A Month of SYSTEM SEEING

Daily System Journal Prompts

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January 1, 2023

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Introduction

What's the Big Idea behind these prompts? A daily journal focused on the systems that we work within and influence, is a "Good Idea" (Winnie the Pooh, via Russ Ackoff). But habits are hard to start, to "rut in" to daily practice, so some company and mutual encouragement, and some structure, can help.

What we're seeking to do, is allow the situation, and the ecology of systems within it, to be our guide and teacher (which, of course, is a lot about becoming more aware — including aware of the perceptual and interpretational traps we fall into⋯). And sure, we're still going to be stuck in tunnels of our own vision, if we don't explore the system *with* others — who have different experiences and vantage points from which to perceive the (eco)system (of socio-technical systems), etc. This work can help with convening and guiding the attention of that work.

The prompts follow some general patterns:

- explore the situation, zooming out to the broader context — the ecosystem (e.g. relationships; value flows and transformations) and strategic context, and history and how the context is evolving;
- understand the system of interest in context (of use, of development, of operation, etc.);
- understand the system, its (internal) structure and dynamics; etc.

With just enough mixing it up to discourage linear movement. We need to surprise ourselves. Too.

Note: keep to 15 -20 minutes for each prompt. Expect to accept "good enough" so the exercise can be "done" in that time.

Thank you to everyone who encouraged me to do the Advent(ure) of System Seeing prompts, and Thomas Lockney for encouraging this version.

"My 2023 goal is to not focus on immediate solutions but to think about systems and the bigger picture."

"And then there's the analysis of the whole system, even things outside of my control, and work to influence and support enough people in that system that have similar goals and perspectives that we can make broader shifts together over time
If I'm only working on directly what's in front of me, I'm reactive. Not making a difference. I'm also not taking opportunities that I might have that others don't, to make wider and more lasting change.
My resolution to myself is to try to think as broadly as I can next year."
— Sarah Drasner, on mastodon in December 2022

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discourse (n.): late 14c., "process of understanding, reasoning, thought,"

"The map is not the territory," Snicket's chaperon advises him. "That's an expression which means the world does not match the picture in our heads."
— Lemony Snicket, Who Could That Be at This Hour?

Identify Focal Situation

Think of a situation you want to explore with a systems lens.

Avoid overthinking the choice here, as you can always shift focus as you explore. If it helps, think of a challenge you're facing, that you want to understand better (by exploring from various systems views, and perspectives), and address/resolve/dissolve...

Write a paragraph that describes the situation.

"problems do not present themselves to practitioners as givens. They must be constructed from the materials of problematic situations that are puzzling, troubling, and uncertain. In order to convert a problematic situation to a problem, a practitioner must do a certain kind of work. He [sic] must make sense of an uncertain situation that initially makes no sense."
— Donald Schön, The Reflective Practitioner

"They all together make a certain situation, but they constitute that situation through their relation to one another. If you change one, usually some, if not all, of the others are changed."
— Mary Parker Follett, The Illusion of Final Authority

"Our job is not how to get people to obey orders, but how to devise methods by which we can best discover the order integral to a particular situation."
— Mary Parker Follett, Dynamic Administration

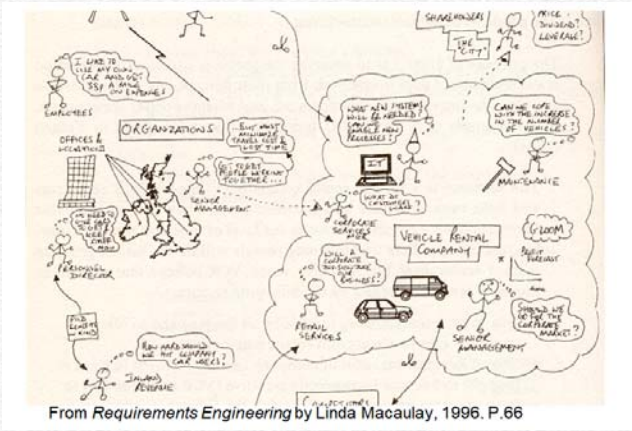
Focal Situation

Big Picture View

Use the situation (described on the previous page) to set the general frame (so we aren't bringing the whole world into our picture).

Draw a *rich picture*: we start with sketching some of the people and systems and organizations in the landscape of this frame — stick figures and block buildings are fine! The key is to just have fun with it.

Add interactions among them to your sketch (using arrows), and annotate with their concerns (thought bubbles). Continue adding to your picture, using judgment not to over-clutter, but to draw in people, groups, organizations, systems and their interactions and roles and concerns, as they seem significant to you, to understand the situation.



From *Requirements Engineering* by Linda Macaulay, 1996. P.66

Resources on *rich pictures* (These are outside of the timebox, but offered here for those interested in more):

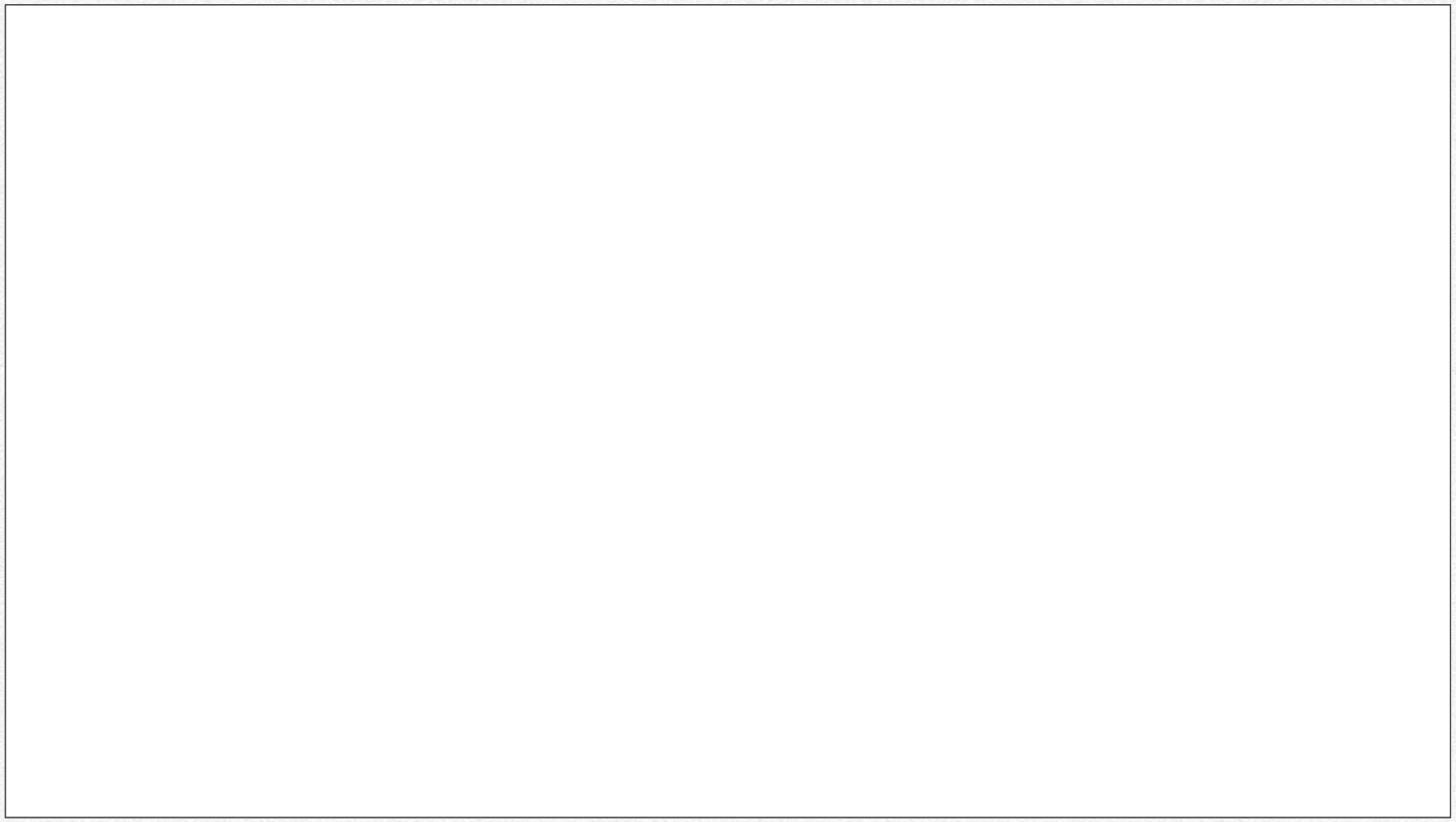
- *Soft Systems Methodology in Action* by Peter Checkland and Jim Scholes
- Ch 2 of (free book) *Systems Mapping* https://link.springer.com/book/10.1007/978-3-031-01919-7
- You'll also find a description and critique of Soft Systems in ch 16 of *Critical Systems Thinking and the Management of Complexity* by Michael C. Jackson

"Get the beat.
Before you disturb the system in any way, watch how it behaves. If it's a piece of music or a whitewater rapid or a fluctuation in a commodity price, study its beat. If it's a social system, watch it work"
— Donella Meadows, Dancing With Systems, https://donellameadows.org/archives/dancing-with-systems/

'let us say, for the sake of simplicity, a fence or gate erected across a road. The more modern type of reformer goes gaily up to it and says, "I don't see the use of this; let us clear it away." To which the more intelligent type of reformer will do well to answer: "If you don't see the use of it, I certainly won't let you clear it away. Go away and think. Then, when you can come back and tell me that you do see the use of it, I may allow you to destroy it."'
— G. K. Chesterton, The Thing

'Listen to the wisdom of the system.
Aid and encourage the forces and structures that help the system run itself. Don't be an unthinking intervener and destroy the system's own self-maintenance capacities. Before you charge in to make things better, pay attention to the value of what's already there."
— Donella Meadows, Dancing with Systems, https://donellameadows.org/archives/dancing-with-systems/

Big Picture View



ReCenter

Take a look over the rich picture you did yesterday. Pick a person or group that is significant to the situation you're exploring, and center the next frame on them. Draw a Rich Picture of the people, systems, organizations, etc. that they're encountering, as broadly related to their concerns on the previous rich picture.

Again, add in interactions, and annotate brief details (their responsibilities, concerns, goals or intentions, etc., as well as brief annotations on the interactions (blockers, assumptions, etc.).

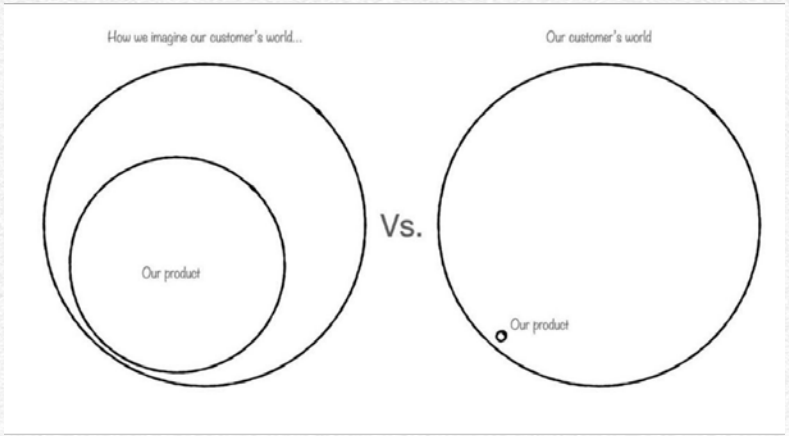
For example, if your first rich picture focused on the healthcare system, exploring pressures the healthcare system is under, you might now recenter on the parents of a sick child, their concerns and the systems and people they interact with, etc.

Having trouble? Just give it a go. There's no "right" answer!

