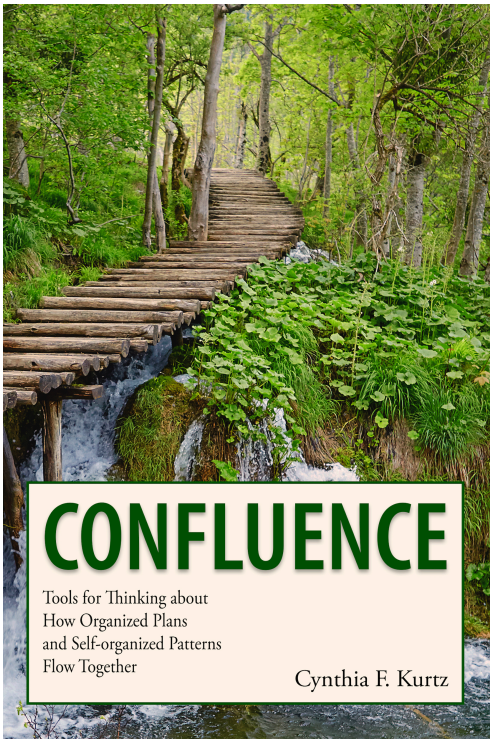
Exercise materials for the book

Confluence:

Tools for Thinking about
How Organized Plans
and Self-organized Patterns
Flow Together

by Cynthia F. Kurtz



For more information or to buy the book, visit cfkurtz.com/confluence

Questions? Write to cfkurtz@cfkurtz.com

Introduction to the concepts

Self-organization is what happens when global patterns (crowds, traffic flows, flocks, schools, dunes) emerge out of local interactions (among people, cars, birds, fish, grains of sand). Self-organized patterns *look* like they were designed, but they weren't.

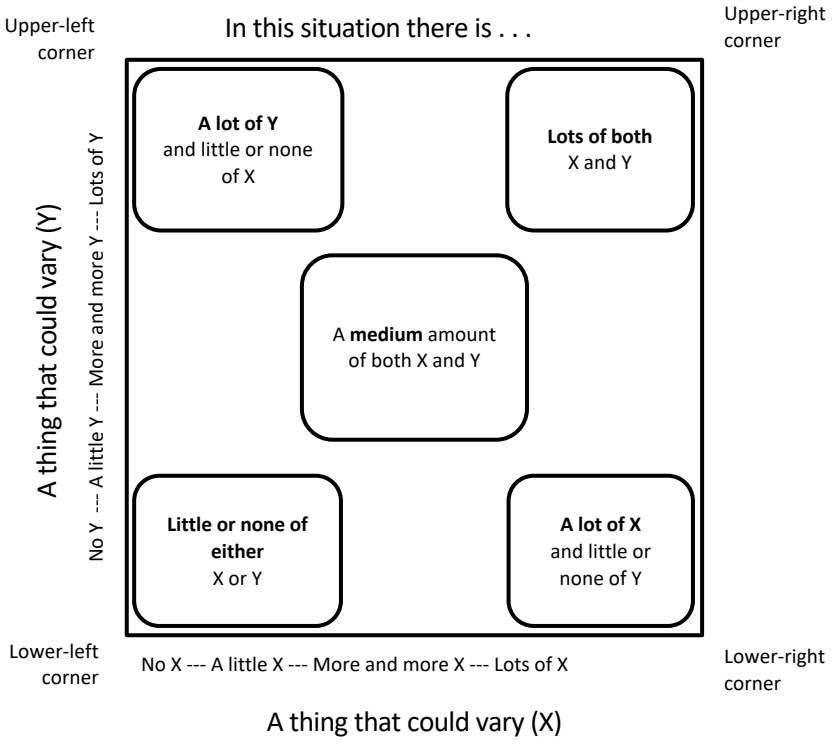
Organization is what happens when somebody (usually a person, but not always) puts things where they want them – on purpose, by design.

Confluence explores the many ways in which organization and self-organization intermingle (happen at the same time and place) and interact (influence each other). The exercise described in the book helps you think about how the two forces flow together in your life, work, family, community, or organization.

How to use a thinking space

This exercise relies on a tool called a **thinking space**, a two-dimensional diagram defined by labeled axes. One thing increases 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.

For example, 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.



Introduction to the exercise materials

For each of the seven thinking spaces described in *Confluence*, the following pages include:

1. The thinking space as it appears in the book, with a description and examples
2. Corner and axis labels to print and cut apart as you do the exercise
3. Example situations and proverbs to print and cut apart as you do the exercise
4. A "coloring book" space with an extra-large drawing area to print and draw diagrams in

How to do the *Confluence* exercise

1. **Choose a topic.** Write it on a sticky note.
2. **Choose a thinking space.** Look through these materials and pick one space to use.
3. **Prepare your axis and/or corner labels.** Print and cut part the labels (axes, corners, or both) for the space you chose.
4. **(Optional) Get to know the space.** Print and cut apart the space's example situations and proverbs. Place them in the space. Talk about where they go.
5. **Choose a time frame.** Decide if you want to consider the past, present, or future.
6. **Think of situations.** Sit quietly (each person alone) and think of some situations that relate to your topic and time frame. Use these questions to think of situations.

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 the situations on sticky notes. Stop when you get to 20 situations.

7. **Tell each other about the situations.** Take turns telling each other about the situations you wrote down.
8. **Place the situations into the space.** Place your situations, one by one, into the thinking space. Talk about what you are doing.
9. **Look for patterns.** Look for clusters, gaps, boundaries, links, and contrasts. Mark them on the space using other sticky notes.
10. **Wrap up the exercise.** Write these list names on sticky notes.

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

Sit quietly (each person alone) and write down at least one item for each list. Talk about what you wrote.

You can print and fill out either of the forms on on the next two pages to record your thoughts.

Topic _____

Time frame _____ Space _____

Situations

- Past: Connected/relevant moments
- Present: Situations on your mind
- Future: Situations that could, could not, should, should not happen

	X	Y

Patterns

- Clusters: Situations placed together
- Gaps: Areas with few/no situations
- Boundaries: Meaningful divisions
- Links: Lines of similarity
- Contrasts: Lines of opposition

I was surprised to see that...

I am curious about...

Here's an idea we could try...

Context

who, what, when, why, how

Patterns

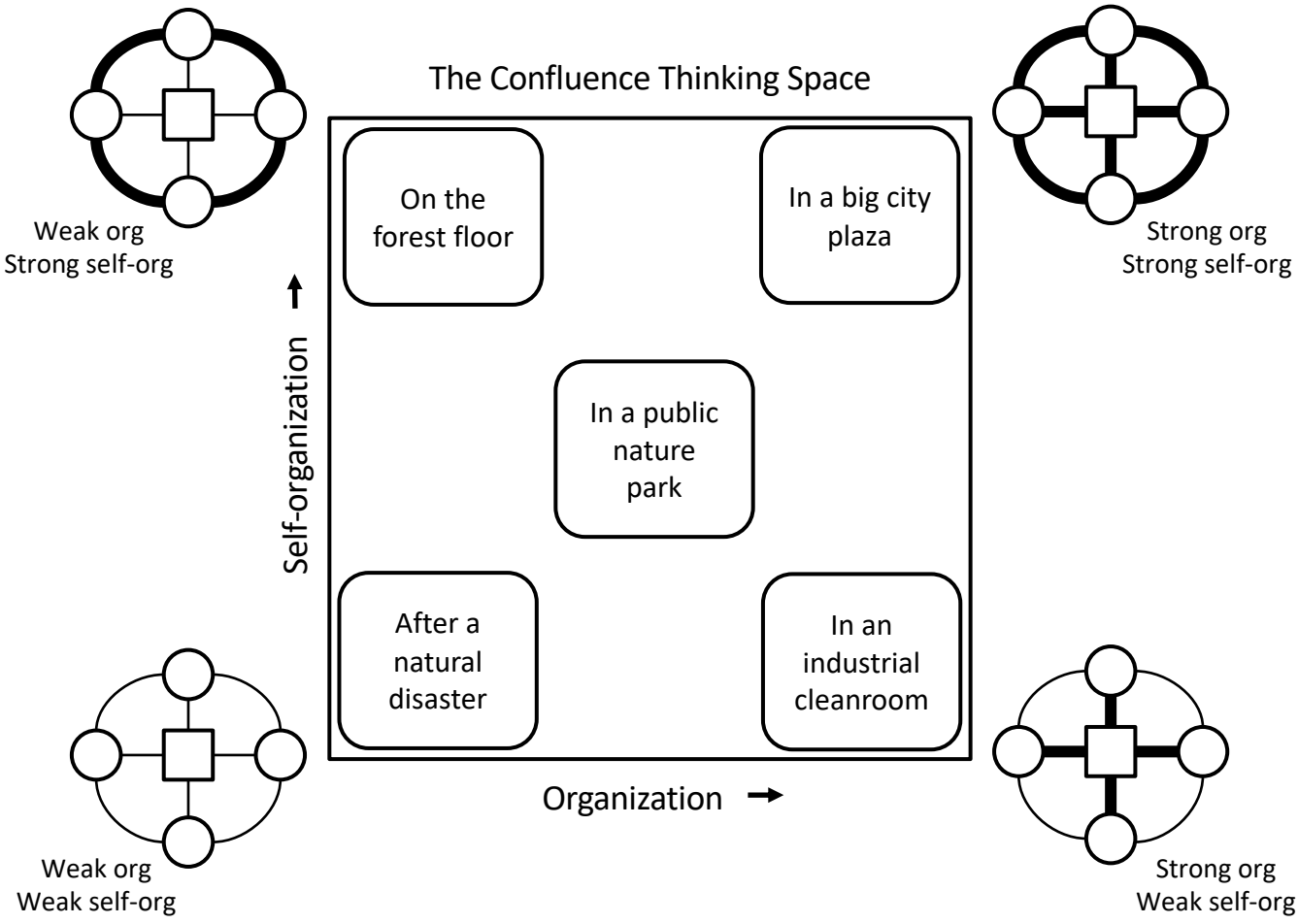
clusters, gaps, boundaries, links, contrasts

