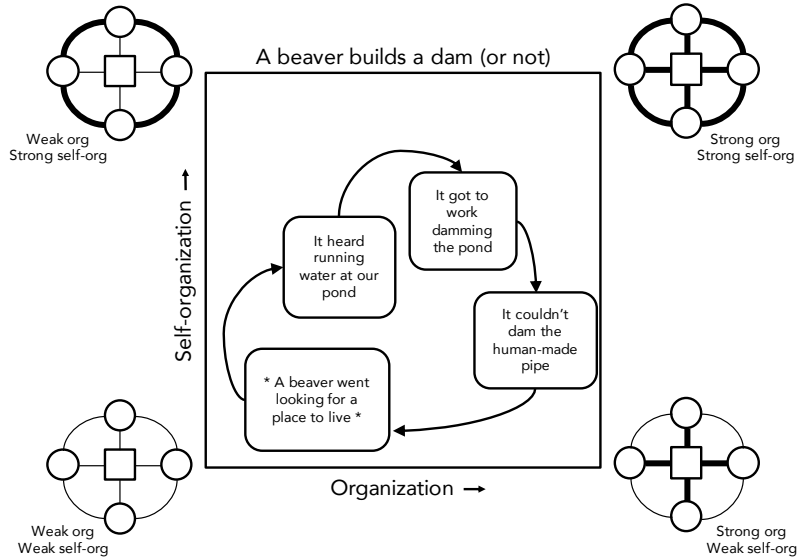
The impacts of a beaver dam on the surrounding forest are manifold. Sediment enters the pond with the incoming stream and is deposited, silting up the pond and reducing its utility as a cold storage facility. This can cause beavers to build extensions or additional dams over time. The water table under the dam changes, creating new water gradients that affect plant life for some distance around the pond. Impacts on fish populations are both positive and negative: water temperature is lowered, which increases oxygen content; but dams prevent movement through the stream. In fact, every species around a beaver dam is affected, from plants to invertebrates to birds to large mammals, and the impacts of these changes ripple out over a large area. This is why beavers are often called nature's engineers.

A beaver's decisions about its building site, materials, and methods are its own. It does not consult any local animals that may be living there. It simply makes the area inaccessible to them—or newly accessible to them, depending on the species. But as much as the beaver works to change the forest, the forest reacts in ways that change the beaver. A beaver dam requires constant monitoring and maintenance as self-organized forces encroach upon it. Deer walk across it; reeds grow through it; mice burrow into it; storms threaten it.

But the biggest force affecting beaver dams today is not self-organization. It is another source of organization: human habitation.

On our rural property we have a small pond. A beaver once tried to enlarge it. Unfortunately, the sound of running water leaving the pond did *not* mean that the stream was shallow. It meant that the pond emptied out through a culvert that ran under an old road. The beaver spent weeks trying to plug up the far end of the pipe with rocks, sticks, mud, and small trees, but nothing worked because the pipe emerged at the top of a hill. The beaver would have had to

build up ten times as much material as it could collect to stop the water flow. Eventually it gave up and went off to look for a better site. I hope it survived.



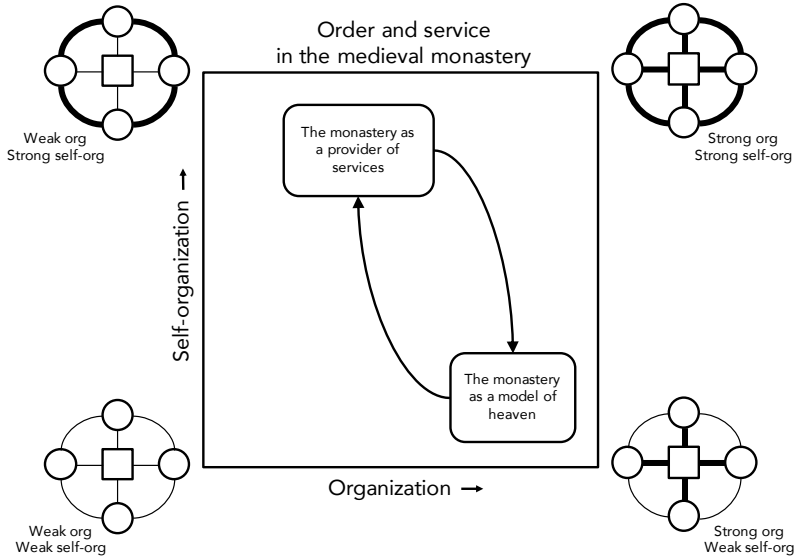
Order and service in the medieval monastery

Medieval European monasteries were painstakingly designed to achieve perfect organization and to eradicate self-organization. The plentiful records they left behind show us that every moment of a monk's or nun's life was strictly regulated. Brothers and sisters in the monastic family were told when and where and how to sleep, eat, dress, speak, work, love, travel, fall ill, and die.[18] This was all done for a specific reason: to create an earthly model of the kingdom of heaven, which was believed to be perfectly ordered, with not a blade of grass out of place.

At the same time, however, monasteries were tasked with service to the community. They provided schools, infirmaries, orphanages, hostels, inns, nursing homes, laboratories, libraries, bakeries, baths, stables, farms, and eateries, all of which exposed the monastery to self-organizing forces. Even the fact that many well-to-do families chose one child to join the church meant that nearly every monk and nun had blood ties to the world outside the monastery's walls. Especially when such children came from powerful families, these connections had strong impacts on the way monasteries were run. Other connections were established when adult converts (especially widows and widowers) joined monasteries. And local lay people, servants and other workers, were employed or volunteered in monastery farms and workshops.