"Try faking it." — Brian Eno and Peter Schmidt, Oblique Strategies

Illustrating *why* a shift in center can help us see differently:

John Cutler: "How we imagine our customers world vs Their world"



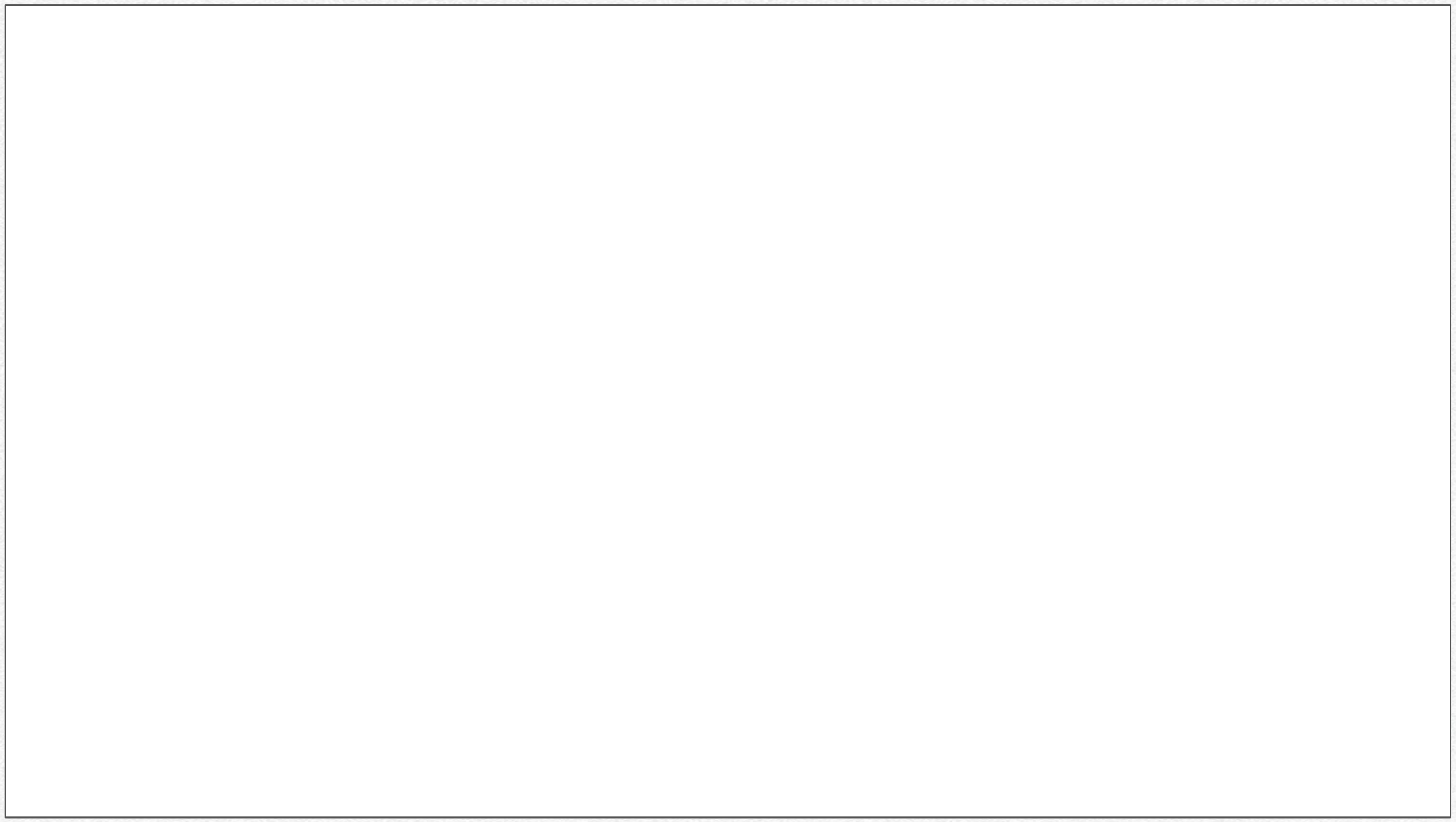
Source: https://twitter.com/johncutlefish/status/1609045822402101250

"The richer this context, the more chance that fruitful avenues can be found to move forward."
— Kees Dorst, Frame Innovation: Create New Thinking by Design

'Sensemaking is the ability or attempt to make sense of an ambiguous situation. More exactly, sensemaking is the process of creating situational awareness and understanding in situations of high complexity or uncertainty in order to make decisions. It is "a motivated, continuous effort to understand connections (which can be among people, places, and events) in order to anticipate their trajectories and act effectively.'"
–Gary Klein, Brian Moon and Robert Hoffman, Making Sense of Sensemaking

"We suffer from Spatial Blindness.
We see our part of the system
but not the whole;
we see what is happening with us
but not what is happening elsewhere;
we don't see what others' worlds are like,
the issues they are dealing with,
the stresses they are experiencing;
we don't see how our world impacts theirs
and how theirs impacts ours;
we don't see how all the parts influence one another."
— Barry Oshry, Seeing Systems

ReCenter



Narrative History

Write a narrative that explores the history of the situation (described on day 1). To get started, it may help to pick a shaping event or element (a big change, the emergence of the Big Idea worth pursuing, a constraint or blocker, etc.), and jot down how that came about and the effect it had. What else happened, and what was impacted? Continue exploring the history as time allows (15-20 minutes).

Octavia Butler's *Kindred*, and Damian Duffy and John Jennings graphic novel adaptation thereof, moves between present and past, and we see how the past is present in the present.

'This makes nonlinear dynamical systems historical, not just temporal the way near-equilibrium thermodynamical systems are. Once the system's subsequent behavior depends on both the spatial and temporal conditions under which it was created and the contingent experiences it has undergone, the system is historically and contextually embedded in a way that near-equilibrium systems of traditional thermodynamics are not. Mutualism thus makes a dynamical system's current and future properties, states, and behaviors dependent on the context in which the system is currently embedded as well as on its prior experiences. As a result, unlike the near-equilibrium processes of traditional thermodynamics, complex systems do not forget their initial conditions: they "carry their history on their backs" (Prigogine, Spring 1995). Their origin constrains their trajectory.'
— Alicia Juarrero, Dynamics in Action, 2002

"Complex systems have a history. Not only do they evolve through time, but their past is co-responsible for their present behaviour. Any analysis of a complex system that ignores the dimension of time is incomplete"
— Paul Cilliers, Complexity and Postmodernism: Understanding Complex Systems

"An important aspect of complex systems, one which certainly complicates our understanding and modeling of such systems, is their temporal nature. Complex systems unfold in time, they have a history which co-determines present behavior and they anticipate the future. [..] as we know at least since the work of Prigogine, the behavior of complex systems are not symmetrical in time. They have a past and a future which are not interchangeable"
— Paul Cilliers, On the Importance of a Certain Slowness

"We can never understand the total situation without taking into account the evolving situation. And when a situation changes we have not a new variation under the old fact, but a new fact."
— Mary Parker Follett, Creative Experience, 1924

Narrative History

History

"Since a system's prior experience constrains its behavior, that history, too, is embodied in its ontogenetic landscape."
— Alicia Juarrero, Dynamics in Action

"in the ways in which designers design, the ways in which design is ontological, even at a human product scale, because it creates worlds, habits, dispositions. A designer is never [..] just designing a product: they are reinforcing particular models of the human"
— Cameron Tonkinwise

"The changed texture of the environment was not recognized by an able but traditional management until it was too late. They failed entirely to appreciate that a number of outside events were becoming connected with each other in a way that was leading up to irreversible general change."
— Fred Emery and Eric Trist, The Causal Texture of Organizational Environments,

"We suffer from Temporal Blindness.
We see the present
but not the past;
we know what we are experiencing now
but not what has led to these experiences;
[..]
All of this we experience in the present
but we don't see the history of the present,
the story of our system that has brought us to this point in time.
In our temporal blindness,
we misdiagnose the current situation,
and in our efforts to solve system problems
we fix what doesn't need to be fixed
and fail to fix what does
— Barry Oshry, Seeing Systems

Graphical History

If you're using a paper journal, use a page (or 2 side-by-side) and draw a timeline (your scale will depend on how far back it makes sense to explore). Place key events (changes in the landscape such as competitor entry, new technology; project start and product launch; scale points, major incidents, etc), people/org changes (changes in senior or influential people and teams, etc), strategic shifts, etc, on the timeline

Some ideas for doing this:

- Get ideas for the layout from the Graphic History template from The Grove (and in David Sibbet's books, such as Visual Leaders), and here: https://grovetools-inc.com/collections/graphic-history
- Get ideas from this post (draw a timeline with deploy markers, changes to infrastructure, user behavior, and team changes) by Paul Osman: https://paulosman.me/2021/10/02/sociotechnical-lenses-into-software-systems/

Yes, this is great for doing with others, but good to do alone too -- not just to learn from doing this, but to gain confidence that we do learn from doing this! And to notice that we've only seen part of the history... and have...questions...

We're not just exploring how the situation has evolved through time, but the co-evolution:
"Take a situation made by credit conditions, customers' demand, output facilities, and workers' attitude. They all together make a certain situation, but they constitute that situation through their relation to one another. If you change one, usually some, if not all, of the others are changed."
— Mary Parker Follett, The Illusion of Final Authority

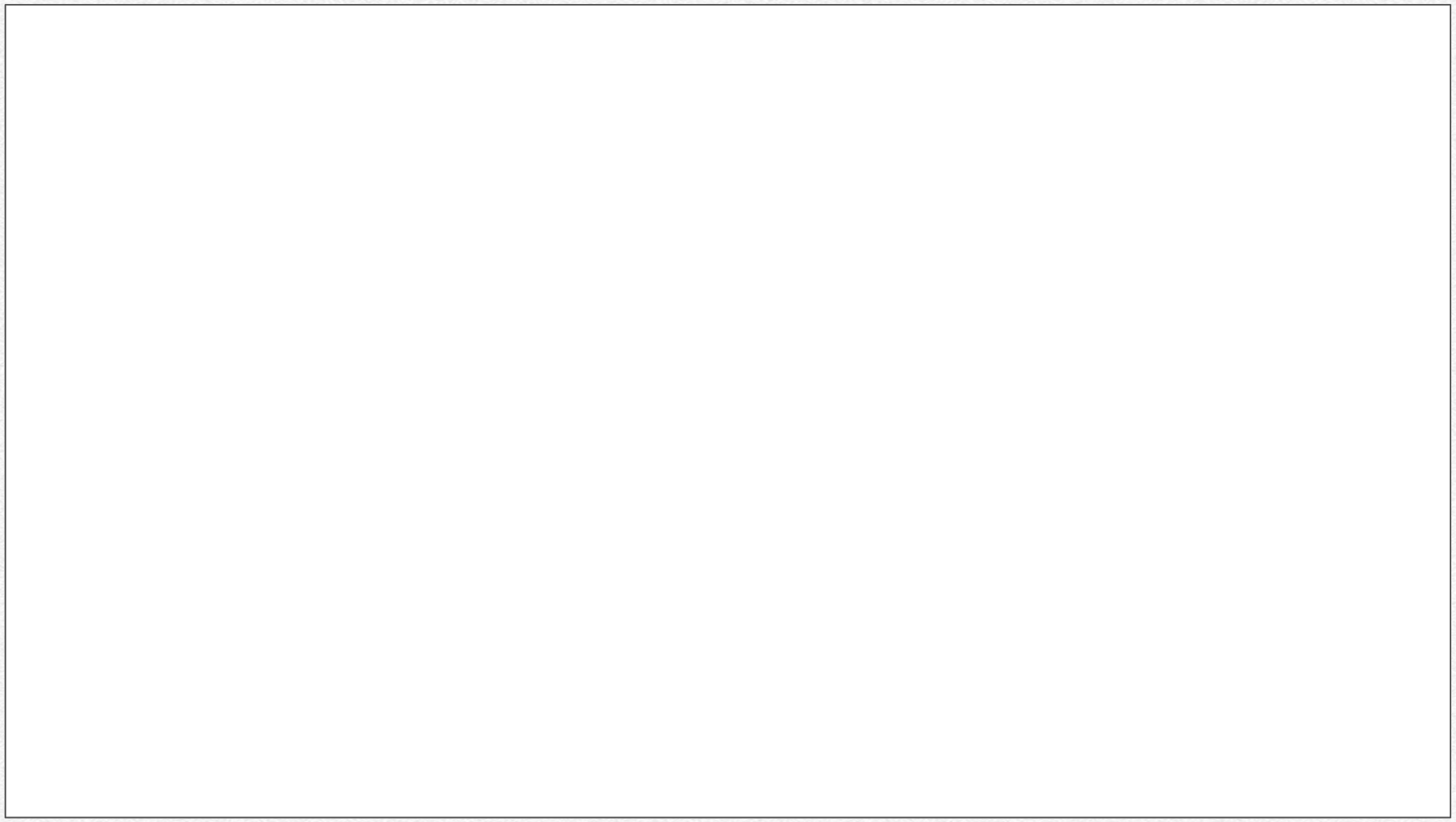
"Drawing [isn't] just for "artists" [..]. Think of it as a way of observing the world and learning"
— Anne Quito

"The significance of a new invention lies in how it fits into and changes this network. Many innovations are minor — they simply improve some aspect of the network without altering its structure. The automatic trans-mission made automobiles easier to use, but did not change their role. Other inventions, such as the computer, are radical innovations that cannot be understood in terms of the previously existing network. As the use of a new technology changes human practices, our ways of speaking about that technology change our language and our understanding. This new way of speaking in turn creates changes in the world we construct."