Thoughts

insights, surprises, curiosities, ideas

The Confluence thinking space

Thinking about how organization and self-organization flow together



In this space, the amount of **organization** increases from left to right, and the amount of **self-organization** rises from bottom to top.

Some examples:

- After a natural disaster: Few connections remain of any kind.
- On the forest floor: Most connections are self-organized and unintentional.
- In a big city plaza: You can see elements of organization (the design of the plaza, the buildings, the cars, the traffic lights) and self-organization (the crowds, the weather, the pigeons) intermingling.
- In an industrial cleanroom: Every effort is made to exclude self-organized patterns and keep everything under control.
- In a public nature park: There are intermediate levels of both organization (the paths, the landscaping) and self-organization (plants growing, animals living, people milling about).

Confluence Thinking Space – X Axis

Organization →

← Weak organization

Strong organization →

Confluence Thinking Space – Y Axis

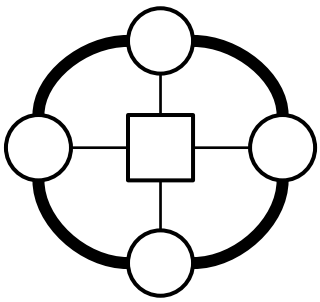
Self-organization →

← Weak self-organization

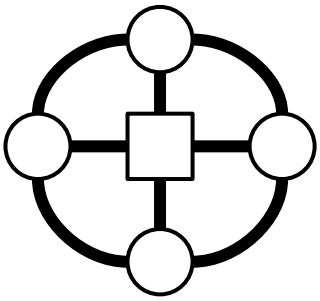
Strong self-organization →

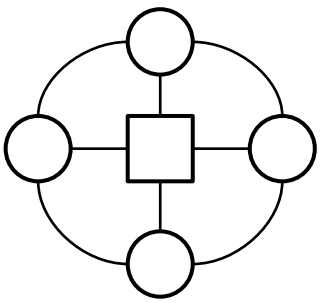
Confluence Thinking Space – Corners

Weak organization
Strong self-organization

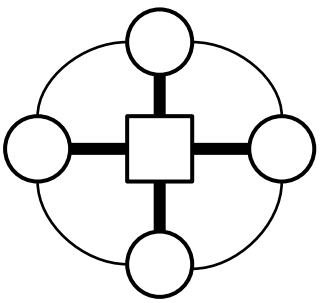


Strong organization
Strong self-organization





Weak organization
Weak self-organization



Strong organization
Weak self-organization

Confluence Thinking Space – Example situations

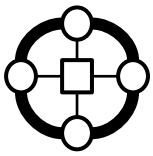
A beaver builds a dam	A crew builds a road	A couple plans a wedding
Children play in a park	Teenagers hang out	Old folks reminisce
A tornado hits a house	A city holds an election	A gardener pores over a seed catalog

Confluence Thinking Space – Proverbs

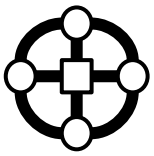
Birds of a feather flock together	Each to their own	Variety is the spice of life
If you fail to plan, you plan to fail	Many hands make light work	Measure twice, cut once
A chain is only as strong as its weakest link	If you want something done right, do it yourself	It takes all kinds to make the world go round