Possibly to counter these continual sources of worldly contamination, penalties for disturbing the monastic order were severe. However, the many

tales of errant monks and nuns in *The Decameron* and other collections of tales show us that the mixture of organization and self-organization in the medieval monastery was deeply complex. As a result, cycles of secular involvement and isolationist reform passed in succession over the monastic world, and tensions between the ideals of purity and service were never completely resolved.



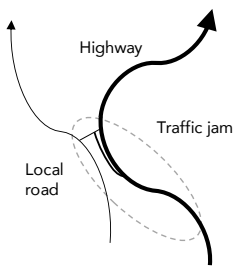
A self-sustaining traffic jam

One day, about twenty years ago, I was driving to work. Just before I got to a curve in the road, I noticed that traffic was beginning to slow down.

Oh boy, I thought, *here we go again. Better switch to the local road at the next intersection.* I knew that to *get* to the local road at the next intersection, you had to turn left. So I worked my way into the left-turning lane.

A lot of other drivers had the same idea, and we all crammed ourselves into the left-turning lane, smug in our knowledge that we were smarter than the idiots inching past us on our right.

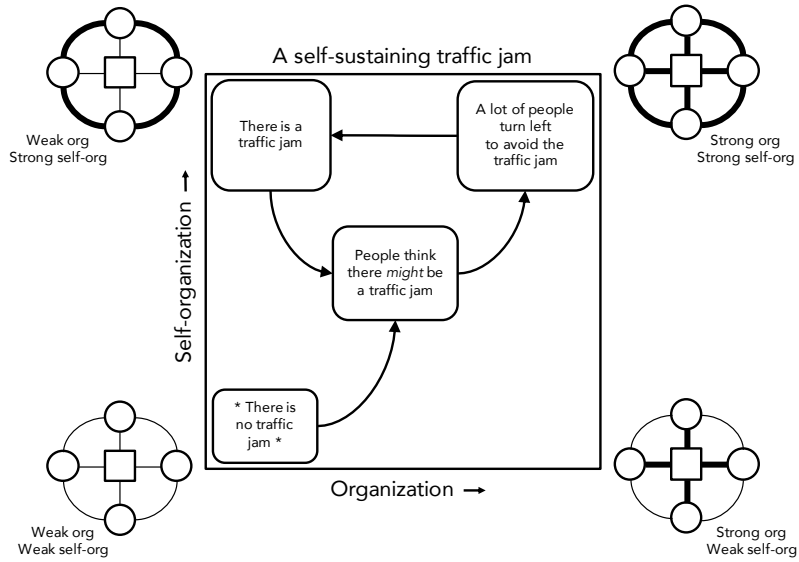
After a long wait, I finally arrived at the traffic light. I looked at the road ahead. It was empty. There *was* no traffic jam.



On that day I joined the ranks of the smart people who inched past the idiots turning left, creating the very traffic jam they were trying to avoid.

I have thought about that traffic jam many times over the past twenty years. It has such a fascinating blend of organized and self-organized elements in it.

Whoever designed that intersection must not have realized that they were setting up conditions under which a self-organized—and self-sustaining—pattern was bound to form. The curve in the road made it impossible for drivers to see the extent of the slowdown ahead of them, and the lack of access to a local road on the right side caused drivers avoiding the slowdown to pile up in the left-turning lane, causing the slowdown. As a result, small traffic jams kept forming and dissolving every day, probably for decades. There might be a traffic jam there right now.

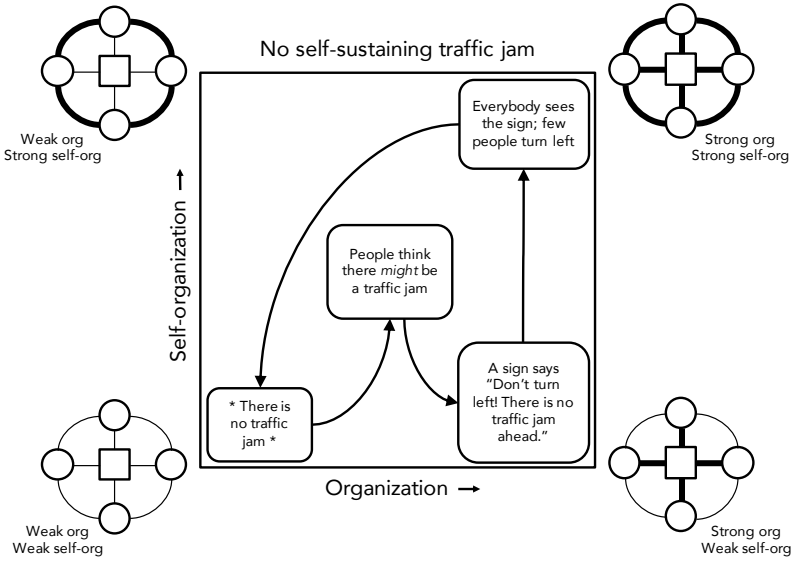


The pattern might have gone away if all the people who drove on that road saw what was happening and stopped trying to leave at the first sign of a slowdown. But membership on the road was too fluid to make that solution work. Drivers who learned their lesson, like I did, eventually moved away and were replaced by new drivers, who were doomed to repeat the same pattern several times before *they* realized what was causing it. With no way to communicate their insights to other drivers, enlightened drivers couldn't stop the pattern from forming.