"Design serves simultaneously to bring forth and to transform the objects, relations, and regularities of the world of our concerns"

— Winograd and Flores

Graphical History



Messes and Wicked Problems

From Rittel and Webber's characterization of wicked problems:
1. There is no definitive formulation of a wicked problem
2. Wicked problems have no stopping rule
3. Solutions to wicked problems are not true-or-false, but good-or-bad
4. There is no immediate and no ultimate test of a solution to a wicked problem
5. Every solution to a wicked problem is a "one-shot operation"; because there is no opportunity to learn by trial-and-error, every attempt counts significantly
6. Wicked problems do not have an enumerable (or an exhaustively describable) set of potential solutions, nor is there a well-described set of permissible operations that may be incorporated
7. Every wicked problem is essentially unique
8. Every wicked problem can be considered to be a symptom of another problem
9. The existence of a discrepancy representing a wicked problem can be explained in numerous ways. The choice of explanation determines the nature of the problem's resolution
10 indicates: The planner (addressing wicked problems) has no right to be wrong — they have responsibilities

"We have also come to realize that no problem ever exists in complete isolation. Every problem interacts with other problems and is therefore part of a set of interrelated problems, a system of problems"

"English does not contain a suitable word for "system of problems. Therefore, have had to coin one. I choose to call such a system a mess."

— Russell L. Ackoff, Redesigning the future, 1974

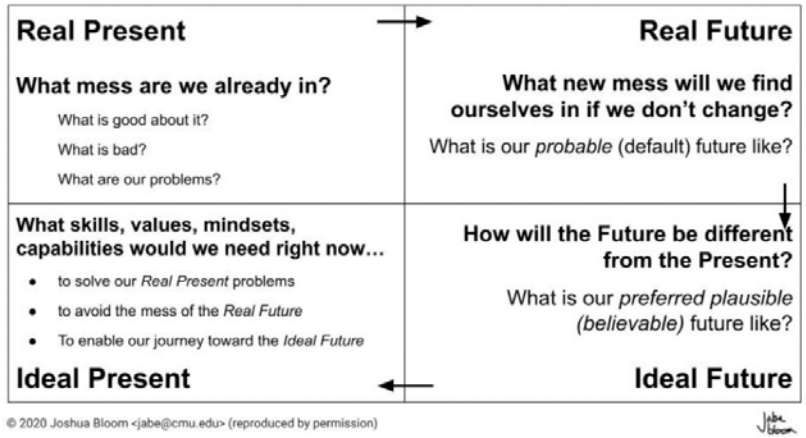
What if you do nothing?

Divide the page into 2 columns. In the 1st (headed Current Situation): Jot down characteristics of the current state of things (around your situation/challenge from day 1), and in the 2nd column (headed Default Future Situation): what is likely, if you (your team/org/etc.) do nothing different (the default). What's good, that likely remains true? What does inertia and entropy and trends suggest is likely?

"John Dewey (1930) [..] challenged this notion and argued that decision makers have to extract problems from the situations in which they find themselves. They do so, he said, by analyzing the situation. Hence problems are products of thought acting on environments; they are elements of problematic situations that are abstracted from these situations by analysis. What we experience, therefore, are problematic situations, not problems, which, [..] are conceptual constructs"
— Russ Ackoff

"Knowing what to keep is just as important as knowing what to change."
— Esther Derby

You might notice, if you are familiar with Jabe Bloom's *Ideal Present Canvas*, that we are doing the top row of the canvas:



The Ideal Present Canvas

What if you do nothing?

Current Situation (Present Mess)	Default Future Situation

Look Inside (Self Empathy)

We've looked around, looked back, looked forward. Now we're going to look inside. For this entry, use the Empathy Map template from Dave Gray, but capture your feelings, thoughts, experiences! How are you feeling, what are you seeing, (as it relates, in a general sense, to this situation you're exploring)? Go back a day or two, to jot down what you are hearing — what are other people saying, emailing, slacking? And what are you saying, writing, texting?

Reference:

Updated Empathy Map Canvas, Dave Gray
https://medium.com/the-xplane-collection/updated-empathy-map-canvas-46df22df3c8a

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"Take care of yourself. Your brain is working overtime — all the time. Practice "radical" recovery."
— John Cutler (@johncutlefish), 20 Things I've Learned as a Systems (Over) Thinker, https://cutlefish.substack.com/p/20-things-ive-learned-as-a-systems

Illustrated by Viktor Cessan:
https://www.viktorcessan.com/20-systems-over-thinker-tips/
20 Things I've Learned as a Systems (Over) Thinker
The Beautiful Mess

"[Self empathy] can give us the ability to care for our needs in a way that reduces our reactivity, and increases our ability to respond from a place of caring. Wielded expertly, it can provide the relief needed during a difficult conversation, to allow us to keep listening even when what we're hearing hurts. Not always—we're not superheroes. Sometimes we need to take a break for a while."
-- Alex Harms, The Little Guide to Empathetic Technical Leadership

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"The first step of any project is to grossly underestimate its complexity and difficulty."
– Nicoll Hunt

'Is this not the definition of "blissful ignorance"?' — @dahukanna

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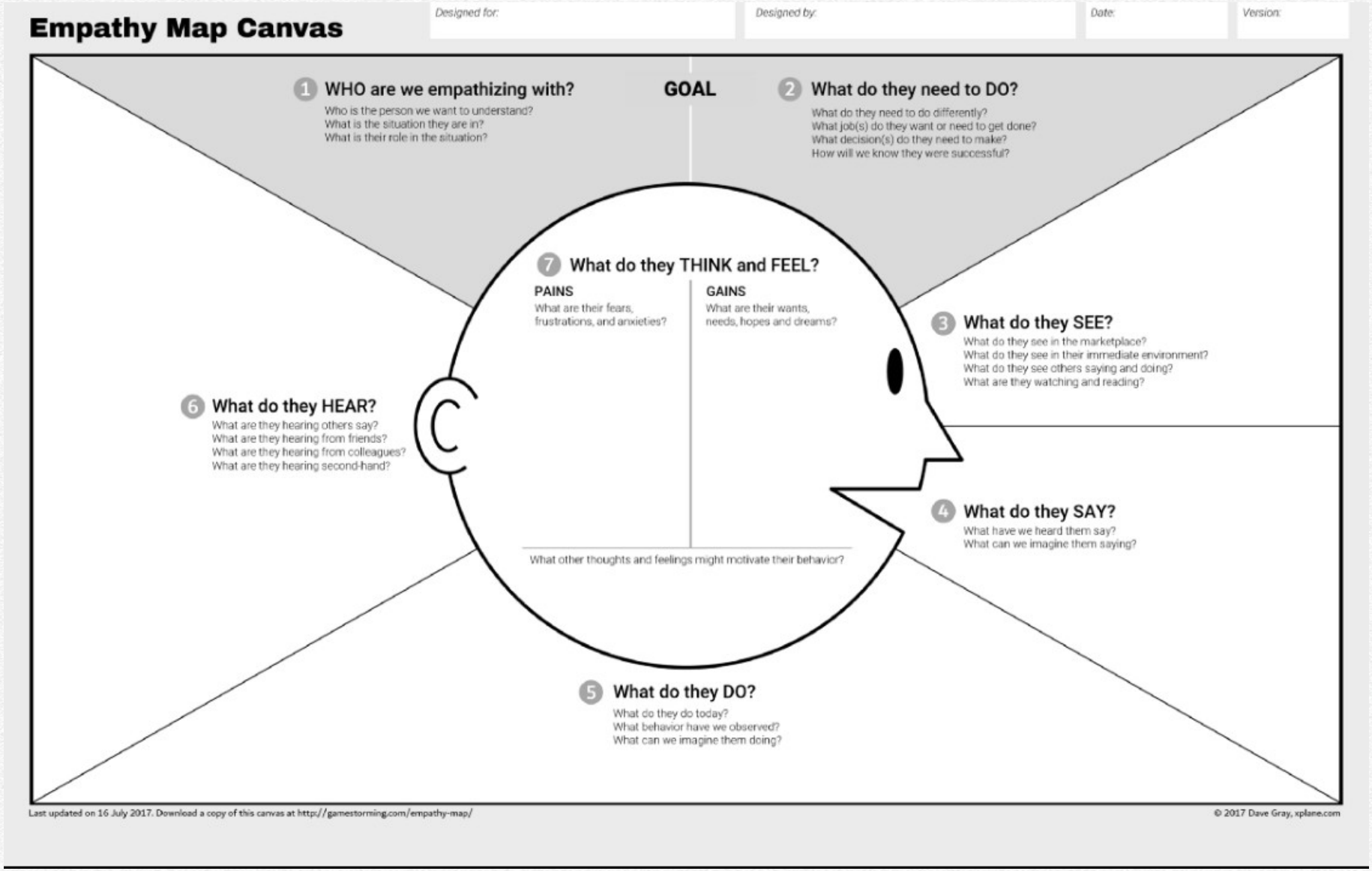
Nescience is a general term for constructed ignorance. 5 forms of nescience are distinguished by factors motivating the decision to barricade the boundary of knowledge:

- *rational ignorance*
- *strategic ignorance*
- *willful ignorance*
- *privacy and secrecy*
- *forbidden knowledge*

D. DeNicola (as conveyed by @propcazhpm on twitter)

Ignorance serves and disserves us. Confronting the mess (in that system of entangled problems sense) is hard stuff!

Empathy Map (from Dave Gray; the original version is in Gamestorming)



Learn from an expert: Donella Meadows and Dynamics

Take sketch notes as you watch Donella Meadows' (1977 — it's a classic!) lecture on causal loop diagrams; the whole lecture is great, but to keep to 15 minutes, start at minute 18:59 (And stop after 15 to 20 minutes.)