Confluence

Topic _____



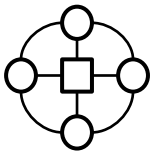
Weak org
Strong self-org



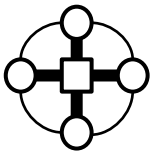
Strong org
Strong self-org

Self-organization

Organization



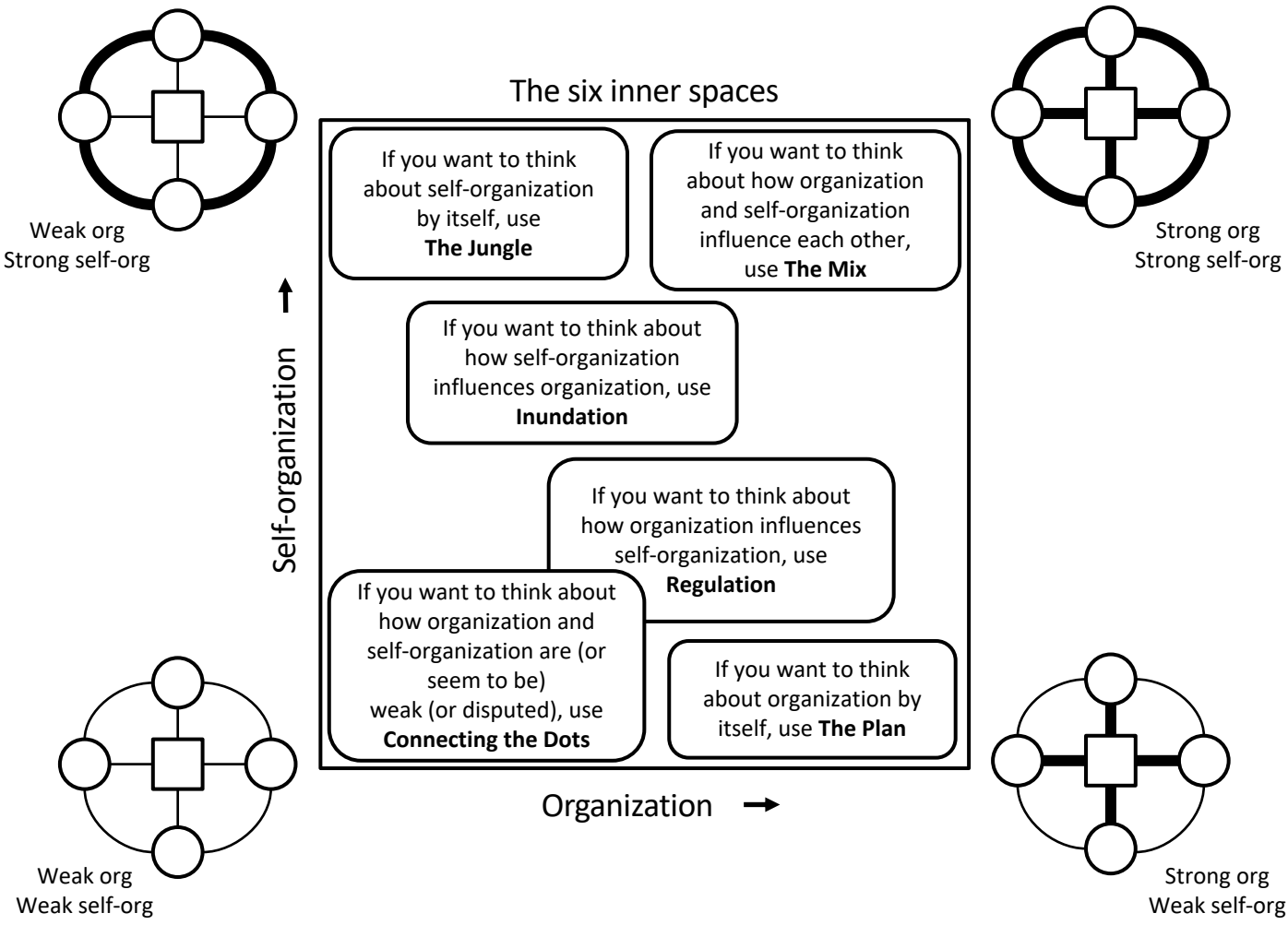
Weak org
Weak self-org



Strong org
Weak self-org

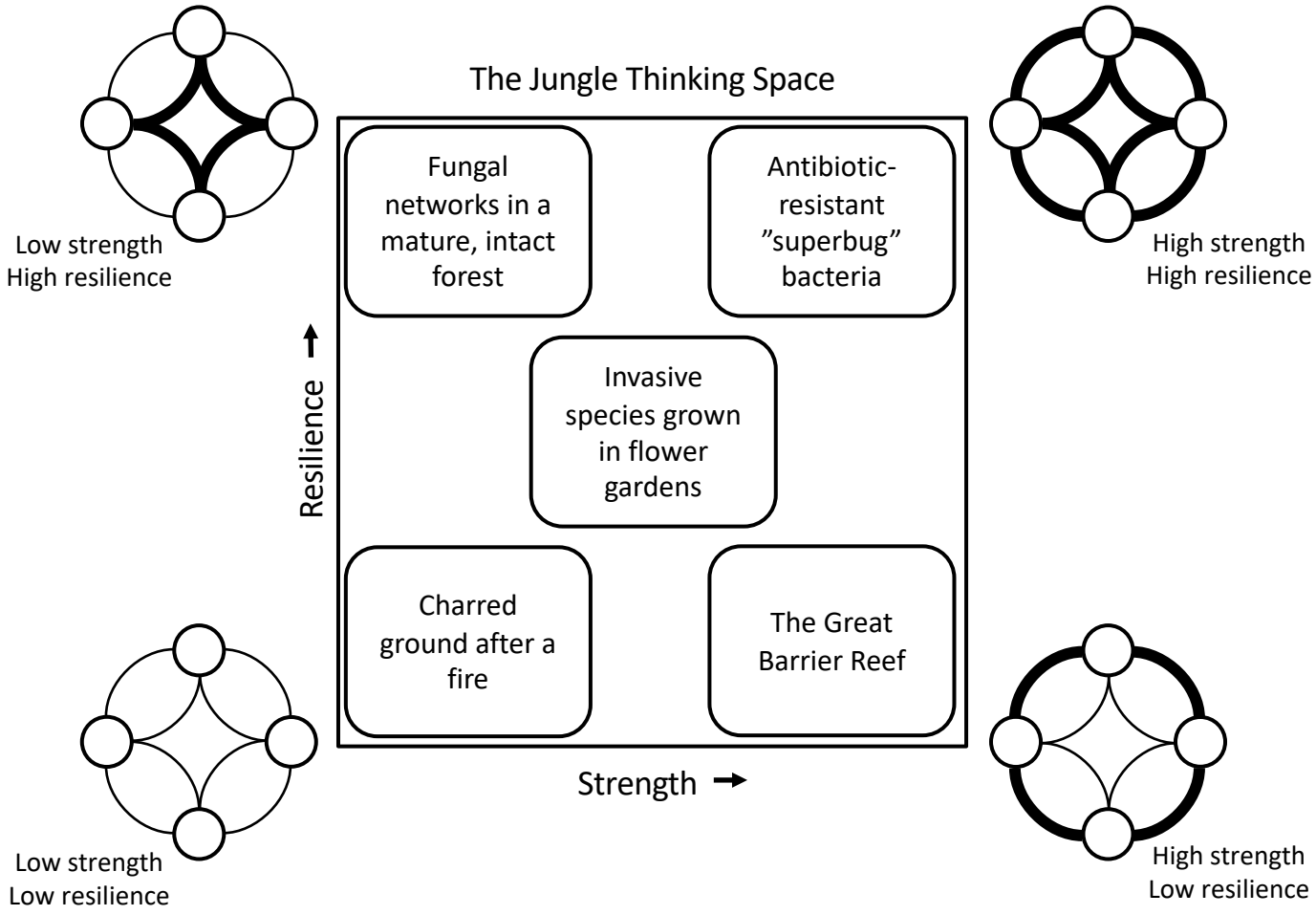
The six inner thinking spaces

If you want to delve deeper into situations than you can by using the confluence thinking space, use this guide to decide which of the six other spaces you want to use.



The Jungle thinking space

Thinking about self-organization



In this space, the connection **strength** of a self-organized network (the outside, obvious line) increases from left to right, and the **resilience** of the network (the inside, hidden line) increases from bottom to top.

Some examples:

- Charred ground after a fire: Most connections have been broken, and though some will form again quickly, self-organized networks are temporarily shattered.
- Fungal networks in a mature, intact forest: Act as a superhighway for water, carbon, nutrients, and minerals. However, they are physically weak and can be destroyed by disturbances.
- Antibiotic-resistant "superbug" bacteria: Have evolved in response to antibiotics and have developed both strength and resilience.
- The Great Barrier Reef: Strong, huge, and vulnerable to climate change and pollution.
- Invasive species grown in flower gardens: Under control for now, but poised to take over landscapes if not kept in check.

The Jungle Thinking Space – X Axis

Resilience →

← Low resilience

High resilience →

The Jungle Thinking Space – Y Axis

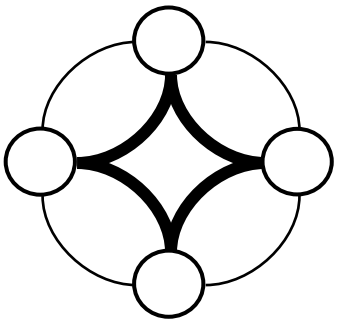
Strength →

← Low strength

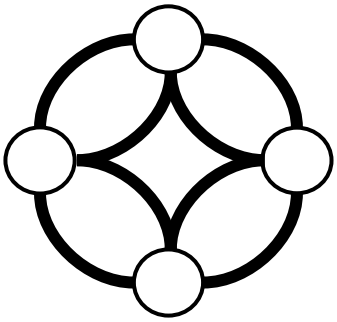
High strength →

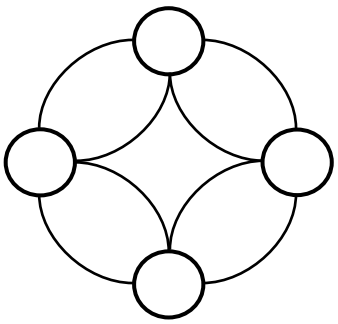
The Jungle Thinking Space – Corners

High resilience
Low strength

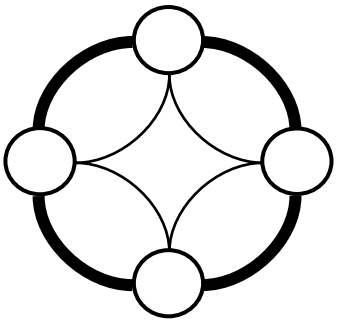


High resilience
High strength





Low resilience
Low strength



Low resilience
High strength

The Jungle Thinking Space – Example situations

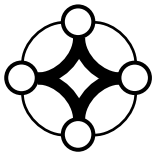
A crowd cheers at a sports event	A congregation sings in a church	A reading club meets in a library
A fern grows in an old growth forest	A fern grows in a managed forest	A fern grows in a botanical garden
Bacteria grow on a public bench	Bacteria grow in an operating room	Bacteria grow in a school bacteria

The Jungle Thinking Space – Proverbs

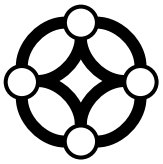
Fall seven times, stand up eight	Too many cooks spoil the broth	Still waters run deep
People who live in glass houses should not throw stones	A friend in need is a friend indeed	You can lead a horse to water, but you cannot make it drink
Tell me who your friends are, and I'll tell you who you are	Laugh and the world laughs with you, weep and you weep alone	The longest journey starts with a single step

