Code of Conduct

Our participation here reflects our mutual agreement and commitment to each other to follow this code of conduct during our discussion today. It applies equally to all of us (including facilitators).

- We share a commitment to providing a friendly, safe and welcoming meeting experience for all, regardless of level of experience, gender identity and expression, sexual orientation, disability, personal appearance, body size, race, ethnicity, age, religion, nationality, or other similar characteristic.
- Please be kind and courteous. Please avoid using terms that might detract from a friendly, safe and welcoming environment for all.
- Respect that people have differences of opinion and that our discussions will reflect different perspectives, trade-offs and impacts. There is seldom a right answer.
- Should anyone insult, demean or harass others in this setting, they will be excluded from interaction (contact the facilitators, if this happens). That is not welcome behavior.
- Likewise any spamming, trolling, flaming, baiting or other attention-stealing behavior is not welcome.

Note: We have adapted this code of conduct from the Ruby Code of Conduct.

Monitoring in Support of Policy by Michelle Boyle et al
The paper is available at:
[note: not secure]
http://documentacion.ideam.gov.co/openbiblio/bvirtual/017931/DocumentosIndicadores/Temasvarios/Docum8.pdf

- **Introduction**
  - Housekeeping -- Code of Conduct
  - Communication -- Miro and Zoom Chat
  - Continuing the discussion
- **Discussion led by Rein Henrichs (@reinh on twitter).**
- **Wrap**

Self Organizing Universe, by Erich Jantsch

Monitorama PDX 2015 - Benjamin Anderson - **Observability, Interactivity and Mental Models in Web Operations**

Dynamics in Action: Intentional Behavior as a Complex System Alicia Juarrero

Spivey, Michael J., and Rick Dale. "**Cont**inuous **dynamics in r**eal-time **cognition**." Current Directions in Psychological Science 15.5 (2006): 207-211 (insecure link)

https://faculty.ung.edu/kmelton/Documents/DataWisdom.pdf

Context Changes Everything How Constraints Create Coherence By Alicia Juarrero

Darwin was a teleologist James G. Lennox

Klein, Gary, Paul J. Feltovich, Jeffrey Bradshaw, and David Woods. "**Common Ground and Coordination in Joint Activity.**" In Organizational Simulation, 139-84, 2005.

Dunn, Winnie, Catana Brown, and Ann McGuigan. "**The Ecology** of **Human Performa**nce: A Framework for Considering the Effect of Context." American Journal of Occupational Therapy 48, no. 7 (July 1, 1994): 595–607

Marshak, Robert J. **Covert Processes at Work**: Managing the Five Hidden Dimensions of Organizational Change. Berrett-Koehler Publishers, 2006.

Mcguigan, F. **The Psychophysiology of Thinking**: Studies of Covert Processes. Elsevier, 2012.

Beer, Stafford. "**Recursions of Power**." In Power, Autonomy, Utopia, 3–17. Springer, 1986.

http://psas.scripts.mit.edu/home/2023-stamp-workshop-information/ System Theoretic Accident Model - Nancy Levison's team is running free training June 5-8th

What are the Big Ideas in "Monitoring in Support of Policy"?

Key terms:

Governance refers to the continuing process of learning, revisioning, resolving tradeoffs, and planning to adapt to the unfolding situation.

Management is the activity of translating the vision into reality. It involves the development and implementation of strategies to promote or discourage specific forms of self-organization

Monitoring is the activity of observing the human and natural systems and synthesising the observations into a narrative of how the situation has actually unfolded and how it might unfold in the future.

Quotes for: Diversity required to understand and manage complex systems: (emphasis added)

The hierarchical nature of complex systems requires that they be studied from different types of perspectives and at different scales. **There is no one correct perspective. Rather, a diversity of perspectives is required for understanding.**

Human systems must be acknowledged as a *subset* of the ecological systems that support them, and linkages between the economy and the health of ecological systems must be made. It is also important to *monitor the feedbacks between society and the environment.*

Hierarchy theory requires that a study of complex systems begin by **careful consideration of the types of perspectives required** and the appropriate scales of investigation.

The challenge for science is to abandon the normal approach of searching for the single correct model for dealing with a problem. Instead, the message of hierarchy theory is that we must develop a manner of investigation that uses a diversity of different perspectives and models, which brings different players to the table, and which synthesises the different perspectives together into understanding.

Systems and Related Concepts

Key Ideas and Implications for Observability

How can a monitoring program support governance?

see pg. 8

How does observability help with monitoring?

Does observability allow decision-makers to act with more intentionality?

Yes, I love how well the issues and complexities of these ecology issues map to building and maintaining software and the people who build it.

Observability->Modelability->Controllability is the control systems view of a feedback loop. Monitoring->Policy->Governance is the ecology equivalent terminology.
I like the focus on narrative, think that this builds the context needed to understand how well a feedback loop is actually working
OK, maybe it's Monitoring->Policy/Governance->Management
It's Kalman's definition from 1961, Charity adopted and extended that definition

Maturana and Varela

"The part of the system that's attempting to control the system must be able to update not just its model of what the system's current state is, but update the model itself how it understands the system."

I love how the paper not only ties the monitoring and systems to the humans in those and how they interact, but emphasizes the different roles of the humans and how they Interact. In these complex systems you have to translate between all the aspects, biology, technology, human roles.

"If you forget about the wellbeing of the people, you aren't going to be able to manage the wellbeing of the system."