Donella Meadows: A Philosophical Look at System Dynamics, https://m.youtube.com/watch?v=XL_lOoomRTA&t=1139s

For inspiration! A Causal Loop Diagram — by 11 year olds early in the pandemic (April 2020): https://twitter.com/KateRaworth/status/1254344048216887296

Nicky Case (creator of Loopy) on Seeing Whole Systems: https://longnow.org/seminars/02017/aug/07/seeing-whole-systems/

"Using examples and stories such as the viciousness of the board game Monopoly and the miracle of self-organizing starlings, Case laid out the visual basics of finessing complex systems. A reinforcing loop is like a ball on the top of a hill, ready to accelerate downhill when set in motion. A balancing loop is like a ball in a valley, always returning to the bottom of the valley when perturbed." — Stewart Brand

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"We have also come to realize that no problem ever exists in complete isolation. Every problem interacts with other problems and is therefore part of a set of interrelated problems, a system of problems"

*"English does not contain a suitable word for "system of problems. Therefore, have had to coin one. I choose to call such a system a **mess**."*

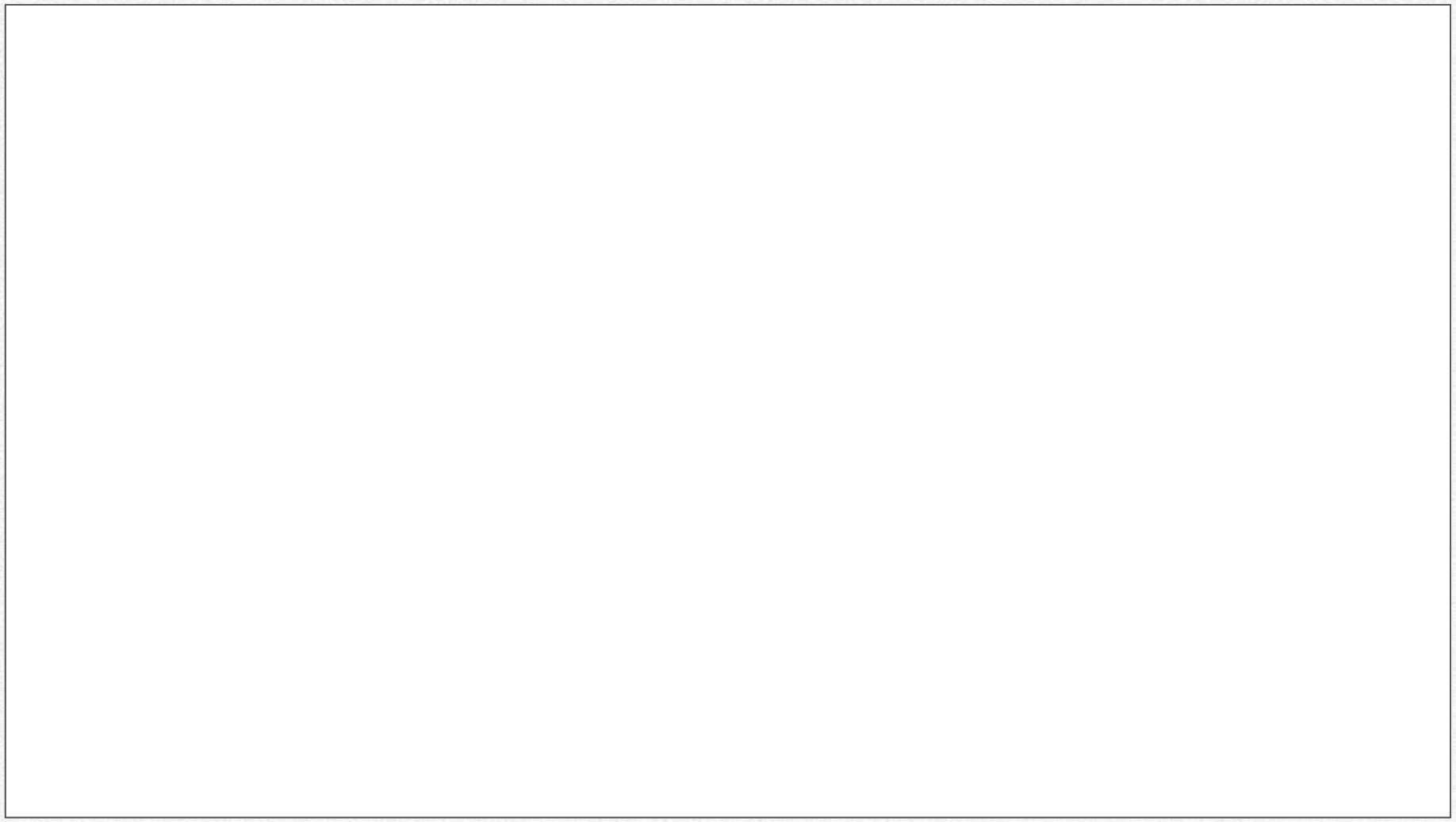
— Russell L. Ackoff, Redesigning the future, 1974

And more Meadows:

"What we try to do, is build a model that makes our mental understanding of the system, so much better [..] That is, what we are really trying to do, is increase our intuition, our understanding"

https://m.youtube.com/watch?v=f9g4-5-GKBc&feature=youtu.be

Sketchnotes (Donella Meadows: A Philosophical Look at System Dynamics)



Explore dynamics (with causal loop diagrams)

Follow up on yesterday's (Day 8) Donella Meadows lecture, with some practice: Explore the causes of dynamics (and feedback loops), in some part of the situation you're exploring (prompt from day 1) with a causal loop diagram (CLD).

If you haven't done CLDs before, the more important thing is to give it a try. Once you get going, then worry about getting the model more correct, and some guidance is helpful. This might help with that: "Fine-Tuning Your Causal Loop Diagrams — Part I", by John Sterman, https://thesystemsthinker.com/fine-tuning-your-causal-loop-diagrams-part-i/

Alternatively, use an influence diagram like @johncutlefish (John Cutler's) WIP diagram (or at least give it a look over, for ideas from our product/software dev contexts):
https://mobile.twitter.com/johncutlefish/status/1544719466507907072

John talks through it here:
https://www.loom.com/share/5efceb288b634a449041918bdba08202

This (more kids doing CLDs) shows how useful a simple causal loop diagram (CLD) can be:
https://m.youtube.com/watch?v=wI03wmG9Ghk

Pull on a thread (Donna Haraway); an example:
https://hachyderm.io/@inthehands/109378117775642584

"We might have to take an approach inspired by Donna Haraway and [..] see what happens when we grab hold of one thread in the tangle and mess and pull it."
— Marisa Leavitt Cohn, Keeping Software Present, https://digitalsts.net/essays/keeping-software-present/

"the wish [or intention] confronts an environment as altered by the wish; the environment confronts a wish as altered by the environment"
— Mary Parker Follett, Creative Experience, 1924

The environment changes the system; the system changes the environment (immediate/task and global) — the diagram is from "Self managing management of the self managing organization: an update"
by Merrelyn Emery, Self managing management of the self managing organization: an update, 2018

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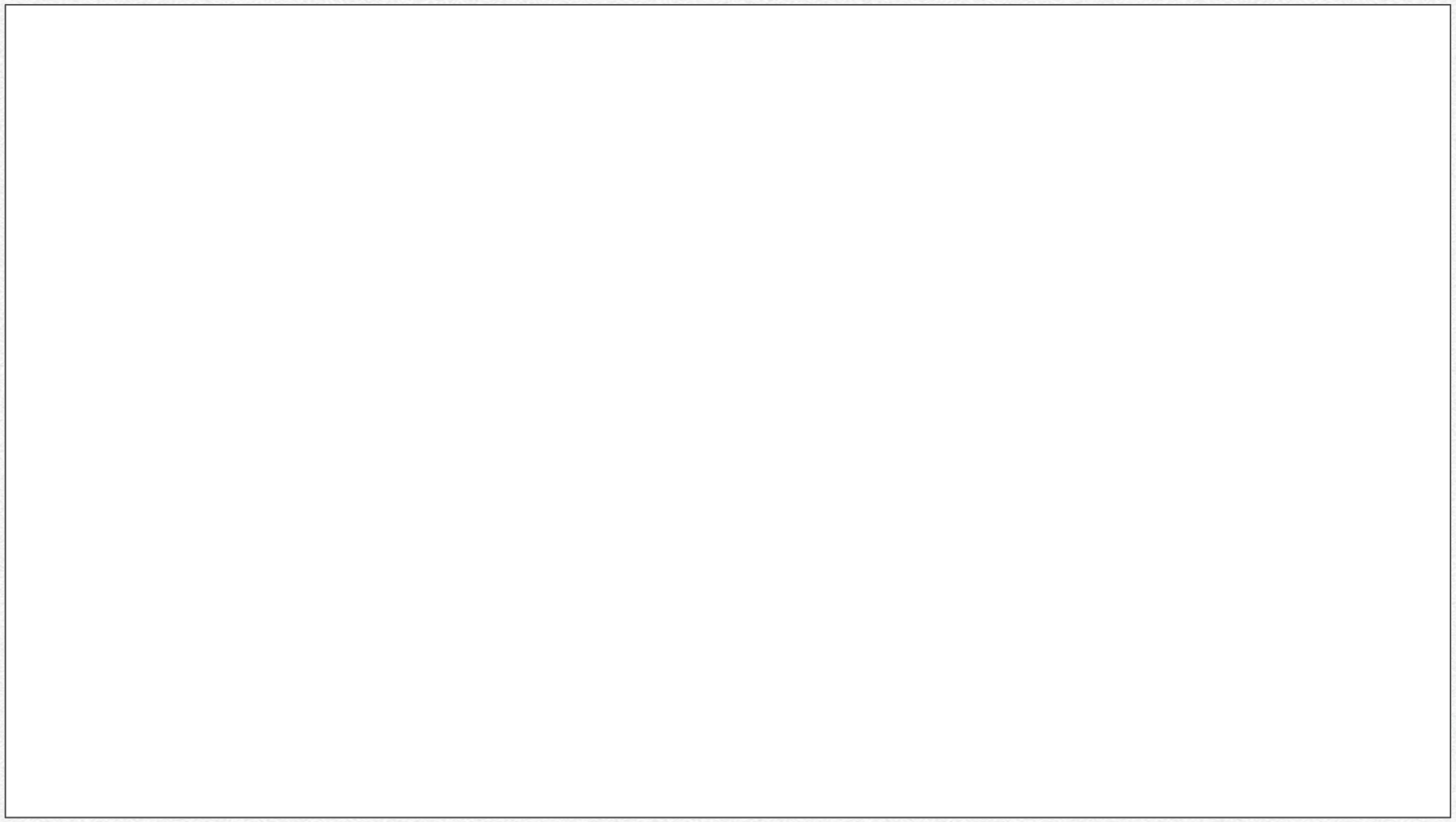
*"My response is not to a crystallized product of the past, static for the moment of meeting; *while* I am behaving, the environment is changing because of my behaving, and my behavior is a response to the new situation which I, in part, have created."*
— Mary Parker Follett, Creative Experience, 1924

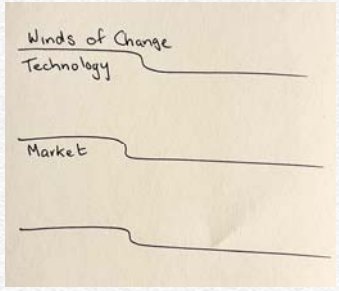
"This takes some disentangling, and time and thought [..]
The big problem is this:
you are not determining absolute facts;
you are establishing a set of conventions.
So remember:
a model is neither true nor false;
it is more or less useful"
— Stafford Beer, Diagnosing the System for Organizations, 1985

Explore dynamics (with a causal loop diagram or influence diagram)



Winds of Change

Draw out what is bringing change to this space (your focal situation or challenge). It can help (to prompt noticing) to have bands for winds of change, like trends/forces/things changing in the market; and technology change; you might also want to add other bands as relevant (like if you want to separate environmental or cultural from market winds of change to prompt further noticing/discernment)



"The future is already here — it's just not evenly distributed yet." — William Gibson, https://quoteinvestigator.com/2012/01/24/future-has-arrived/