How could an organizer, say the local government, have stopped that self-organized pattern from repeatedly forming? They could have accommodated people's instincts to get off the road by building a new local road to the right. They could have widened the left-turning lane so any jams that formed would dissipate more quickly. They could have added a temporary third lane so traffic could flow as people slowed down to consider their options.

Or they could have given people more information to work with. They could have put up a sign just before the curve with information about upcoming traffic. If drivers coming up to the curve saw a sign that said "traffic ahead is

clear," they would be less likely to clog up the left-turning lane and cause a jam. Even a static sign explaining that turning left could cause traffic jams to form could have helped to stop the pattern before it got started.



Now you try it

So that's the confluence thinking space, and that's how you use it. You put situations into the space, and you think about what it means that you put them where you put them.

In the next chapter, I will tell you more about how you can use this space (and all of the spaces in this book) to think about situations that matter to you.

3 Using the Confluence Space

An exercise in situational awareness

In the previous chapter I introduced you to the confluence thinking space. Now I will show you an exercise that uses it (or any of the spaces in this book) to think about any set of situations.

A thinking game

You can use a thinking space as a game, a lesson, a brainstorming session, or just a way to start a conversation. You can use it by yourself or in a group.

Thinking spaces always work better in groups. People think better when they think together. That doesn't mean you *can't* use a thinking space by yourself—I do it all the time—but it does mean you should at least *consider* asking other people to join you. If you are using the exercise by yourself, just *think* about each thing I say you should *talk* about in the instructions below.

Set aside at least an hour. You will need sticky notes, pens, and scissors. (You can also do this exercise online. See this chapter's end notes for details.)

1. Choose a topic

Agree on a subject you want to think about, like *resilience in our community* or *the way my career has been going* or *how our family communicates* or *equity in our workplace*. Describe your topic in a few words on a sticky note.

2. Choose a thinking space

What aspect of confluence do you want to think about? If you're not sure, use the main confluence space, as described on page 7. If you want to look more deeply into a particular aspect of confluence as it relates to your topic, choose a thinking space from the diagram on page 35.

3. Prepare your axis and/or corner labels

Look in the "Exercise Materials" appendix (page **??**) and find the thinking space you chose. Do you see its axis and corner labels? You will use those to define your space. You can use both sets of labels (axes *and* corners) or just one.[1]

Photocopy the pages you need from the printed book, or download the materials from cfkurtz.com/confluence and print the pages you need, or copy the labels by hand. Cut them apart with scissors if necessary. Arrange them on a table or wall so they mark out a square roughly one meter tall and wide. Put the sticky note you wrote to describe your topic (in step one) above the space.[2]

4. Familiarize yourself with the space

If you are using this thinking space for the first time, take some time to get to know it. Look in the exercise materials and find its *example situations* and *proverbs*. Photocopy or print them and cut them apart, or write them on sticky notes. Then place them, one by one, into your thinking space where they seem to belong. Talk about *why* you put each situation or proverb where you put it. There are no right or wrong answers, just things to think about.[3]

5. Choose a time frame

Decide whether you want to look back over the past, consider the present moment, or imagine the future. Write your choice on a sticky note ("In the past," "Right now," "In the future"), and put it under the note that describes your topic.

6. Think of some situations

Sit quietly (each person alone) and think of some situations that relate to your topic and time frame. Use these questions to help you think.

Past	Present	Future
What are some moments that stand out in your memory because they were especially *connected* or *relevant* to this topic? What happened in those moments?	*What's on your mind* right now with respect to this topic? What are some situations you are hopeful, confused, or concerned about?	With respect to this topic, what are some situations that could, could not, should, or should not happen in the future? What do you *wish* would happen? What do you *dread* happening?

Summarize each situation you think of in a few words on a sticky note. Write down two or three situations (each) before you stop.[4]

7. Tell each other about the situations

When everyone has written down a few situations, take turns telling each other about them. Keep doing this—thinking of situations, writing them down, telling each other about them—until you have collectively described *at least twenty situations* related to your topic and time frame. (Thirty is better.)

8. Place the situations into the space

Now put all of your 20+ situation sticky notes into one pile.[5] Then place them, one by one, into the thinking space you created earlier. Place each note where it seems to belong. *Talk* about what you are doing. Decide where to place each situation together.

9. Look for patterns

After you have placed all of your situations into the space, you should start to see some patterns. These are some types of patterns you might see.

- ***Clusters*** are groups of situations you placed near each other that *seem to belong together* for some reason. You can always tell when you've found a cluster, because you can give it a *theme* that can stand in for the whole group of situations. It might be something like "when we have trust, everything works" or "in a crisis, we use whatever we can." Where do the situations on your space clump together?
- ***Gaps*** are spots where you placed few or no situations. When you find a gap, ask yourself *why* you didn't place any situations there. Could you be avoiding an issue? Or is that area not relevant to your topic? Why is that?
- ***Boundaries*** are dividing lines between areas in which situations seem to be *meaningfully different* from each other. Situations on opposite sides of a boundary might involve different people, places, perspectives, issues, or outcomes. If you *had* to divide up your space based on the situations you placed on it, where would you draw dividing lines? What would lie on either side of them? And what would that mean?
- ***Links*** are situations or clusters that connect through *lines of similarity* across the space, even though you didn't place them close together. For example, there might be two distinct areas in which problems are pressing or solutions are promising, but for different reasons.
- ***Contrasts*** are situations or clusters that connect through *lines of opposition* across the space. For example, one area might be filled with stable situations while another is volatile. What interesting or useful contrasts can you see between situations on the space?