The Jungle

Topic _____



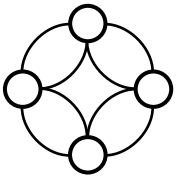
Low strength
High resilience



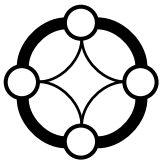
High strength
High resilience

Resilience →

Strength →



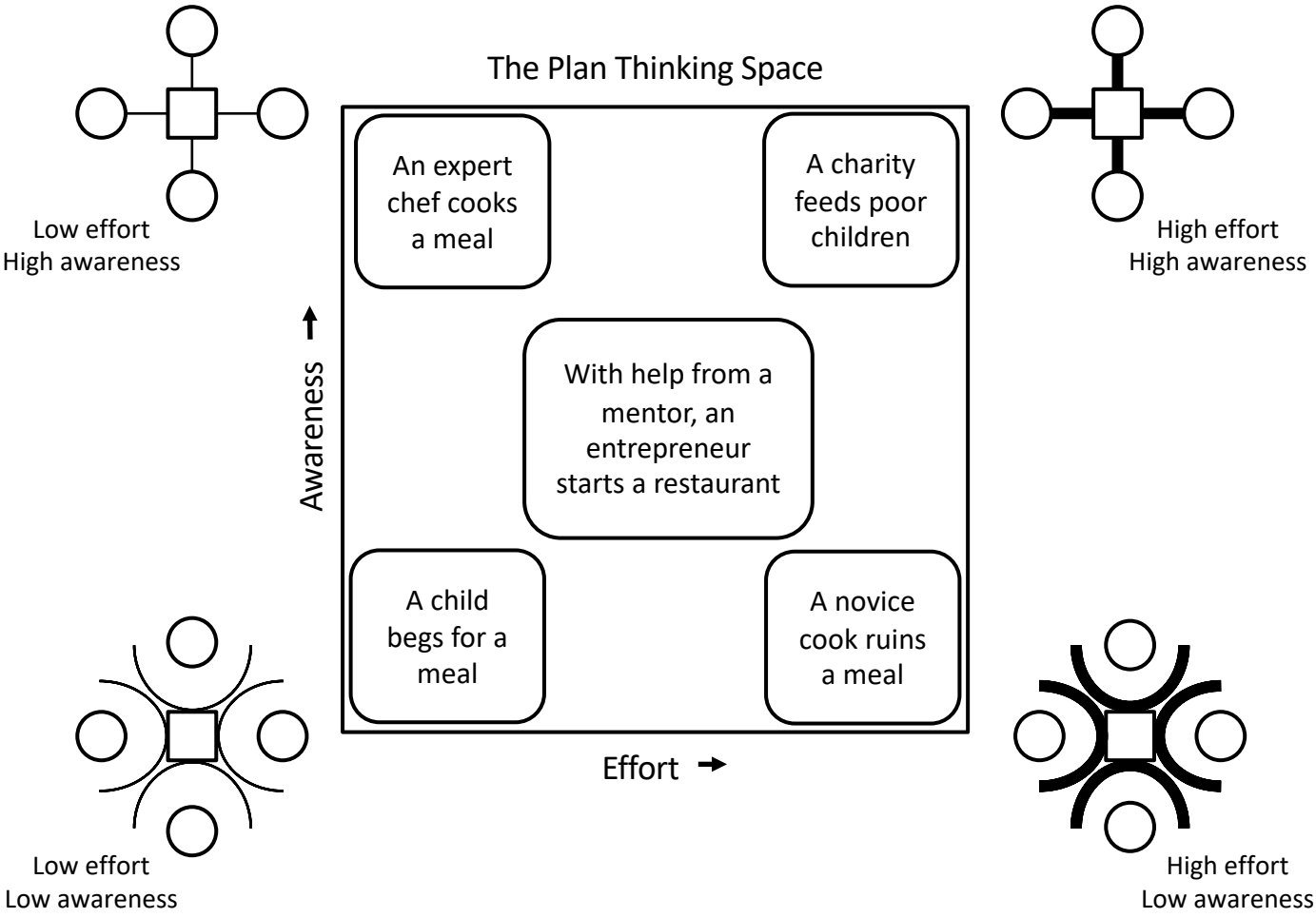
Low strength
Low resilience



High strength
Low resilience

The Plan thinking space

Thinking about organization



In this space, the **effort** applied by an organizer increases from left to right – from none at all to as much as possible. The organizer's **awareness** increases from bottom to top. At the top of the space, the organizer **knows** where the interactors are, so it can simply reach out and grab them. At the bottom, it has to **guess** where the interactors are. The curved lines on the bottom corner diagrams represent either satellite dishes or flailing arms.

Some examples:

- A child begs for a meal: They are unable to exert effort, and they are unaware of what they can do to improve their lot.
- An expert chef cooks a meal: Their strong awareness, considered intent, and capable access helps them cook an excellent meal with far less effort than a someone with weaker skills.
- A charity feeds poor children: With its wide influence and deep awareness, the charity can step in and supply the needs of those who cannot help themselves.
- A novice cook ruins a meal: They have applied much effort; but lacking awareness, they have failed – and may have learned from the attempt.
- With help from a mentor, an entrepreneur starts a restaurant: Somewhat aware of what they need to do, they also need advice – and help reducing the effort required.

The Plan Thinking Space – X Axis

Effort →

← Low effort

High effort →

The Plan Thinking Space – Y Axis

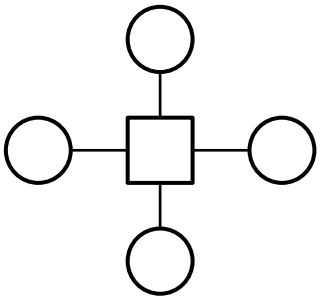
Awareness →

← Low awareness

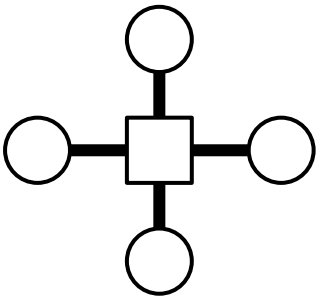
High awareness →

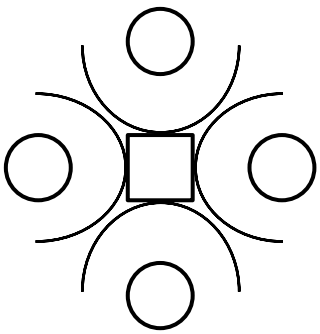
The Plan Thinking Space – Corners

Low effort
High awareness

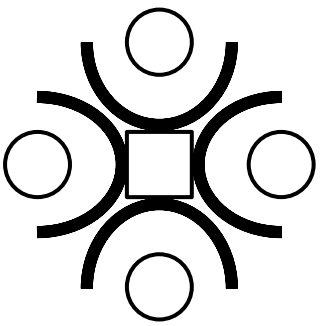


High effort
High awareness





Low effort
Low awareness



High effort
Low awareness

The Plan Thinking Space – Example situations

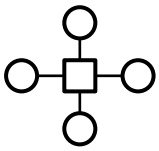
A government enforces a curfew	A police officer listens to a wiretap	A social service sets up an anonymous tip line
Two dogs sniff each other	A dog growls and snaps at another dog	Two dogs fight
A road is blocked due to an accident	A sign warns drivers of trouble ahead	Drivers hear a *bang* and slow down

The Plan Thinking Space – Proverbs

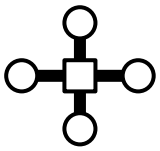
Take the bull by the horns	Fools rush in where angels fear to tread	In the kingdom of the blind, the one-eyed man is king
Don’t burn your bridges	What you don’t know won’t hurt you	You’re never too old to learn
A little learning is a dangerous thing	Fortune favors the bold	Don’t throw out the baby with the bathwater