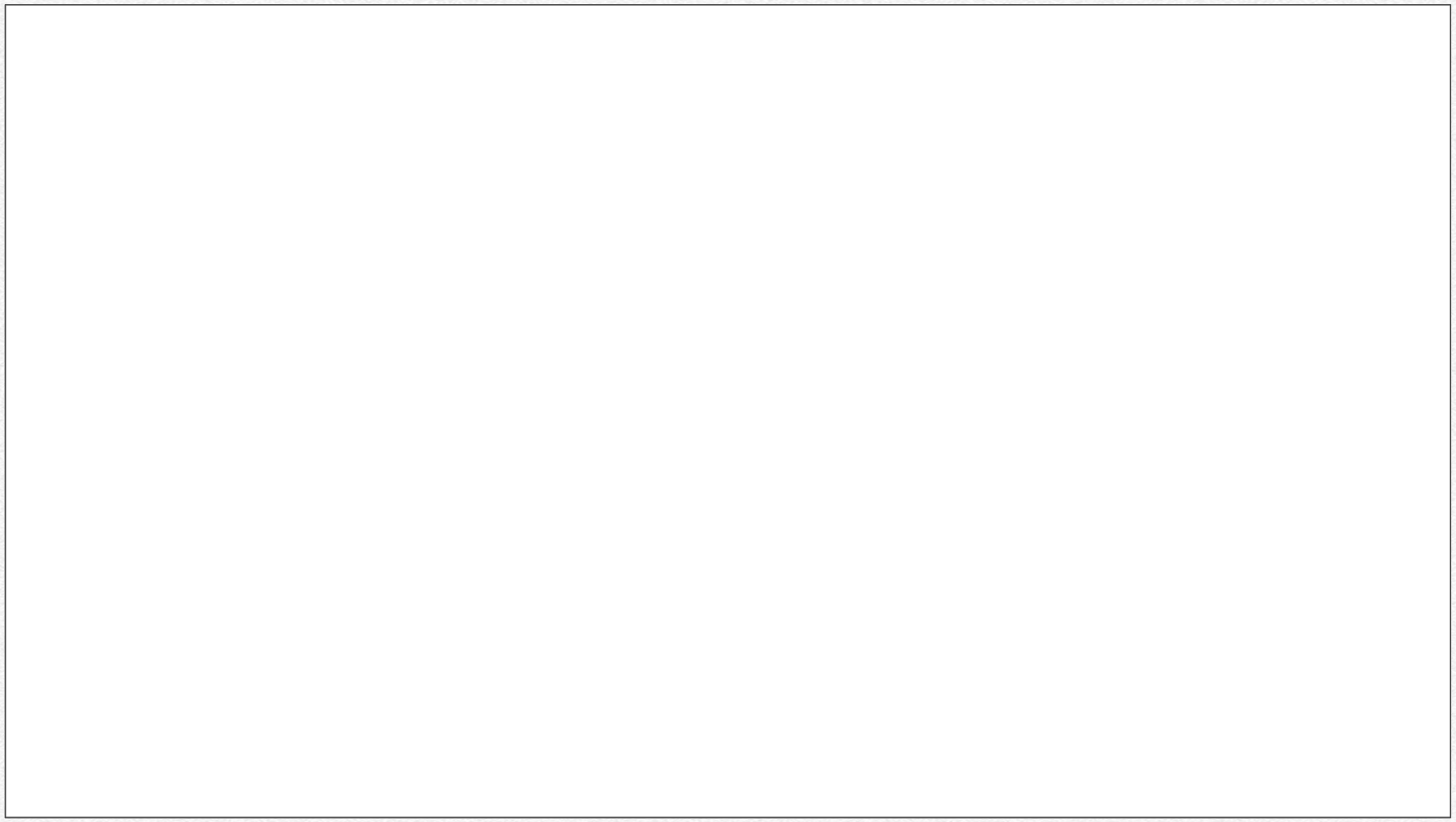
"past (the time of memory), present (the time of conscious awareness), and future (the time of anticipation)"
— David Scott, Omens of Adversity: Tragedy, Time, Memory, Justice

"I didn't make up the problems," I pointed out. 'All I did was look around at the problems we're neglecting now and give them about 30 years to grow into full-fledged disasters.'
— Octavia Butler, A Few Rules For Predicting The Future by Octavia E. Butler, May 2000

"the kind of insight which is also foresight is essential to leadership. This doesn't mean that only the president needs it. Foresight is necessary for foreman or head of department; the only difference is that in their case the range about which foresight is necessary is narrower. But no leader of however small a group can forget, without disastrous consequences, that the activities of each group have to be fitted into a whole which is constantly changing"
— Mary Follett, Dynamic Administration

"Alicia Juarerro reminded us of the importance of time in complex systems. She highlighted the difference between Chronos (chronological or sequential) and Kairos (opportune) time. Chronological time is agnostic of context as it inexorably moves along. Kairos time, defined as right, critical, or opportune moments, is inherently linked to context. For each unique context, there will be unique Kairos moments."
— Sonja Blignaut, Flowing Through Time

Winds of Change



Co-Evolution

"Design involves assumptions about the future of the object designed, and the more that future resembles the past the more accurate the assumptions are likely to be. But designed objects themselves change the future into which they will age."
— Petroski, To Engineer is Human

"the Law of Stretched Systems:
every system is stretched to operate at its capacity; as soon as there is some improvement, for example in the form of new technology, it will be exploited to achieve a new intensity and tempo of activity."
— David Woods and Sidney Dekker, Anticipating the Effects of technological change, 2000

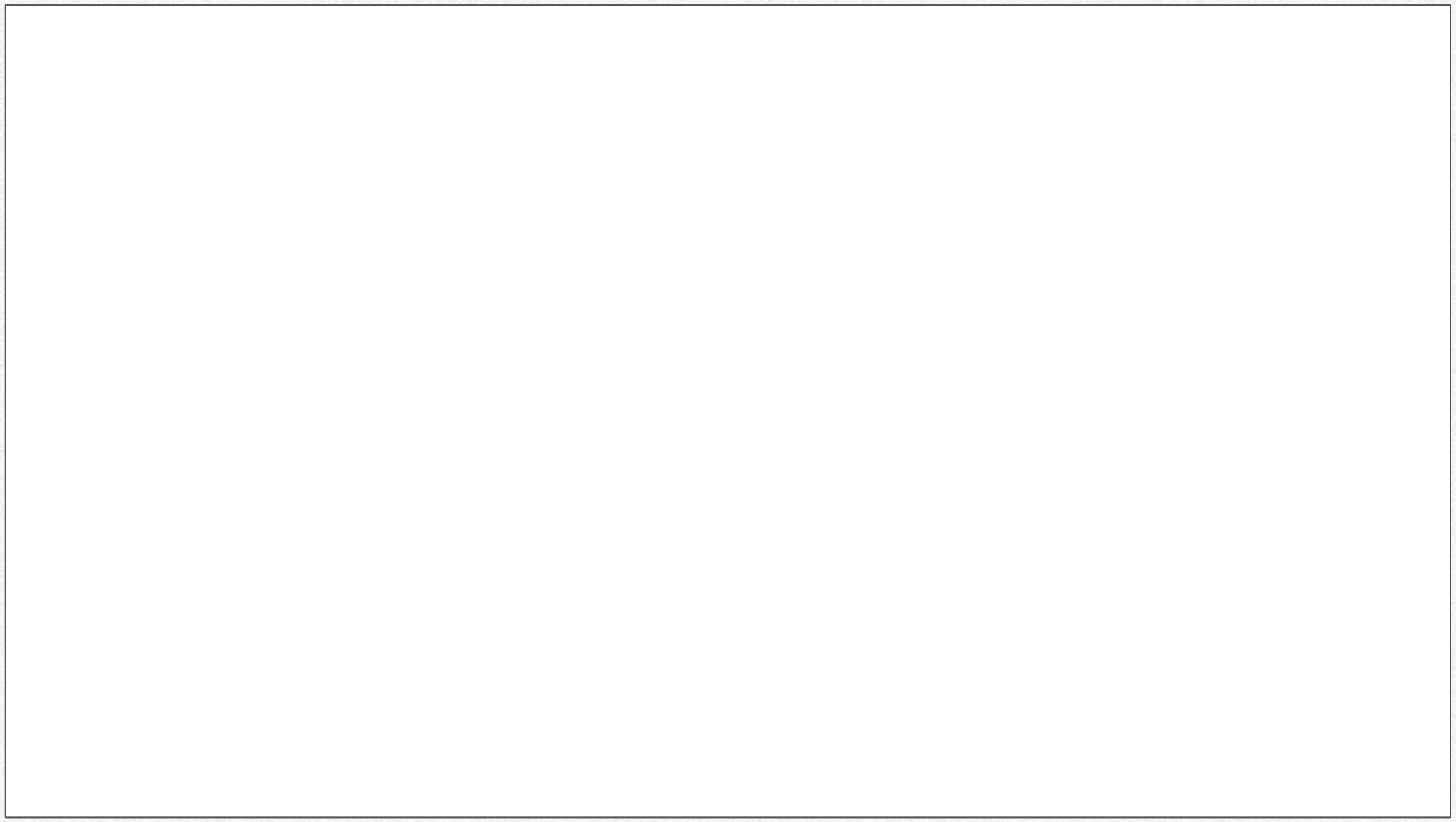
"resilience is about what a system can do—including its capacity:
• to anticipate—seeing developing signs of trouble ahead to begin to adapt early and reduce the risk of decompensation
• to synchronize—adjusting how different roles at different levels coordinate their activities to keep pace with tempo of events and reduce the risk of working at cross purposes [.]
• to respond—developing deployable and mobilizable response capabilities in advance of surprises"
— David Woods, Resilience is a Verb

Doodle

Yep. Doodle (sketch, if you like, or just playfully doodle). Play with visual ideas that might offer metaphors or analogies relating to this situation you've been paying attention to, in this advent(ture) in systems journaling. Or doodle what wants to be expressed, but hasn't yet, like feelings. Or doodle on a theme, like "cultivate response-ability"... Let your doodles draw you. (Draw you along, draw you out, draw you in.)

"insides make their way to outsides"
— Barbara Tversky, Mind in Motion

Doodle



Systems and Boundaries

Again, considering the situation you're exploring: identify systems. List them, or draw them interacting in ecologies of systems.

Some things to think about: what larger systems are the systems we name, part of? This is about noticing systems (so boundaries), and relationships (and the nature of those relationships) among systems.

For example, patient onboarding is part of an Urgent Care system and Urgent Care is part of the regional healthcare system (which is part of the social infrastructure of the region, along with education, city services like sanitation, etc.?). The software system we're design-evolving, is part of the sociotechnical system developing it, as well as the system-in-use by users, and their larger system of work or other parts of life.

How far out do we zoom? What heuristics do you use?

System design is contextual design — it is inherently about boundaries (what's in, what's out, what spans, what moves between), and about tradeoffs. It reshapes what is outside, just as it shapes what is inside.

Donella Meadows:
"There are no separate systems. The world is a continuum. Where to draw a boundary around a system depends on the purpose of the discussion."
"They mark the boundary of the system diagram. They rarely mark a real boundary, because systems rarely have real boundaries. Everything, as they say, is connected to everything else, and not neatly."