You won't find patterns of every type in every space, but you are likely to find at least one of these types of patterns in every space. Describe the patterns you find (and what you think they might mean) using other sticky notes (in a different color, or circled, or written in ALL CAPS).[6]

10. Wrap up the exercise

When you are done finding and discussing patterns, it is time to bring the exercise to a close. Write these list names on sticky notes.

I was **surprised** to see that . . .	I am **curious** about . . .	Here's an **idea** we could try . . .

Now sit quietly (each person alone) and write down *at least one item for each of the three lists* based on the experience you just had. When everyone is ready, talk about what you wrote.[7]

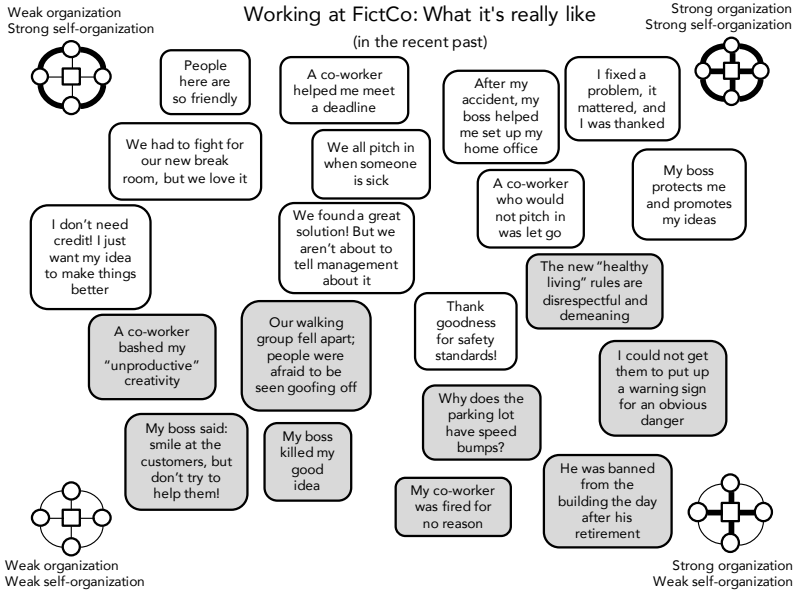
A fictional walk-through

I wanted to give you an example of how this exercise plays out in practice. But though I have helped many groups use it, their stories are not mine to tell. So I decided to write a representative yet fictional story to show you what usually happens when people do the exercise.[8]

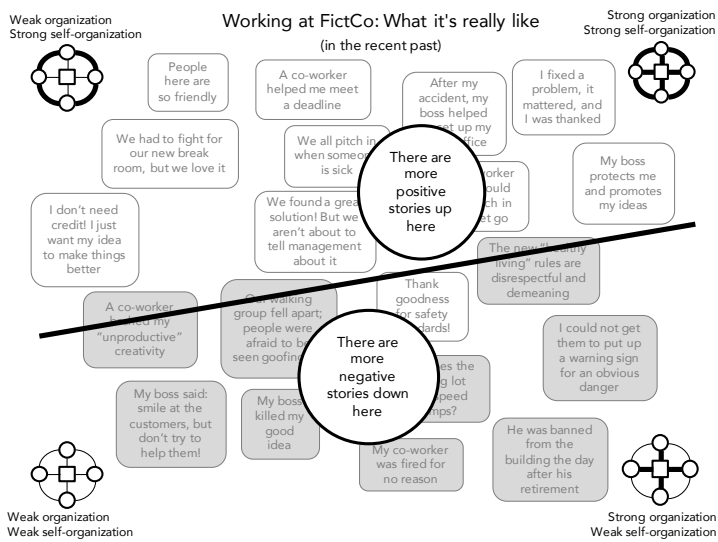
Imagine a group of managers at a small manufacturing firm. Let's call it FictCo. One day these managers decided to spend some time thinking about how FictCo could work better for all of its employees. First they agreed on a topic: "Working at FictCo: What it's *really* like." Then they chose their time frame: the recent past. Then they started thinking of situations. These are some of the situations they told each other about.[9]

- I will never forget the day I came into the building for the first time. Every single person there shook my hand. I was like—are these people strange, or what? It was only later I found out that new employees are always welcomed in that way. It's not an official policy or anything, but people around here just do that. Now I do it myself. What a wonderful way to start things out. It shows who we are.
- Why do they have those speed bumps in the parking lot? Do they think we will crash our cars? And at the same time they expect us to work long hours and do amazing things. These contradictory messages are demoralizing.
- You know what I'm proud of? I broke a machine. We got this new machine, and right away I could see that something was wrong with it. It was a tiny thing, but I knew what it would do once the machine got up to speed. I told the foreman, but he wouldn't listen. He didn't think the tiny thing mattered. So I broke something *else* on the machine, something *anyone* could see was broken. We had to send the machine back. A few months later, the foreman admitted that I probably prevented an accident.
- I used to be in this group that walked after lunch. There were maybe ten of us. People would see us and ask to join in. It was great for a few months, but then people started disappearing. I ran into one of the people yesterday, and I was like, hey, why don't you walk after lunch anymore? It's a great way to restart your brain before you go back to work. He was like, oh, my boss had a little talk with me. He said I could only walk after lunch if I stayed half an hour late. I have kids, you know, and I can't stay late. Wish I could. That's what he said.
- Have you heard of quality symptoms diagramming? No? You should look it up. I found it on the internet. We've been using it for months. Oh, no, of *course* we don't put it on our reports. We're not that stupid! If they found out we were using it to keep our quality high, we'd never hear the end of it. So we do both things: the thing they make us do, and the thing that works. Our work process is better, our numbers are up, and they leave us alone.