The Plan

Topic _____



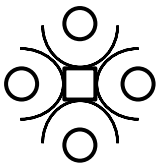
Low effort
High awareness



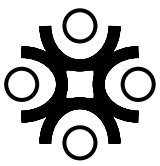
High effort
High awareness

Awareness ↑

Effort →



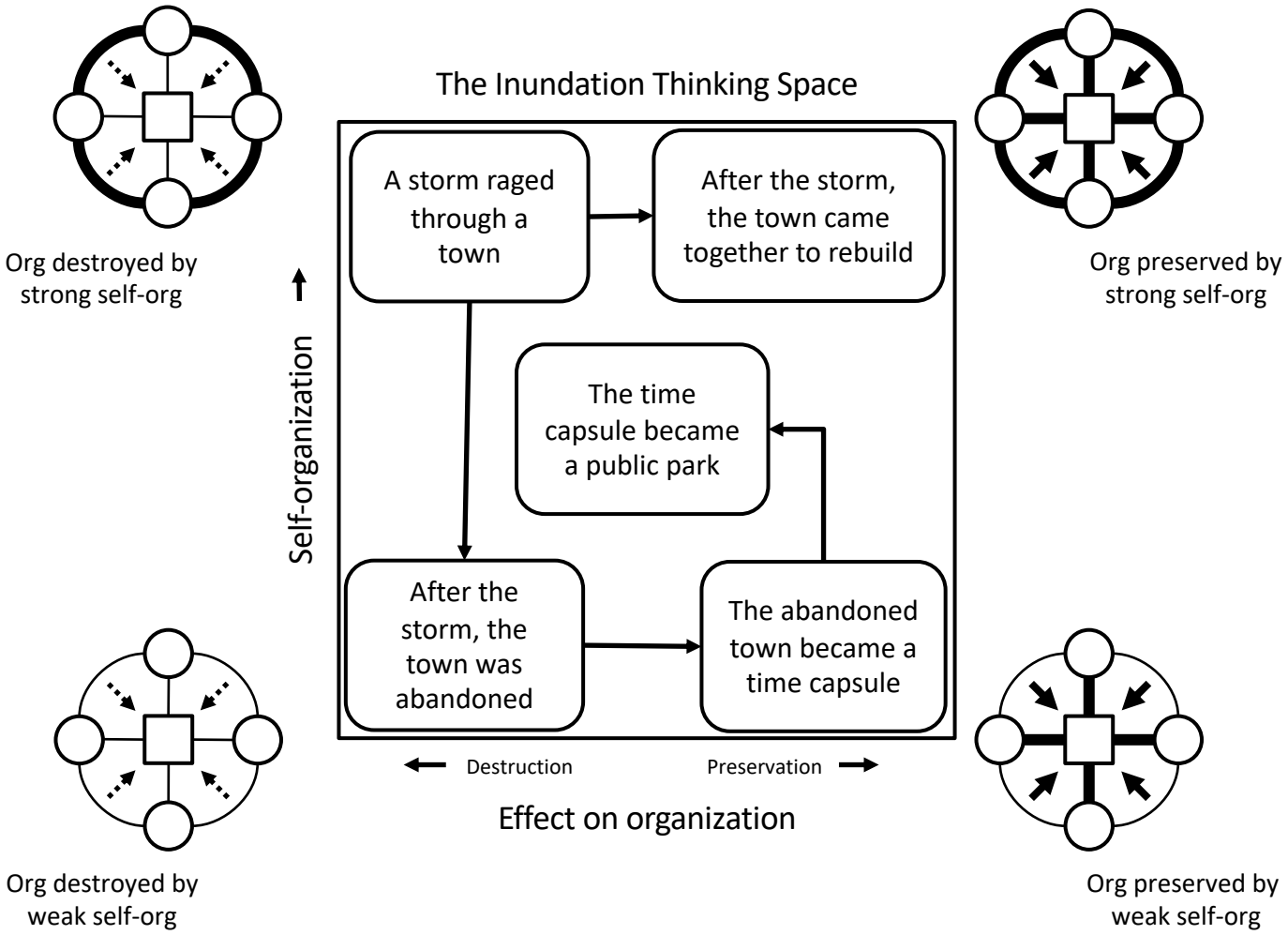
Low effort
Low awareness



High effort
Low awareness

The Inundation thinking space

Thinking about how self-organization influences organization



In this space, the amount of **self-organization** increases from bottom to top. On the left side of the space, the amount of self-organization – the fact that it is strong or weak, high or low – **tears apart** organized structures and plans. On the right side, strong or weak self-organization **preserves** existing structures and supports the creation of new ones.

Some examples:

- A storm raged through a town: The strongly self-organized storm destroyed the organized structures of the town: its buildings, its streets, and its power and communication networks.
- After the storm, the town came together to rebuild: Self-organized community connections re-established themselves, and the people worked together to build new organized structures.
- After the storm, the town was abandoned**:** Community connections were too weak to rebuild, and people left to start over elsewhere. The organized structures of the town fell apart.
- The abandoned town became a time capsule**:** With no people left (and, say, a dry or cold climate, with little non-human self-organization), the ruins of the town were frozen in time.
- The time capsule became a public park: Tourists began to visit the town. Fearing further damage to the now-historic site, the central government took over, allowing limited tourism while investing in historic preservation.

The Inundation Thinking Space – X Axis

← Effect on organization →

← Destruction	Preservation →

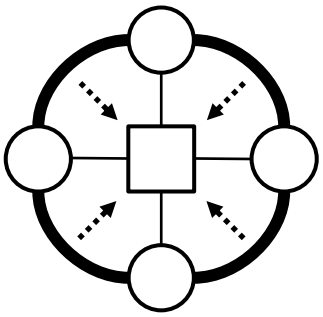
The Inundation Thinking Space – Y Axis

Self-organization →

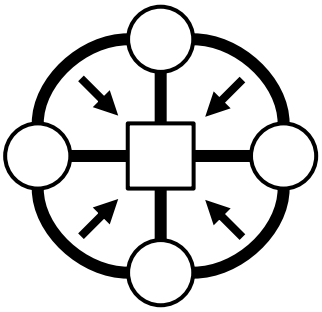
← Weak self-organization	Strong self-organization →

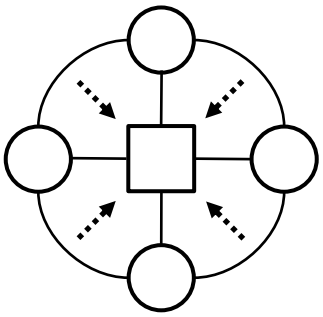
The Inundation Thinking Space – Corners

Organization destroyed by strong self-organization

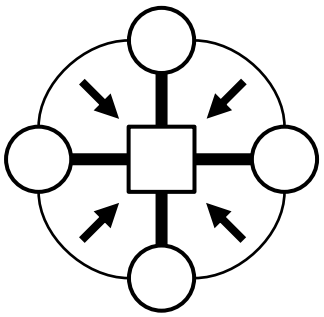


Organization preserved by strong self-organization





Organization destroyed by weak self-organization



Organization preserved by weak self-organization

The Inundation Thinking Space – Example situations

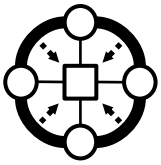
A dandelion grows in a sidewalk crack	A sidewalk ices over in the winter	A sidewalk is swallowed up by a sink hole
People rush to a bank to take out their money	People avoid a restaurant after reports of illness	People build a park in a city center
A city becomes popular	A city goes through an epidemic	A city is bombed

The Inundation Thinking Space – Proverbs

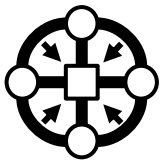
If wishes were horses, beggars would ride	Better the devil you know than the devil you don't	All good things must come to an end
Be careful what you wish for; you just might get it	Good fences make good neighbors	Don't count your chickens before they hatch
What can't be cured must be endured	The more things change, the more they stay the same	Let sleeping dogs lie

Inundation

Topic _____



Org destroyed by strong self-org



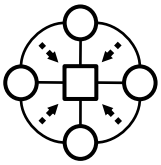
Org preserved by strong self-org

Self-organization

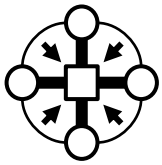
Destruction

Effect on organization

Preservation



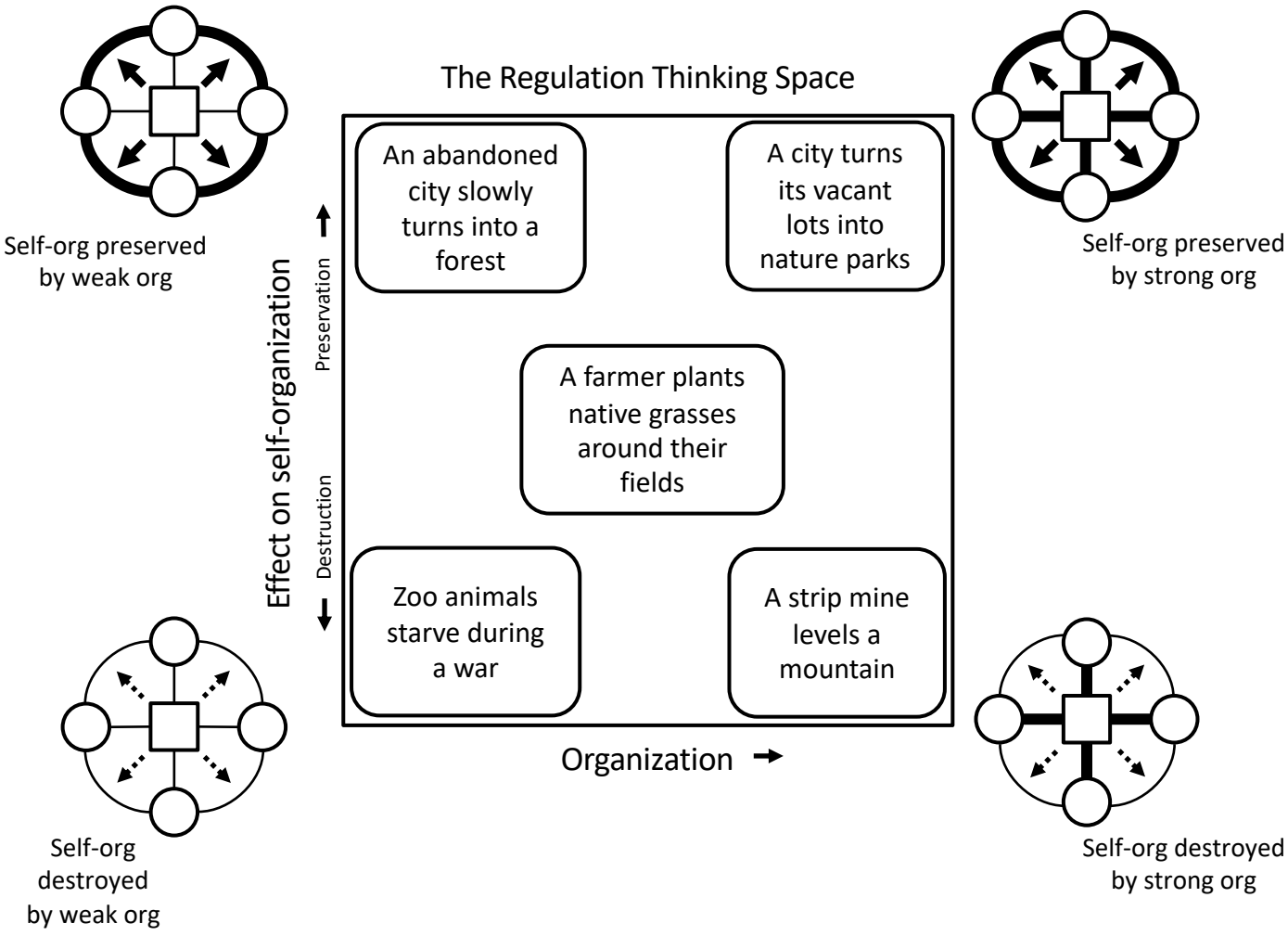
Org destroyed by weak self-org



Org preserved by weak self-org

The Regulation thinking space

Thinking about how organization influences self-organization



In this space, the extent to which organizers **organize** the world around them increases from left to right. Near the top of the space, the amount of organization – the fact that it is weak or strong – **preserves** self-organized patterns. Near the bottom, weak or strong organization **destroys** self-organized patterns

Some examples:

- Zoo animals starve during a war: A lack of organization causes the destruction of self-organized patterns that cannot survive without external inputs.
- An abandoned city slowly turns into a forest: The absence of organization gives self-organized patterns room to grow.
- A city turns its vacant lots into nature parks: Organized plans encourage the growth of self-organized patterns.
- A strip mine levels a mountain: Organizers deliberately destroy self-organization.
- A farmer plants native grasses around their fields: An organizer seeks to balance their preservative and destructive effects on self-organization in their environment.