"In order to be recognisable as such, a system must be bounded in some way. However, as soon as one tries to be specific about the boundaries of a system, a number of difficulties become apparent. For example, it seems uncontroversial to claim that one has to be able to recognise what belongs to a specific system, and what does not. But complex systems are open systems where the relationships amongst the components of the system are usually more important than the components themselves. Since there are also relationships with the environment, specifying clearly where a boundary could be, is not obvious."
— Paul Cilliers, Boundaries, Hierarchies and Networks in Complex Systems

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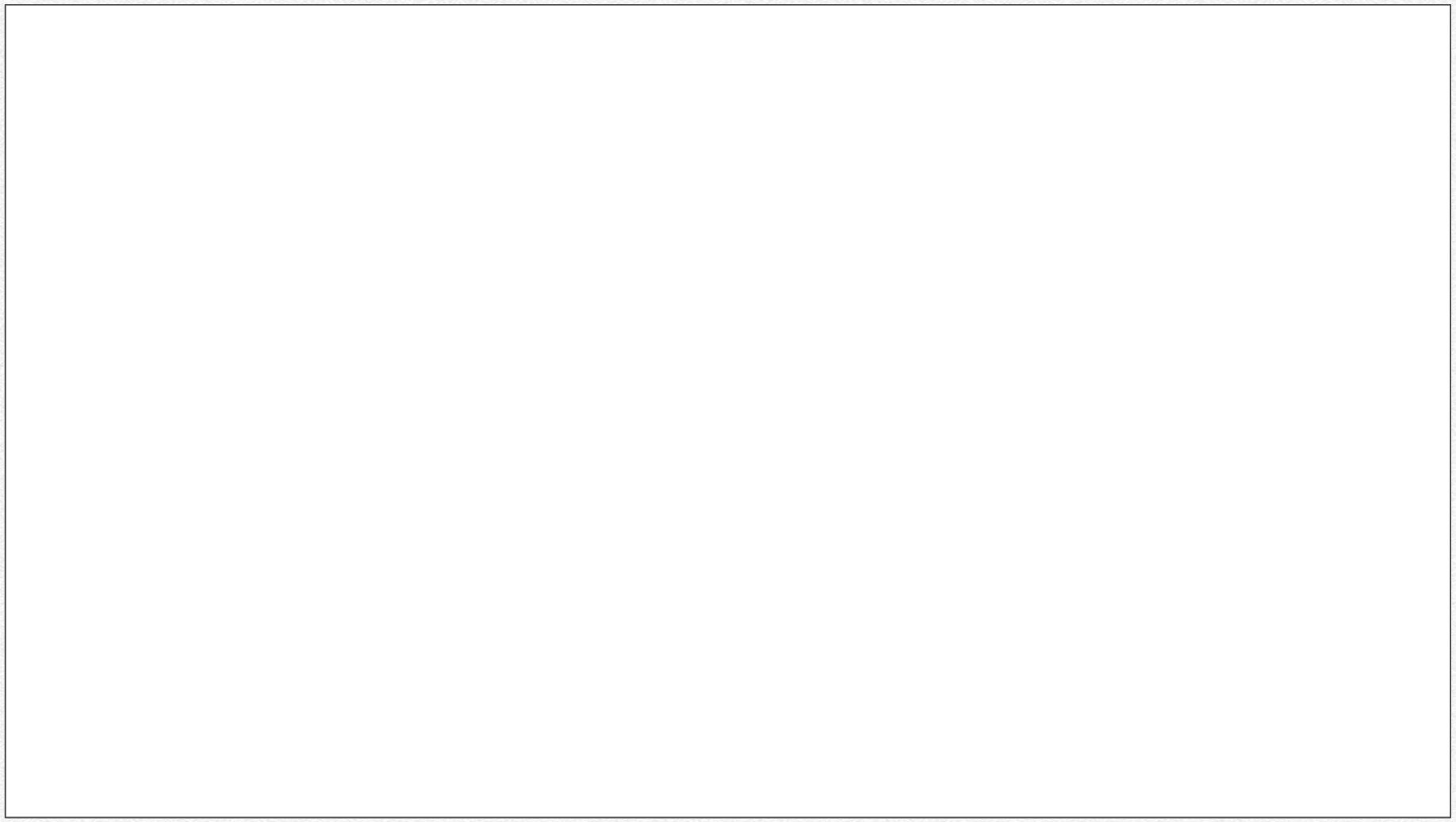
"All social systems, and thus all living systems, create, maintain, and degrade their own boundaries. These boundaries do not separate but intimately connect the system with its environment. They do not have to be just physical or topological, but are primarily func-tional, behavioral, and communicational. They are not 'perimeters' but functional constitutive components of a given system."
— Milan Zeleny, On The Social Nature Of Autopoietic Systems (In Evolution, Order and Complexity)

Systems and Boundaries



See/Seen

1. Look at something in this situation you're exploring — describe what you actually see. Draw it, if you like, or describe it in words.

2. Now describe how it is seen by you. What do you add (eg, meanings, emotion, stories, theories, etc.) with your thoughts or conceptions and responses? Drawing here might add emoticons or metaphor or annotations beyond what is observable, etc.

"I am in the SF grip of what a former student of mine, Eva Hayward, calls "fingery eyes" or "tentacularity" and another former student, Katie King, calls "networked re-enactments" or "transknowledges." "Fingery eyes" and "tentacularity" are Eva's terms for sensual trans-ing, and interstitial jointings."
— Donna Haraway, "SF: Science Fiction, Speculative Fabulation, String Figures, So Far"

"In every collaborative modelling session YOU are part of the model: your biases will affect the flow and the outcome too. Better be aware of yours"
-- Alberto Brandolini

See/Seen

Hear/Heard

If yesterday's prompt seemed familiar, perhaps it's because I borrowed it from Argyris and Schon's left column/right column exercise, where you think of a recent conversation, and write what you actually said and what the other person said, in the right column, and what you heard (in your mind; interpretations; internal responses) in the left column. This prompt is to do that, with a recent conversation related to the situation.

Left hand Column

Exercise developed by Chris Argyris and Donald Schon:

Pick an important conversation you've recently had, and

- Draw a line down the center of a sheet of paper.
- In the right column reconstruct the conversation to the best of your ability - e.g. I said this, then he said this, then I said this etc.
- In the left column jot down what you were thinking and feeling at the moment that each thing was being said.
- Review both columns
- Are there differences between your external dialogue and internal thoughts and feelings?
- If so, how can you begin to productively raise some of your left hand column thoughts?

"The propensity among professionals to behave defensively helps shed light on the 2nd mistake that companies make about learning. The common assumption is that getting people to learn is largely a matter of motivation [..]
But effective double-loop learning is not simply a function of how people feel. It is a reflection of how they think—that is, the cognitive rules or reasoning they use"
"What happened? The professionals began to feel embarrassed. They were threatened by the prospect of critically examining their own role in the organization. [..]
Far from being a catalyst for real change, such feelings caused most to react defensively. They projected the blame for any problems away from themselves and onto what they said were unclear goals, insensitive and unfair leaders, and stupid clients."
—Chris Argyris, "Teaching Smart People How to Learn"
https://hbr.org/1991/05/teaching-smart

'Rick Ross notes: "You can't live your life without adding meaning or drawing conclusions. It would be an inefficient, tedious way to live. But you can improve your communications…by using the ladder of inference in three ways:
Becoming more aware of your thinking and reasoning (reflection);
Making your thinking and reasoning more visible to others (advocacy);
Inquiring into others' thinking and reasoning (inquiry).'"
— Ed Bastista, Racing up the ladder of inference

Hear/Heard

Value Networks

Explore the situation in terms of value flows: start with some of the roles and groups and organizations relevant to this situation (labelled nodes), and show what tangible and intangible value flows (solid and dashed arrows, respectively; annotated) between them, and add other entities (people/roles, teams/groups, organizations, etc.) and value flows, as they occur to you.

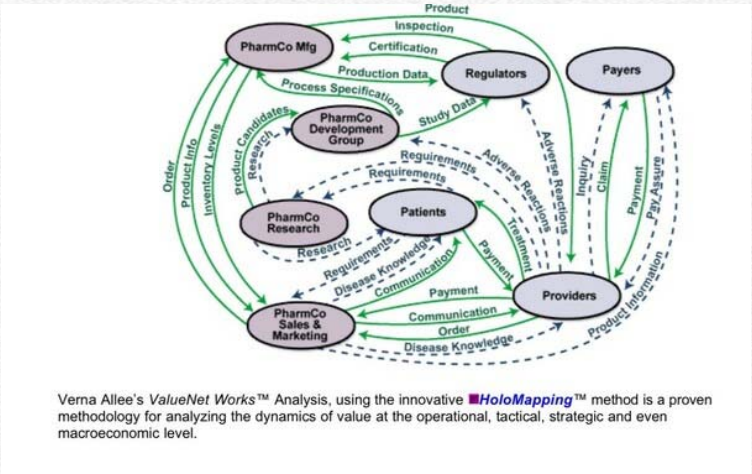
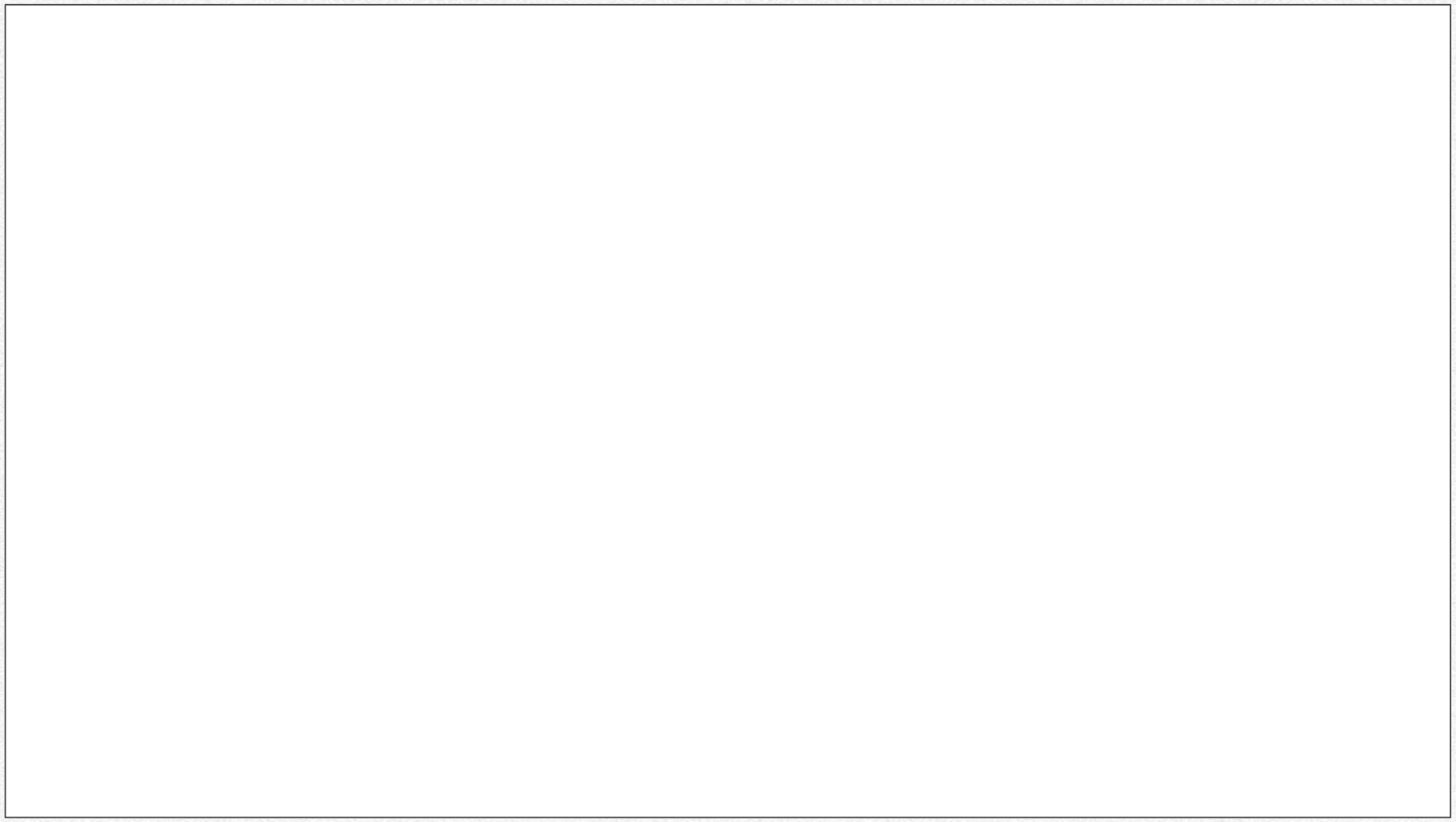


Image: from Verna Allee

Value Networks (mapping informal and tangible value flows and transformations)



Gather Stories

This situation or system has stories — tales of how it came into being, what shaped it, challenges faced, incidents, ⋯ If you know some of the stories write them down. Or write questions, so you can gather stories from someone who was involved before you. Or, if you're envisioning some initiative, what is the story there? How would you like the story to be told?