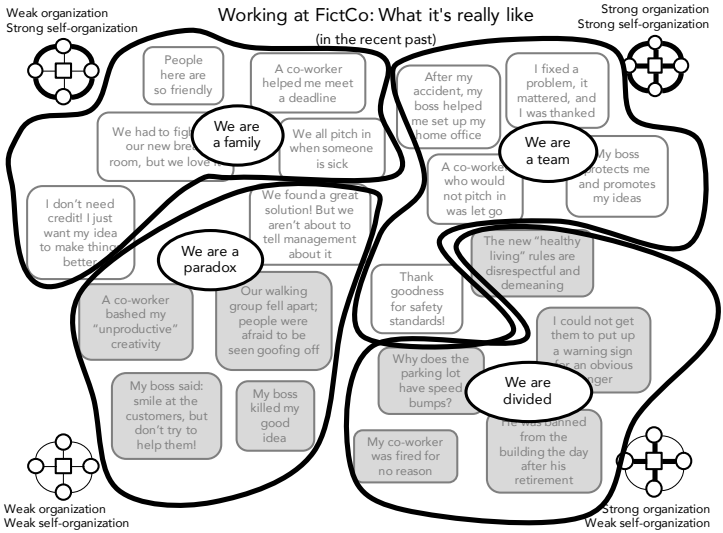
As the managers were talking through these situations, they noticed that some were more positive than others. So they started writing positive and negative situations on different colors of sticky notes. Once they got up to twenty situations, they put them into the space. It looked like this.



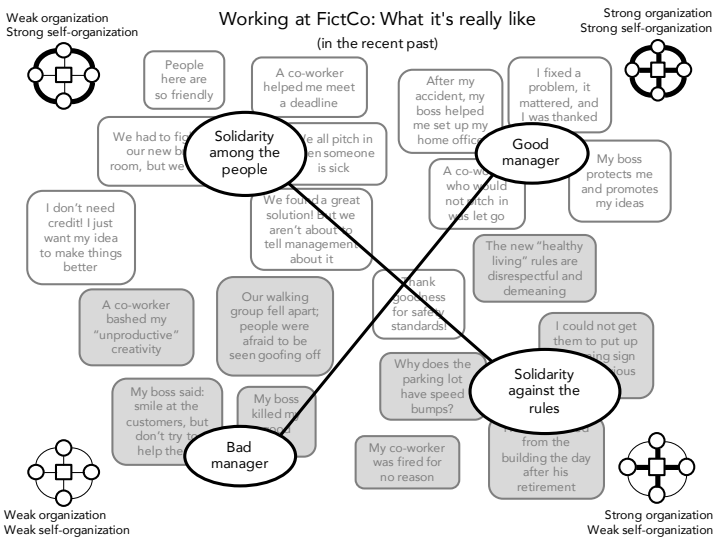
The first pattern they noticed was a *boundary*. The positive situations were closer to the top. "Self-organization is holding us together," they said.



Next they noticed four *clusters*, each of which represented a different view of the company. All four views were worth exploring, they decided, but only the two on the top were helpful, at least as things stood.



Then they noticed a *contrast* between managers. It seemed that whether people worked with or against each other had a lot to do with the behavior of whoever was in charge. That led them to notice a *link* between solidarity *among* the workers and solidarity *against* the rules. The two forms of solidarity seemed to reinforce each other.



All of these patterns gave the managers much to discuss, and discuss they did. Finally they wrapped up the exercise by making some lists.

I was **surprised** to see that . . .	I am **curious** about . . .	Here's an **idea** we could try . . .
Self-organization is keeping us together!	What this picture would look like from *other* points of view	Teamwork awards?
Who your boss is makes so much of a difference	Why people don't like the healthy-living program	Ask about the speed bumps?
It's so hard to change our safety rules	Where the shaking-hands ritual came from	Start a sanctioned walking program?

The managers decided that a good next step would be to gather more situation descriptions from a wider variety of people. Each of them chose a different part of the company to visit. One said they'd go and see the people in charge of safety. Another wanted to talk to some of the oldest and newest employees of the company. A third planned to visit the famous new break room. The managers planned to reconvene in a month to see what they could learn from a broader range of perspectives.

Obstacles you might get stuck on

These are some problems you might encounter while doing this exercise, along with some solutions that work to fix them.

We don't see any patterns in our situations.

Finding few or no patterns usually means your *coverage* of the topic is weak. Any of these issues can cause the problem.

- ***Volume***. You might just need more situations. If you have twenty situations and you can't see any patterns in them, think of ten more. If that doesn't work, think of ten more again. Give yourselves more material to explore.[10]
- ***Focus***. If your topic is too broad or vague, your situations will be too generic. Define your topic more precisely. Put aside any situations that don't match the new topic. Think of some more situations that do.
- ***Interest***. If your topic is not important to everyone in the group, your situations might be dull and featureless. Refine your topic until everyone is eager to talk about it. Use the new topic to think of more situations.
- ***Experience***. Maybe you don't know as much about the topic as you thought you did. You could learn more about it and come back to the exercise. Or you could see if you can get some more knowledgeable people to join you.
- ***Openness***. You could be dancing around an issue that you aren't ready to talk about. If you think that's the case, you can choose a different, safer topic. Or you can talk about what will help you open up your discussion. Maybe you need to break up into smaller groups, or set up some ground rules about what can and cannot be said.