The Regulation Thinking Space – X Axis

Organization →

← Weak organization

Strong organization →

The Regulation Thinking Space – Y Axis

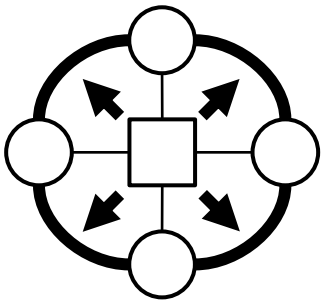
← Effect on self-organization →

← Destruction

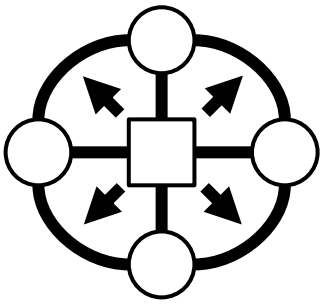
Preservation →

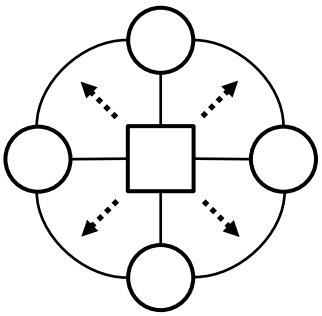
The Regulation Thinking Space – Corners

Self-organization preserved by weak organization

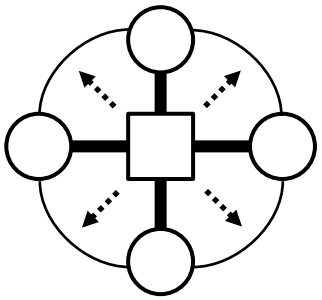


Self-organization preserved by strong organization





Self-organization destroyed by weak organization



Self-organization destroyed by strong organization

The Regulation Thinking Space – Example situations

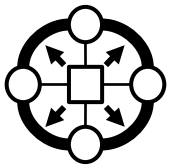
A police officer watches an intersection	A bird eats a berry	A teacher listens to a child tell a story
A store manager checks a display	A parent reprimands a child	A town board meets to discuss an issue
A grandparent pushes a child on a swing	A trail crew maintains a trail	A gardener picks a flower

The Regulation Thinking Space – Proverbs

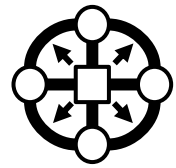
If it ain't broke, don't fix it	No pain, no gain	You can't get blood out of a stone
Attack is the best form of defense	Don't try to walk before you can crawl	If anything can go wrong, it will
Never look a gift horse in the mouth	Better safe than sorry	An ounce of prevention is worth a pound of cure