What stories we tell, matters.

"some of us out here in the wild oats, amid the alien corn, think we'd better start telling another one, which maybe people can go on with when the old one's finished. The trouble is, we've all let ourselves become part of the killer story, and so we may get finished along with it. Hence it is with a certain feeling of urgency that I seek the nature, subject, words of the other story, the untold one, the life story"

"the Hero has frequently taken it over, that being his imperial nature and uncontrollable impulse, to take everything over and run it while making stern decrees and laws to control his uncontrollable impulse to kill it. [..]

I differ with all of this. I would go so far as to say that the natural, proper, fitting shape of the novel might be that of a sack, a bag. A book holds words. Words hold things. They bear meanings. A novel is a medicine bundle, holding things in a [.] powerful relation"
— Ursula K. Le Guin, The Carrier Bag Theory of Fiction

"We might have to take an approach inspired by Donna Haraway and [..] see what happens when we grab hold of one thread in the tangle and mess and pull it."
— Marisa Leavitt Cohn, Keeping Software Present, https://digitalsts.net/essays/keeping-software-present/

Gather Stories (notice the everyday tending that nurtures and mends and sustains)

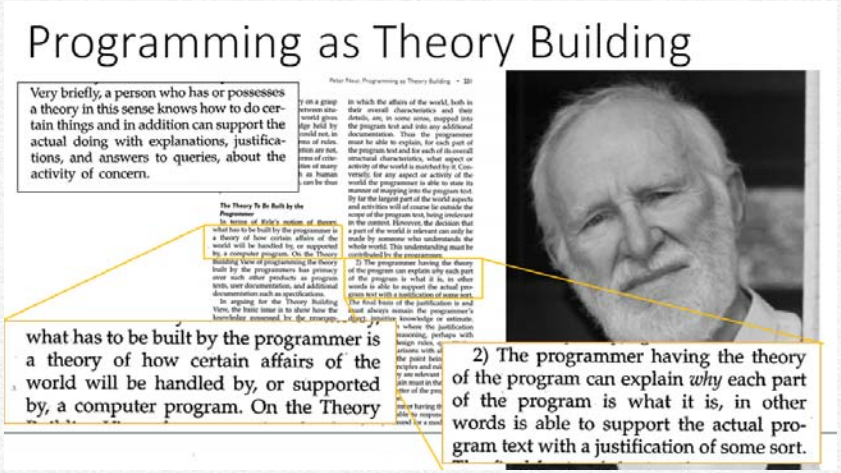
I Have a Theory About This!

Pick some area of this situation you want to explore in terms of "I have a theory about this" -- that is, I have explanations for the behaviors of the system here. Describe your theory, using diagrams and words (and code, if relevant).

Alternately put, we're forming mental models of the situation and system, and how these mutually interact and influence — in anticipation, too (harking back to Mary Parker Follett quotes from earlier in this Advent(ure)).

Mental models may be connecting in your mind — to Richard Cook's diagram in the STELLA report (and David Woods description there)? Here: https://snafucatchers.github.io/

The "above the line/below the line" diagram in the Safucatchers' STELLA report. See the linked text for a description.



"a person who has or possesses a theory in this sense knows how to do certain things and in addition can support the actual doing with explanations, justifications, and answers to queries, about the activity of concern."

"what has to be built by the programmer is a theory of how certain affairs of the world will be handled by, or supported by, a computer program."
— Peter Naur, Programming as Theory Building, 1985

"people got their opinions
where do they come from?
each day seems like a
natural fact
and what we think changes
how we act."

— Why Theory?
Gang of Four lyrics

I have a Theory (bring assumptions and assertions, and explanations or reasoning into view)

Design a Sticker

Design a sticker (doodle) for the cover of your System Seeing Journal (or not to actually be a sticker, but just the idea of sticker). The Big Idea here is to doodle around what is representative or what concept "glimmers" with what this journal is shaping up to be, for you. What makes this work meaningful? Go back to your doodles from last Sunday, if that helps. It is another chance to play with images and what draws you.

Design a Sticker (play, meaning, representation)

Consequence Scanning

Identify an action (or decision) you're intending to take/taking in this situation.

- What are the intended outcomes of this action (or decision)?
- What are other positive consequences?
- Explore possible effects and unintended consequences of this action.
- What consequences need to be mitigated?
- How will you broaden input here?

Adapted from (and highly recommend):
https://doteveryone.org.uk/project/consequence-scanning/

Guidance, case studies, etc.:
https://doteveryone.org.uk/project/consequence-scanning/

"There are two nonexclusive ways of dealing with possibilities; contingency planning and developing responsiveness"
– Russell Ackoff

"Responsible computing is loosely [defined] as designing computing artifacts that need to take society into consideration. Not doing so can lead to harm in society, even if the harm was unintended."
—Teaching Responsible Computing Playbook, https://foundation.mozilla.org/en/what-we-fund/awards/teaching-responsible-computing-playbook/

"Consequence Scanning [..] is a way for organisations to consider the potential consequences of their product or service on people, communities and the planet. This practice is an innovation tool that also provides an opportunity to mitigate or address potential harms or disasters before they happen."
— doteveryone

Decisions have different timespans until we see their effects (there are differences in the timespan of feedback loops —paraphrasing @cornazano from memory).

@johncutlefish made a related point:
"One (of many) ways to think of product work is to imagine a series of interlocking and related sense and respond orbits....it is all happening NOW, but the orbits range in terms of length...

Companies are built in 1-3 decade bets
Someone comes to work and places a 1-3h bet"
https://twitter.com/johncutlefish/stat

Consequence Scanning (scanning for/anticipating effects of decision/action)

Learn from an expert: Russ Ackoff on systems

Watch and sketchnote: If Ackoff had given a Ted talk

https://m.youtube.com/watch?v=OqEeIG8aPPk&t=107s

How does Ackoff define systems? What other distinctions would you add?

What insights do you draw out, and how do those relate to the systems in the situation you're exploring?

'Considering enterprises as "open socio-technical systems" helps to provide a more realistic picture of how they are both influenced by and able to act back on their environment.'
— Emery and Trist, The Socio-technical System as a Source Concept (Appendix to "Towards a Social Ecology"), https://link.springer.com/content/pdf/bbm:978-1-4615-8082-9/1.pdf

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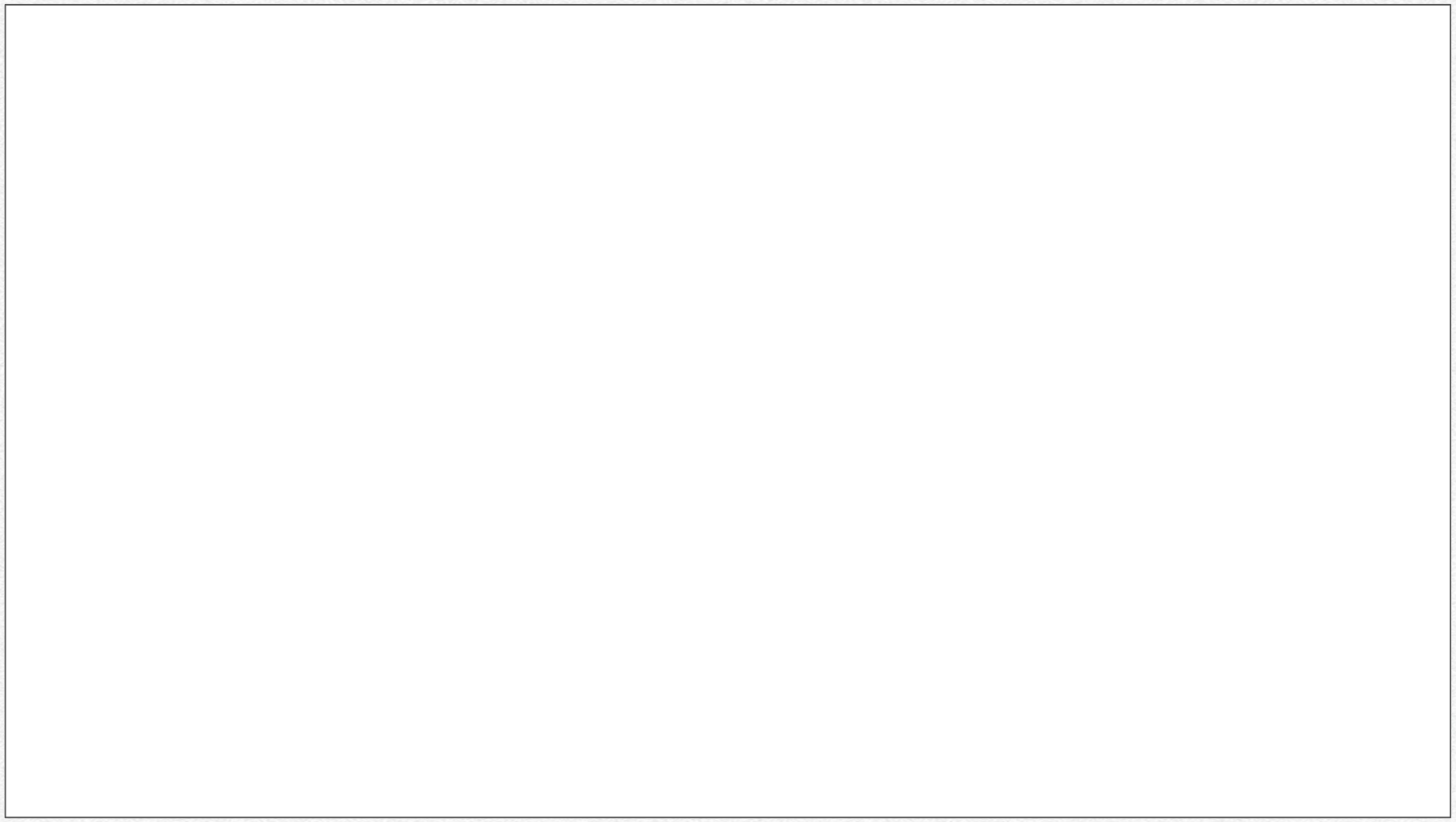
"For this principle applies to the relation of men, the relation of services, the relation of departments, the last of which I have found one of the weakest points in the businesses which I have studied. How are we to get an integrative unity? How are we to know when we have it?"
— Mary Parker Follett

"Systems are of three types: mechanical, organismic, and social.' A mechanical system is one that operates with a regularity dictated by its internal structure and the causal laws of nature, for example, a clock or an automobile. Because mechanical systems can display no choice, they can have no purposes of their own; nor can their parts. However, a mechanical system can have a function"
— Russ Ackoff, Systems thinking and thinking systems,

"Types of Systems and Models
There are three basic types of systems [..]:
(1) Deterministic: systems and models in which neither the parts nor the whole are purposeful.
(2) Animated: systems and models in which the whole is purposeful but the parts are not.
(3) Social: systems and models in which both the parts and the whole are purposeful.
[..] All three types of system are contained in ecological systems, some of whose parts are purposeful, but not the whole."
— Ackoff and Gharajedaghi

Learn from an expert: Russ Ackoff on systems

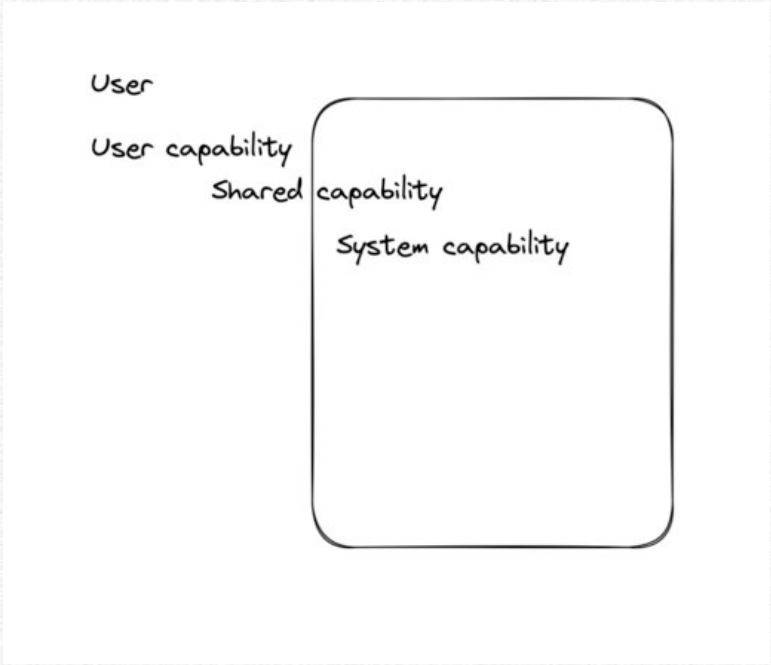


System Purpose and Capabilities

Consider a (socio)technical system of interest. What is its primary purpose (or defining identity). Explore the capabilities it offers, shares, and relies on, to fulfill this purpose.