- ***Understanding***. If you aren't all thinking about the space in the same way, you won't be able to reach consensus on where situations belong in it. Talk about the space and what it means. Then see if you feel like moving any of your situations around, or if you think of any new situations to place.

Patterns always appear when you have addressed a topic with enough volume, focus, interest, experience, openness, and understanding. So if you don't see patterns, talk about these issues, then try again.

Anytime you get stuck doing this exercise, it will help to put it aside for an hour or a day. Stop for lunch or take a walk. This sort of reflective work always flows better when you can pause to contemplate the topic in other ways, then come back with a fresh perspective.

We can't decide where to place a situation.

Put it aside, then come back to it after you have placed some other situations into the space. You can *use the situations you have already placed* to think about where new situations belong. Ask yourself, "Does this situation belong above or below this other one? Does it belong to its right or left?"

You can also *move* situations you have already placed as you consider them in the light of new additions to the space. Sometimes a new situation will shift your perceptions of those around it.[11] Remember that it is the *overall pattern* of placements that matters, not whether each individual placement is perfect.

We found a situation that could belong in more than one spot.

Then put it in more than one spot—by copying it onto multiple notes. On each note, write specific details of the situation you want to consider. For example, you might add a *perspective* on the situation ("the traffic jam from a tourist's point of view") or a *cause* ("the game crowd flowed into the commuting crowd") or an *outcome* ("a traffic jam might affect work productivity").

Should we start by drawing dividing lines on the space?

No. Don't do that. Use the empty space as a *gradient*, not a set of boxes. You will get much more out of the exercise if you avoid drawing lines on the space until *after* you have placed all of your situations on it.

If you find yourself dividing the space—into quadrants, for example—ask yourself: *on a scale of one to ten*, how much organization (or strength, effort, etc.) do you see in this situation? If you ask that question for each axis, you've made a hundred boxes, and a hundred boxes are almost as good as no boxes at all.

We are placing situations and we thought of another one.

That's a wonderful problem to have. More situations means stronger patterns. Whoever thought of the situation: tell everyone about it, give it a name, write the name on a new note, and stick the note on the space where you think it belongs. (Just watch your time.)

Only some people are placing situations.

Ideally, your entire group should place each situation into the space together, talking about it as they do so. However, that doesn't always work. Some-

times one or two people end up doing all the placement because everyone else is confused or bored or intimidated.

If you see this starting to happen, use this workaround. Have each person *annotate* their situation notes with answers to two sliding-scale questions. For example: "On a scale from one to ten, how strong were the organized plans in this situation? How strong were the self-organized patterns?" Then *use the answers to place the notes* into the space. Talking about each note is better; but if that's not working, this will.[12]

More things you can do

These are some optional things you can do to bring out even more interesting patterns. You might want to put these aside until you have done the exercise a few times. When you are ready for them, give them a try.

To explore your topic more fully

Annotate the space

Build your thinking space on a large piece of paper. After you have placed your situations, use pens and markers to mark the patterns you see and to record your thoughts about them.

Add a third dimension

Answer a question about each situation that adds a height dimension to your space. Mark your answers using different colors of sticky notes or a consistent scheme of letters or numbers. You can answer the question as you write the situations, or you can add it later on. Here are some useful third dimensions.

- ***Value***. Is this a positive situation? Are things going well in it? Or is this an undesirable state of affairs? Or is it somewhere in between? (The managers in my fictional case study chose this option.)
- ***Stability***. Is this situation volatile and likely to change quickly? Or is it likely to stay this way for a long time?
- ***Behavior***. Did the people in this situation behave responsibly or irresponsibly? Or focus on a specific role: Did the doctor or parent or employee in this situation behave responsibly?
- ***Clarity***. Was this situation easy to place in the space, or was it hard? Did the note immediately jump to the right location, or did you only manage to place it after a lot of time and thought?
- ***Consensus***. To what extent does everyone in the group agree that this situation belongs where you put it? Is there a complete consensus that it belongs there, or did some people have misgivings? What about people outside the group? Would they agree that it belongs there?

There are many other questions you could use as a third dimension; these are just a few ideas. After you have annotated your situations, look for patterns

in your third dimension. Do you see peaks and valleys? Do you see ridges and troughs? What do you think they mean?

Create a timeline

For this option, lay out your thinking space on a big piece of paper. Think of situations as usual, but before you place any of your situations into the space, *spread them out in a line* in the order they took place (or *might* take place in the future). Write numbers on them to record the order you put them in.

When that's done, pick up the situations and put them into your thinking space where they seem to belong. Once you have placed the situations, *draw arrows* on the paper from each situation to the next, in order, so they make a timeline moving across the space. What do you see?

Build a model

In some of the later chapters of this book, I develop abstract models using these thinking spaces. You can do that too. After you have considered all of the situations you thought of during the exercise, build a representation of "the way things are" (or were, or could be, or should never be) in relation to your topic. What does your model show you? What did you learn while building it?