Regulation

Topic _____



Self-org preserved
by weak org



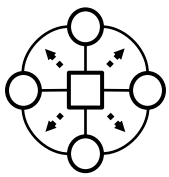
Self-org preserved
by strong org

Preservation ⟵

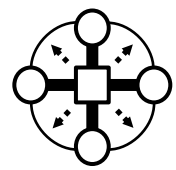
Effect on self-organization

⟶ Destruction

Organization ⟶



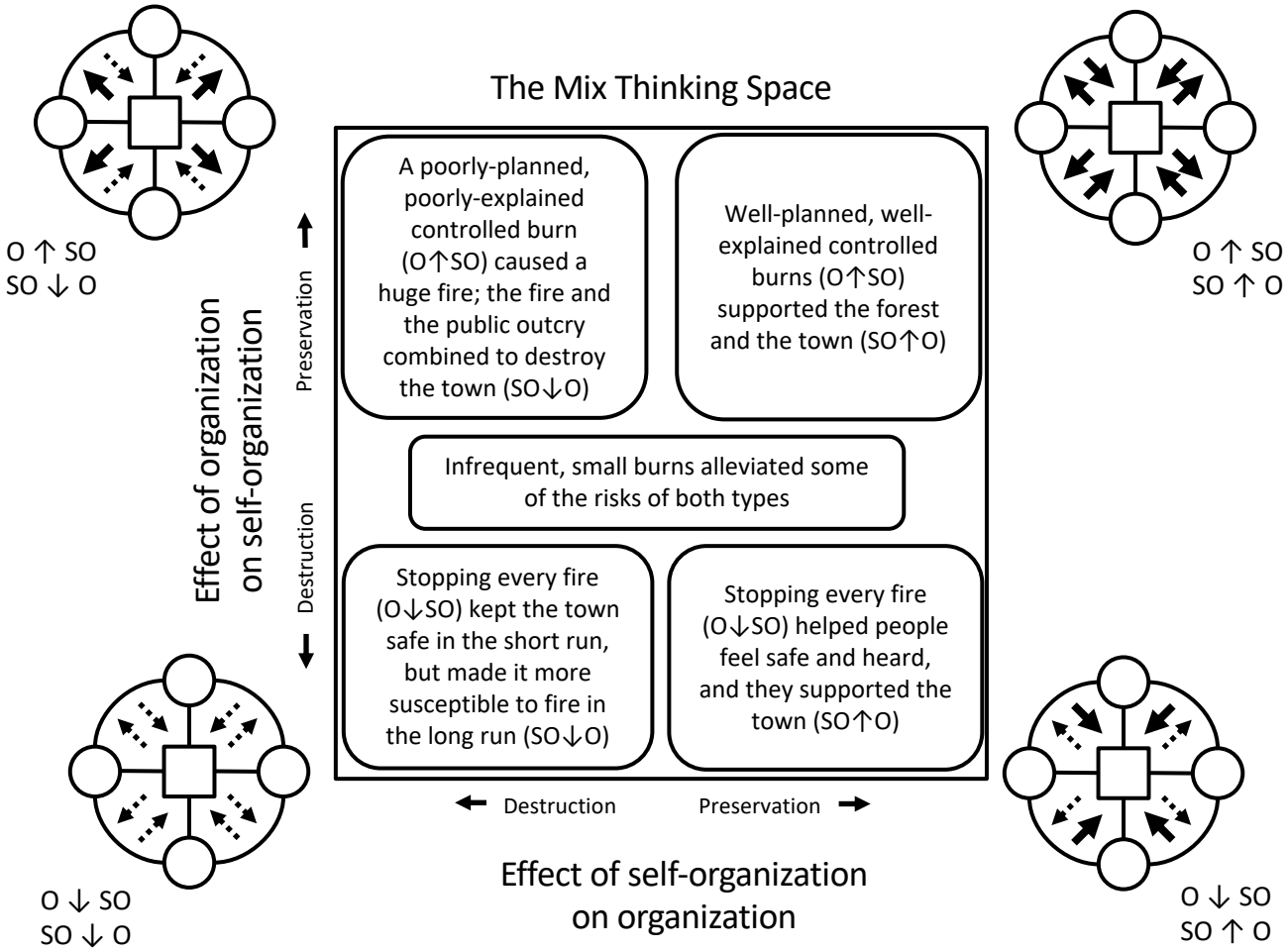
Self-org destroyed
by weak org



Self-org destroyed
by strong org

The Mix thinking space

Thinking about how organization and self-organization interact

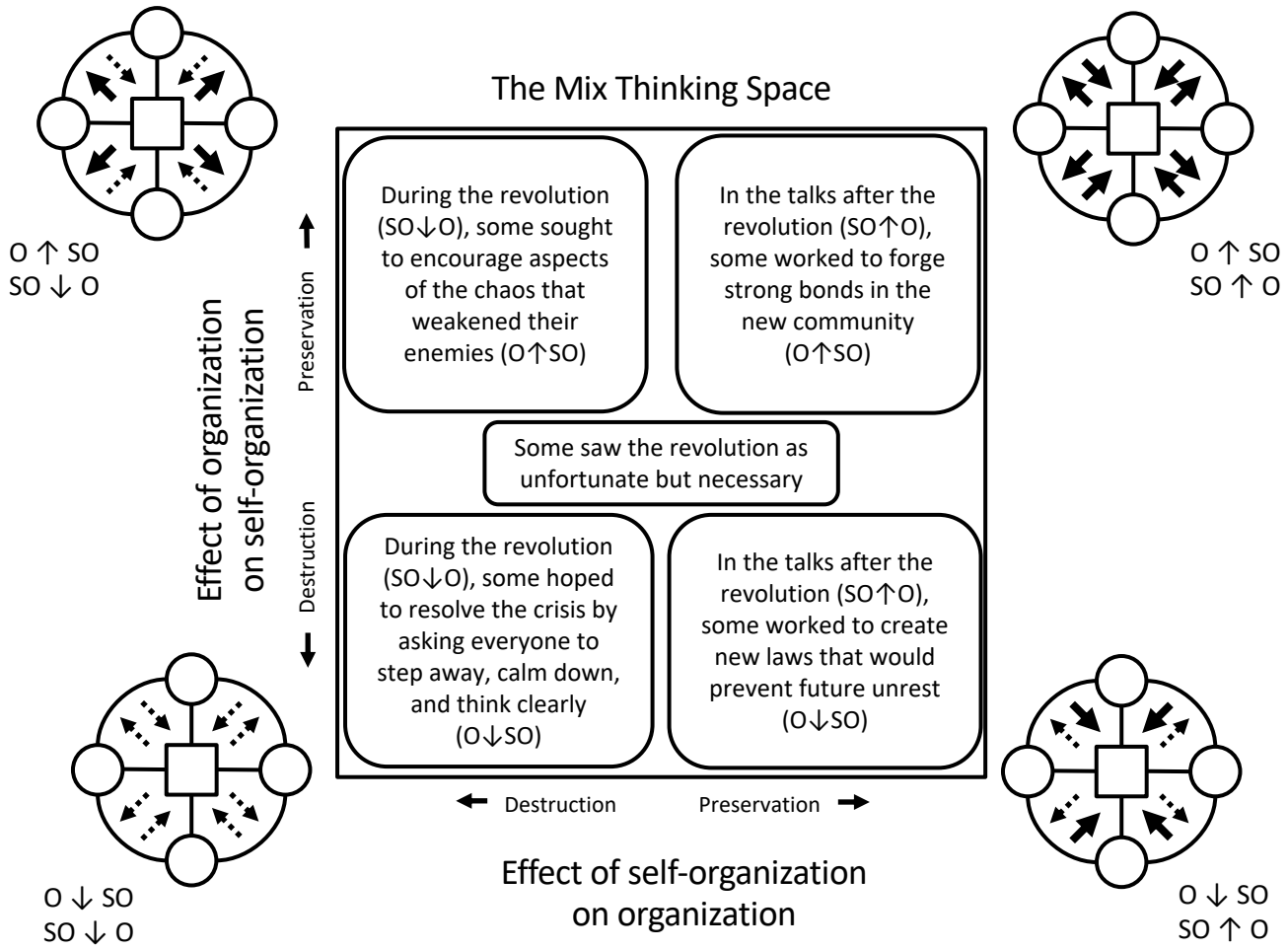


Toward the left side of the space, self-organization **tears apart** organized structures and plans. On the right, self-organization **preserves** existing structures and supports the creation of new ones. Near the top of the space, organization **preserves** self-organized patterns. Near the bottom, organization **destroys** self-organized patterns.

Some examples:

- Stopping every fire (O↓SO) kept the town safe in the short run, but made it more susceptible to fire in the long run (SO↓O): The town's stop-all-fires policy kept businesses and residences safe. But fuel was allowed to accumulate on the forest floor, rendering the town *more* vulnerable to larger fires in the future.
- A poorly-planned, poorly-explained controlled burn (O↑SO) caused a huge fire; the fire and the public outcry combined to destroy the town: An organized plan meant to limit self-organized damage to organized structures instead engulfed them in flames. The people felt betrayed, blamed those in charge, and abandoned the town.
- Well-planned controlled burns (O↑SO) kept the grateful town safe by removing forest fuel (SO↑O): Organized plans (equipment, rules, explanations) and self-organized patterns (controlled burns, forest regrowth, community connections) worked together to keep the town safe, in the short and long term.
- Stopping every fire (O↓SO) helped people feel safe, and they supported the town (SO↑O): People worried that controlled burns could get out of hand. So a decision was made to stop *every* fire, no matter how small, and *never* to start any fires. People felt protected and involved, and the community grew stronger.
- Infrequent, small burns alleviated some of the risks of both types: By compromising between reducing present danger (real or perceived) and reducing future fuel, the town struck a balance between potentially helpful self-organization (controlled burns, people feeling safe) and potentially harmful self-organization (controlled burns, people feeling endangered).

Some examples from the other side, with the second line of each causal pair first:



- During the revolution (SO↓O), some hoped to resolve the crisis by asking everyone to step away, calm down, and think clearly (O↓SO): The problem, as they saw it, was not in the government. It was in mob rule, a dangerous excess of uncontrollable self-organization. If order could be restored, those in charge could listen to the people's concerns and create a better plan.
- During the revolution (SO↓O), some sought to encourage aspects of the chaos that weakened their enemies (O↑SO): Those who had been in power before the revolution – the smart ones, anyway – saw to it that their power would not diminish after the time of trouble. The revolution was not a crisis; it was an opportunity, a tool they could use to suit their purpose.
- In the talks after the revolution (SO↑O), some worked to forge strong bonds in the new community (O↑SO): During the formation of the new government, some saw an opportunity to forge a new, stronger community, one that was less reliant on hierarchical structures and more organically connected.
- In the talks after the revolution (SO↑O), some worked to create new laws that would prevent future unrest (O↓SO): During the formation of the new government, some people expressed their horror at what had taken place, and called upon their compatriots to make sure such a disaster could never happen again.
- Some saw the revolution as unfortunate but necessary: They worked to lessen its damage while building on its lasting positive impact.

The Mix Thinking Space – X Axis

← Effect of self-organization on organization →

← Destruction

Preservation →

The Mix Thinking Space – Y Axis

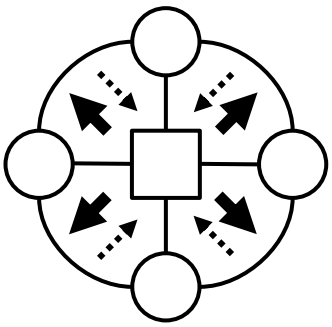
← Effect of organization on self-organization →

← Destruction

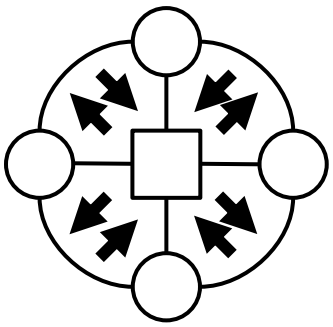
Preservation →

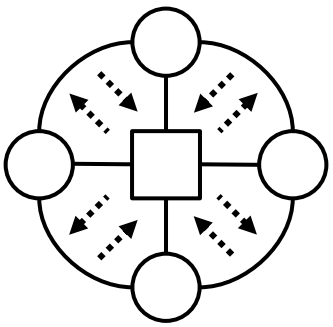
The Mix Thinking Space – Corners

SO destroys O
O preserves SO

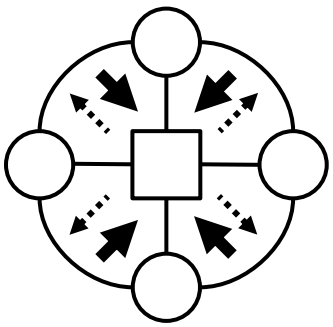


SO preserves O
O preserves SO





SO destroys O
O destroys SO



SO preserves O
O destroys SO

The Mix Thinking Space – Example situations

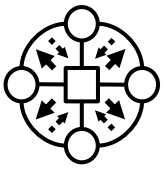
A farmer is encouraged by a good harvest	A homeowner fixes a mildew problem	An advertisement goes viral
A teacher wins a lottery	A gardener waits for the right time to plant a seed	A tax rate increases
A used car is sold for a very good price	A child helps with dinner	A crowd listens to music

The Mix Thinking Space – Proverbs

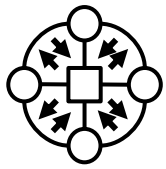
Hope springs eternal	United we stand, divided we fall	Curiosity killed the cat
Opportunity never knocks twice	A rolling stone gathers no moss	Hindsight is always twenty-twenty
All good things come to those who wait	Cross the stream where it is shallowest	Don’t rock the boat

The Mix

Topic _____



O ↑ SO
SO ↓ O



O ↑ SO
SO ↑ O

Preservation

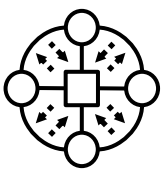
Effect of organization on self-organization