One way to do this: draw a box to represent the (technical:software, etc.) system. Put users interacting with the system on the outside (on the left, like a use case diagram) and other systems this system interacts with on the outside (right). Put capabilities shared by user and system, or system and other systems, across the boundary; capabilities provided by the system inside the boundary; capabilities of users (not taken and shared by the technical system) outside the boundary.

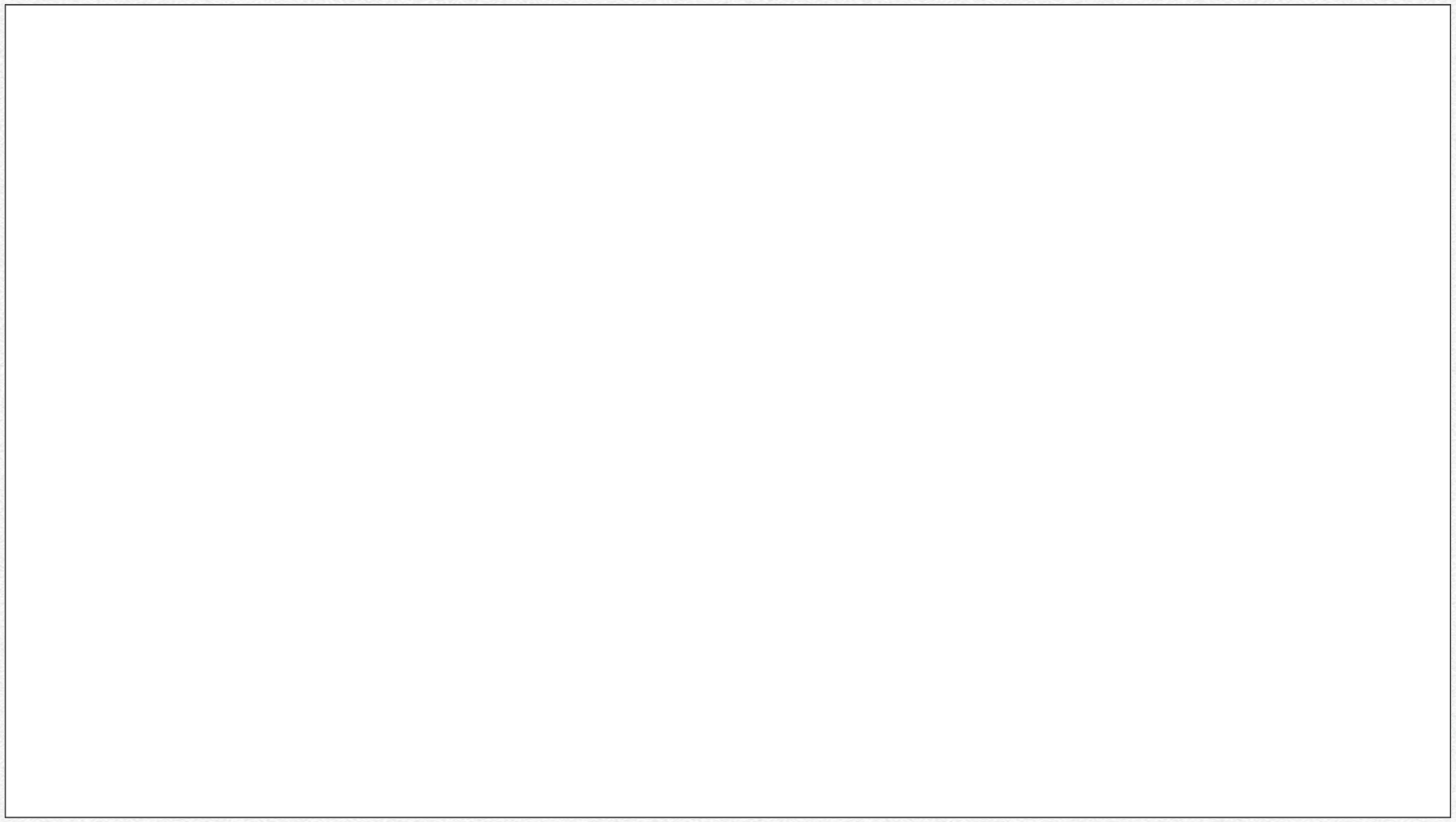
The idea is to draw out and explore how capabilities are being created, and moved across boundaries, and raise the need for other (new/altered) capabilities (you might find yourself needing to add other actors like operators)⋯



"we should remember that we can never wholly separate the human and the mechanical problem. This would seem too obvious to mention if we did not so often see that separation made. [..]The engineering part of transportation is not the larger part. Please note that I do not say it is a small part. It is a large part, and it is the dramatic part, and it is the part we have done well, and yet the chief part of transportation is the personal things"
— Mary Parker Follett, Dynamic Administration

"As we design a system, we need to consider that it will reshape contexts — whether we take this into account or not, we're reshaping containing/collaborating systems. So we ought to take it into account! In use, the system takes on capabilities on behalf of users, and extends or augments their capabilities in some way; it places demands on them, while offering something in turn. It changes supply chains and value flows."
— some version of past me, https://www.bredemeyer.com/howto.htm

System Purpose and Capabilities (exploring the system boundary)



System Structure: moving inwards

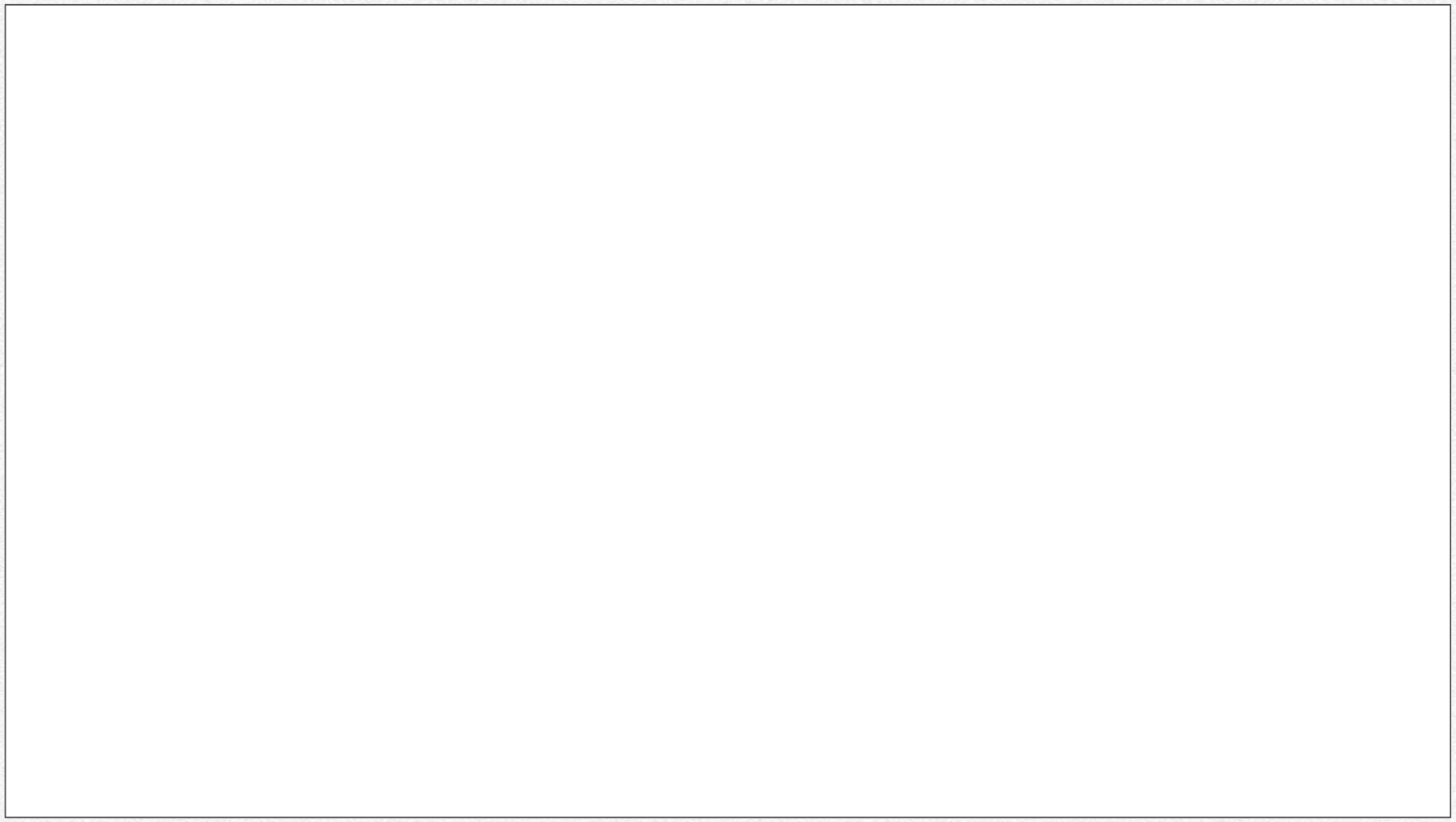
Considering this system (day 21), sketch its significant constituent structures (named components or parts, ⋯), and interrelationships (informally using boxes and lines — C4's Component Diagram, if you like).

I mentioned the Ray and Charles Eames Powers of Ten (short) (1977) film the other day. But there's a lot going on, so I'll mention it again. :) First it goes out in powers of ten to see wider and wider context, and then it reverses direction (around minute 5:54) and goes inwards. It's dated, but still very cool.

https://m.youtube.com/watch?v=0fKBhvDjuy0

"I have been saying that the whole is determined not only by its constituents, but by their relation to one another. I now say that the whole is determined also by the relation of whole and parts."
— Mary Parker Follett, Dynamic Administration

System Structure: moving inwards (making internal system structure visible)



Big Questions

What questions are emerging, that will help guide your next steps in system seeing/exploring and learning?

What will be useful to explore next, and how?

Or, as Dawn Ahukanna put it (on mastodon), 'not so much big questions, more "courageous curiousity" question, with escape velocity.' What questions invite us to learn and explore and probe, further?

"I try actively to question myself and my certainties"
—Jérémie Zimmerman

"The way a question is asked limits and disposes the ways in which any answer to it [..] may be given."

"the questions make the frame [..]They make more than the frame; they give the angle of perspective, the palette, the style"

"Such assumptions appear so obvious that people do not know what they are assuming because no other way of putting things has ever occurred to them. With these assumptions a certain limited number of types of [..] systems are possible"

—Susanne Langer, Philosophy in a New Key

What Questions will help guide where I explore next?

Celebrate

Spend some time noticing what you appreciate in this situation you've been exploring, and who. Looking across boundaries, you get to notice some things others might not — some unique contribution and integrative glue work someone is doing.

Celebrate (notice who is doing integrative glue work, and appreciate the under-appreciated)