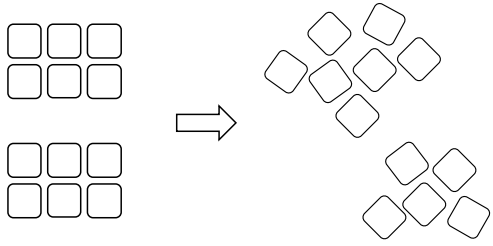
To widen the scope of your imagination

Split into multiple groups

Don't do the exercise in one group. Split up into two or more groups (even if each "group" has only one person in it). When you are finished, show each other what you found out, and talk about it.

Turn your notes

Square sticky notes lend themselves better to using pre-established categories of classification than to developing emergent clusters of similarity. But *diamond* sticky notes cluster pretty well. So if you notice that your clusters keep ending up as fixed categories, try *turning* your notes by forty-five degrees.



Choose a side where the sticky part will face (up and to the left works well), and turn each note before you write it. Remembering to turn your notes adds difficulty to the task, but after you have learned how to use a thinking space, you can try this tweak to improve your results.

Consider multiple perspectives

You can use this exercise to step outside your own viewpoint and consider how other people see the topic you are exploring. Choose a person or group whose perspective you want to consider. Describe some situations from *their* point of view. Better yet, find some situation descriptions in their own words. Look for interviews, speeches, or other communications where they have described situations related to your topic. Find at least twenty such descriptions. Summarize each description on a sticky note. Place it into the thinking space *where you think that person or group would put it* if they were doing the exercise. Then look for patterns.

If you have enough people, you can ask each small group to explore a *different* perspective. Say your topic is "Revitalizing our town center." One group might consider how business owners see the situation, while another looks at the perspective of longtime residents, and a third group thinks about new residents or tourists. You can ask all of the groups to start with the same situations (and vary only in their placements), or you can have each group come up with their own situations, or you can combine the two approaches. Once each group has placed their situations and discovered some patterns, come back together as one group and look for patterns *across* the spaces.

Consider multiple aspects

Another way to think more broadly about situations is to look at them from different angles, as you would turn a gem to look at its many facets. For example, you could list, for each situation:

- ***Elements***. What made up the situation in a *literal* sense? List the individual people, and groups of people, involved. What sorts of structures or objects were important to the situation? How about rules or procedures? Write a series of sticky notes that lay out the elements of the situation, then place each one into your thinking space. For each note, consider how the situation looks *when you consider only that element*, putting aside all others.
- ***Influences***. What forces were at play in the situation? What pushed it this way or that way? Was it affected by hopes, fears, expectations, stereotypes, confusions, miscommunications, rumors? How does the situation look when you consider *only that one influence*?
- ***Consequences***. How does the situation *affect* you? How does it expand or constrain your options? Place each note by considering *only that one consequence* of the situation.

These are just a few ideas for ways you can expand your situations into multiple aspects. You can probably come up with some more ideas of your own.

Consider change

After you have placed each situation on the space, think about how it could change (or change further) in the future. If the situation changed for the better, where on the space would it move to? Draw an arrow on its note in that

direction. What if it changed for the worse? Draw a second arrow in a different color. When you have done this for all of your situations, step back and look for patterns in the arrows you have drawn. What do they show you?

Tell stories

In the basic instructions above, I said you should *think of situations* to place into your thinking space. Another option is to *tell stories*.

Every story has multiple situations inside it. For example, the situation at the beginning of a story is likely to be different than the situation at the end. So when you do this exercise, instead of thinking of situations, you can tell stories, then list the situations you see inside of each story.

Why didn't I say to tell stories in the basic instructions? Because when you ask people to tell *stories*, they tend to think of *interesting* or *entertaining* stories to tell. Those kinds of stories aren't very helpful in this exercise. Instead, you need *relevant* stories, which are not always interesting or entertaining. Using the word "situation" instead of "story" takes the emphasis away from performance and places it on reflection.

However, once you have done the exercise a few times, and you understand what sorts of stories you need to tell, you can draw your situations out of stories instead of listing them directly.

Consider fiction

Another option is to explore a fictional scenario. Set it up *before* you start thinking of situations. Here are some ways to find scenarios you can explore.

- ***Assumptions***. List everything you take for granted about your topic, like "it rarely floods in our area" or "people need the product we sell." Choose one assumption to break. Think of situations that could happen if that assumption was no longer valid. (Or have each small group break a different assumption.)
- ***Alterations***. Think of a specific change that could have affected the present situation, like "if the war had never happened" or "if a different mayor had been elected." Imagine some situations that could have happened (or could be happening right now) in that altered reality.
- ***Extremes***. Make up some situations that could happen in a perfectly utopian or horribly dystopian future. Or consider both extremes.

Go through the exercise *as if* the scenario you chose was actually happening. Then talk about what you discovered. By moving out of reality and into fiction, you can change the patterns you see and the insights you discover.

To explore your topic in even greater depth

Use another thinking space

After you have thought about your topic using one thinking space, you can go through the exercise again with a different space. For example, say you used the confluence space, and you found yourself focusing on the upper-right

corner, where organization and self-organization are both strong. You might want to go through the exercise again with the "Mix" thinking space (page **??**). Or if situations kept coming up in which people said other people were lying, you might want to use the "Connecting the dots" space (page **??**).

You can use the same situations again (copy your sticky notes), think of new situations, or do both (reuse some situations and think of some new ones).

Use all of the thinking spaces

If the topic you want to ponder is very important to you, or if you want to learn to use this whole book, explore the same topic with all seven spaces. Use every tool in the toolbox. Start with the first space, then work your way through all of them, in whatever order suggests itself to you.