Destruction

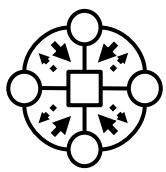
Destruction

Effect of self-organization on organization

Preservation



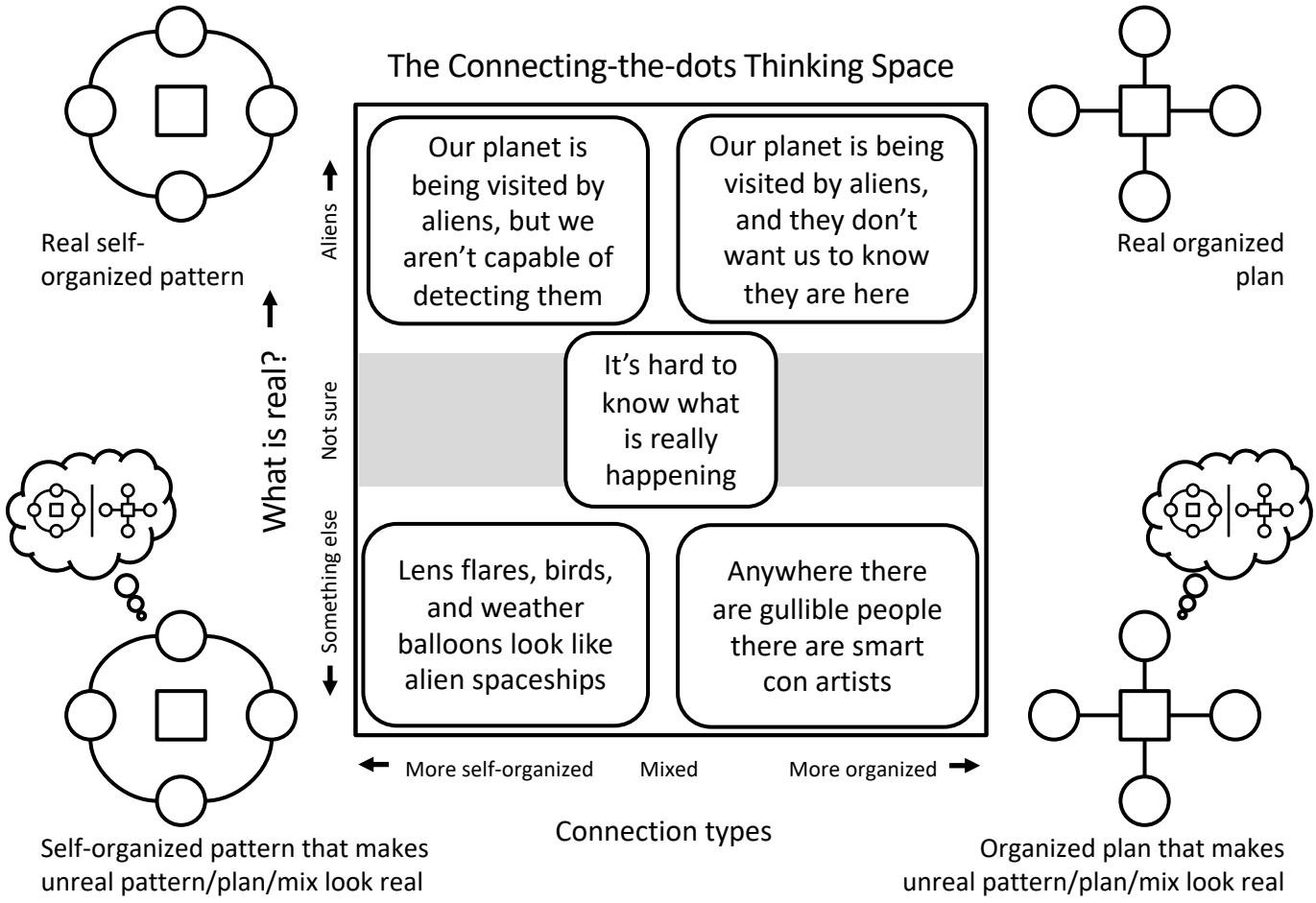
O ↓ SO
SO ↓ O



O ↓ SO
SO ↑ O

The Connecting-the-dots thinking space

Thinking about what happens when both forces are (or seem) weak



The horizontal dimension of the space is more **self-organized** towards the left side, more **organized** towards the right side, and **mixed** in the middle. The shaded area across the middle of the space is a zone of **uncertainty**. Above the shaded area, a self-organized **pattern** (on the left), an organized **plan** (on the right), or a **mixture** of both (in the middle) gathers strength as it ascends. Below the shaded area, a self-organized pattern (on the left), an organized plan (on the right), or a mixture of both (in the middle) creates the **appearance** of a pattern, plan, or mix.

Some examples (with the assertion "Aliens are real" at the top):

- Lens flares, birds, and weather balloons look like alien spaceships: There are no aliens, but people think there are aliens because of other phenomena that are hard to explain and understand.
- Our planet is being visited by aliens, but we aren't capable of detecting them: Aliens are real, and they're friendly, but their technology is so far ahead of anything we can make sense of that we can't see them.
- Our planet is being visited by aliens, and they don't want us to know they are here: Aliens are real, and their plan is to stay hidden until the invasion begins.
- Anywhere there are gullible people there are smart con artists: Aliens aren't real, but you can make a tidy sum by convincing people to buy your books about them.
- It's hard to know what is really happening: There might or might not be aliens, and they might or might not be friendly. There's just no way of knowing. Yet.

The Connecting-the-dots Thinking Space – X Axis

← Connection types →

← More self-organized | More organized →

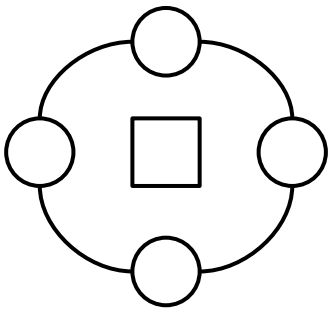
The Connecting-the-dots Thinking Space – Y Axis

What is real? →

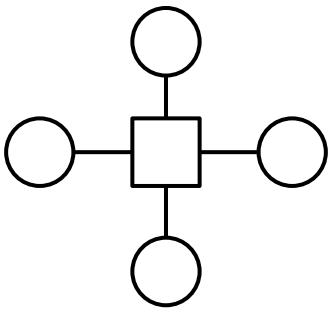
← Something else | Not sure | →

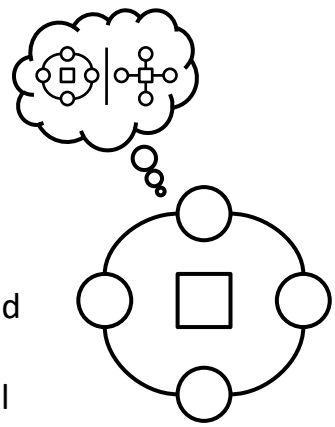
The Connecting-the-dots Thinking Space – Corners

Real self-organized pattern

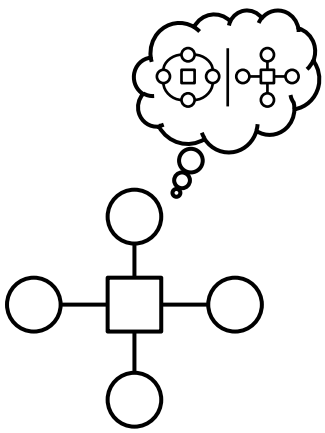


Real organized plan





Self-organized pattern that makes unreal look real



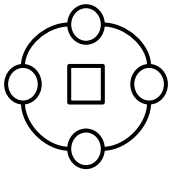
Organized plan that makes unreal look real

The Connecting-the-dots Thinking Space – Example situations

An unidentified flying object	An alien spacecraft	A weather balloon
A movie model of an alien spacecraft	An alien spacecraft designed to look like a movie model	A movie model of a weather balloon
A cloud that looks like an alien spacecraft	An alien spacecraft that just happens to look like a cloud	An alien spacecraft designed to look like a cloud

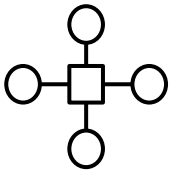
The Connecting-the-dots Thinking Space – Proverbs

All that glitters is not gold	Even from a foe a man may learn wisdom	False friends are worse than open enemies
Many a true word is spoken in jest	An apple a day keeps the doctor away	Cleanliness is next to godliness
A fool and his money are soon parted	You pays your money and you takes your choice	Big fish eat little fish



Connecting the dots

Topic _____



Real
self-organized pattern

Real
organized plan

What is real?

Not sure

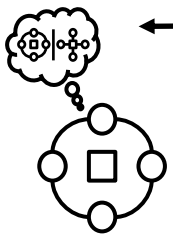
Something else

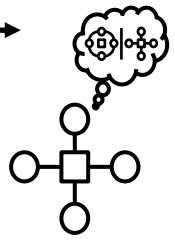
More self-organization

Mixed

More organization

Connection types





Self-organized pattern that makes
unreal pattern/plan/mix look real

Organized plan that makes
unreal pattern/plan/mix look real