Use your own terms and images

As I have developed these thinking spaces, axes, and diagrams, I have tried to use terms and images that I think will be useful and understandable to everyone. You are not everyone. After you have been working with the spaces for a while, you might find that other terms or images work better for you—or for your family, community, or organization. I invite you to *translate* my terms and images into ones that work better for you.

Create your own thinking spaces

You can move beyond the thinking spaces in this book by building your own. Start by gathering a working group of at least three people who have plenty of experience in the area you want to think about. Commit to spending at least twenty hours (each) on the project. You are going to be building something you may use for decades, so be prepared to take your time and get it right.

Dive into your experiences

Begin by asking each person to remember and recount several stories from their experiences related to the overall subject you want to address. You can use the questions on page 20 to get stories flowing. If someone tells a story and it reminds someone else of another story, that's great—let the stories flow. Give yourself plenty of time to talk, at least two hours.

As each person finishes telling each story, ask them to *think of three situations* that were important to the story, things like, "people trusted each other" or "it began to rain." Ask them to summarize the situations on sticky notes. Keep piling up sticky notes until you feel that you have covered the subject well.

Now look at your situation sticky notes. What *varies* across the situations? What is there in them that is sometimes more present and sometimes less present? List every potential axis of variation you can think of.

Remove value-laden axes

Next, go through your list of potential axes and discard any axes that contain evaluations of value. If situations on one side of the axis are consistently more or less positive or desirable than situations on the other side—from any perspective—remove the axis from your list. When people use a thinking space,

they must be able to negotiate value on a *third* axis, as the height of the landscape they are building. A thinking space that embeds value into either of its space-defining axes prevents people from using it effectively.

Test your axes

Once you feel like you have arrived at a good set of potential axes, *test* each one by drawing it along a table or wall and placing your situation notes along it. (You can also do this on a computer screen.) How much does the placement of situations on the line tell you? A lot? Or a little? How *useful* does the axis seem to you? Try this with every axis on your list (copy or reuse your situation notes). Which axes tell you the most?

If you feel like you don't have enough potential axes to choose from, pump some more stories into the process. Have everyone tell a few *more* stories, find a few more situations in each story, and look for more axes of variation. (You might also find it useful to *pause* your work, let a day or two go by, and see if more stories and situations come to mind.)

You can use one good axis to find another one. Draw your good axis along a wall or table (or on a computer screen), and place your situations along it. Then think about how your situations seem inclined to "rise up" or "fall down" into a second dimension. List each potential second dimension, then rank them. Again, watch out for value-laden axes.

Evaluate axis pairs

At some point you should arrive at a small number of good axes, say six or eight. Now start looking for good axis *pairs*.

The two axes that make up a thinking space must be *independent*. Knowing an item's placement on one axis must not tell you anything about its placement on the other. If the axes are connected, any patterns that appear in the space will be correlated, and that will make it harder to discover surprising insights.

Think of all the independent axis pairings you can. Write each pair as the X and Y axes of big empty spaces on big sheets of paper (or big empty spaces on your computer screen). Then gaze into each space, let your minds go receptively blank, and *wait for situations to come to mind*. When somebody says, "Hey, I know what would fit here," or "This reminds me of the time," write the situation on a sticky note and put it in the space.

Keep doing this. Use your thoughts to evaluate the generative potential of each thinking space. The axes, and axis pairs, that bring the most plentiful and diverse situations to mind are the best ones to keep.

Use other methods and frameworks

I wrote this book because some people have told me that this way of thinking about situations has been useful to them. But I am fairly sure that it will not be equally useful to everyone. I think this is true for *every* thinking method or mental framework, whether its creators admit it or not. Every mind has its methods, and every method has its minds. Our diverse minds work best when they can work with a corresponding diversity of methods.

Each of the following methods and frameworks has the potential to be useful to your thinking about how organization and self-organization flow together. If you search the internet for any of these terms, you are likely to find ideas you can use.

- The American Indian Medicine Wheel[13]
- The Chinese Five Elements
- The Tipu Ake ki te Ora Maori Organic Leadership model
- The Yin-Yang symbol[14]
- Jurgen Appelo's simplicity model
- Robert Freed Bales' dimensions of social interaction (power, safety, utility)
- Stafford Beer's Viable Systems Model
- Manuel de Landa's concepts of hierarchy and meshwork
- Emery and Trist's Causal Textures model
- Dan Epp's Relational Paradigm
- Tom Graves' Context-Space Mapping
- Dee Hock's writings on Chaordic systems
- Luc Hoebeke's Work Systems Model
- Claes Janssen's Four Rooms of Change model
- Iain McGilchrist's writings on right and left-hemisphere perspectives
- Will McWhinney's Paths of Change model
- Olson and Gorall's Circumplex model of marital and family systems
- Sarbo, Farkas, and van Breemen's Knowledge in Formation theory
- Herbert Simon's theory of bounded rationality
- Dave Snowden's Cynefin framework
- Ralph Stacey's Agreement & Certainty Matrix
- Strum and Latour's social link model
- Harold van Garderen's SenseCanvas
- Harrison White's species of identity interaction

Most of these frameworks are lists of categories, not open spaces for mapping; but they are all useful in their own unique ways.[15]

You can use the diversity of these frameworks to increase the diversity of your own thought processes. Why not, for example, use the exercise described in this chapter to explore your topic with a different framework each month? What can you learn from looking at your topic through many different lenses?

Part Two
Six More Thinking Tools

There are seven thinking spaces in this book. The six remaining spaces fit inside the first one, like this.