The states of a system are attractors, so when we want a system to "stay up" we're building a control system feedback loop that prefers that attractor and the system is "in control" while its bound to that attractor. Then if it "goes down" it's moved to a different attractor and we usually have to design human intervention to do that.

I thought the "narrative" discussion was the closest to the problems we're trying to solve with o11y in software, I really appreciated that in the paper.

The cognitive bit Rein mentioned reminds me of Juarrero's _Dyamics in Action_.

Systems are often linear when they are close to an attractor... losing control of a system (or a sense of losing control) we are actually jumping to a new state where our previous control system is inappropriate and it's not going to bring it back."

and the narrative part is really the communication boundary between the various parts of the system, and is hard :)

Narrative is particularly useful for talking about potential futures, IMO.

Dynamics in Action is great
The paper I was thinking of is from Spivey: Spivey, Michael J., and Rick Dale. "Continuous dynamics in real-time cognition." Current Directions in Psychological Science 15.5 (2006): 207-211.

Metrics flooding can be a huge source of friction.

Metric flooding is like starting a novel by including the entire dictionary just in case any of those words get used.

"Narratives are both stories and theories" - this is a very good point

Model driven monitoring is one way to understand what metrics are needed and what is missing.

My absolute favorite talk on observability and model building https://vimeo.com/131390945

There's an interesting aspect of ecological system that several of their states are "good" but incompatible. You can't have trout and beavers. That may relate to how we evolve systems through technical migrations perhaps.

"...the law of requisite variety, which is that a controlling system has to be able to obtain at least as many states, as the system being controlled. So controllers have to be at least as complex as the system being controlled."

Beer talks about this in Brain of the Firm
where he also explicates his Viable System Model

We do need to understand that the governance part of a feedback loop includes politics, even within a company.

turning off software systems sounds a lot more fun than turning off ecological problems

There is a Seeing Like a State thing going on here as well

The Issues framework is great, the article mentions the use of Soft Systems Methodology (SSM) to address the difficulty of bringing together Stakeholders with different opinions and beliefs. A technique that Ruth uses in her Workshop.

I've definitely seen the sharp state changes that this paper describes in the space of team trust and communication.

Phase changes in complex systems tend to happen quickly when they happen.
I guess I need to read Seeing Like a State at some point... ?

When you get to the negative connotation for "politics" within a business it's humans trying to control the narrative to control the people, instead of where it should probably be that the narrative should control the politics. or something like that.

Self Organizing Universe, by Erich Jantsch

How often do we "control the inputs without understanding the outputs"
I think a shared AWS instance with bad neighbors can simulate the variety of nature to some degree :)
Stability for who? If the observability only shows the it's working for one set of people, but ignores all the groups it harms it's not actually "working".

"If the trout try harder, the stream won't work"

is the personification of chaos

I guess the more we rely on sensemaking and narratives, the more our biases and preconceptions can manifest

Jira, et al, controls many of the narratives we've been talking about, and that context doesn't allow for quality human communication and sense making.

And enter "the narrative" vs. using Jira to communicate

I think Jira's lack of ability to "model" a narrative was the opportunity that https://www.aha.io/ is trying to address—create a model that tells a different story.

Here is what the paper has to say:
"The role of the scientists will be to inform decision makers about the ecological options, the tradeoffs and uncertainties involved, and various strategies for influencing what happens on this landscape. However, scientists cannot inform us about the "correct" way to proceed, nor can they predict with certainty what will happen in the situation. So, the role of science in decision making for sustainability changes from problem solver (in the sense of providing a solution for the situation) to the role of facilitating understanding about the bio-physical realities of the situation."

I like "facilitating understanding about the realities of the situation".

"Future/Maybe"

https://mitpress.mit.edu/9780262545662/context-changes-everything/

I keep meaning to read that one, Barbara

Alicia Juarrero has had two different papers quoted today. Does that mean she gets into the backlog for future discussions? ;)

https://faculty.ung.edu/kmelton/Documents/DataWisdom.pdf

Will happily read Juarrero's works.

("Dynamics in Action" and "Context Changes Everything" were mentioned today)

Can that quote (and source) about effectiveness and efficiency get posted somewhere, here or in Miro?

It's in the link above

From Otter.ai transcript: "The value of the objectives pursued is not relevant in determining efficiency, but it is relevant in determining effectiveness, effectiveness. is evaluated efficiency is efficiency multiplied by value efficiency for a valued outcome.
The difference between efficiency and effectiveness that which differentiates wisdom, from understanding knowledge, information and data is reflected in the difference between development and growth. Growth does not require an increase in value development does. Therefore development requires an increase in wisdom, as well as understanding knowledge and information. "

The thing that makes monitoring "effective" maybe is that it builds wisdom for reals.

Thank you all, especially @Rein! This will occupy my mind space for a few days at least! These viewpoints and anecdotes are really insightful.
Rein Henrichs to Everyone 2:00 PM
when people ask me "what is the point of observability?" I give them this paper. 🙂

It is important to remember that these are not just teleological, but purposive (towards _human_ purposes) systems.

Good point. I've wondered how acting with intention fits into this mental model.

"recreate common ground" is a very important idea, thank you.

RE teleology vs purposiveness: "Darwin was a teleologist" https://link.springer.com/article/10.1007/BF00857687

RE common ground: Klein, Gary, Paul J. Feltovich, Jeffrey Bradshaw, and David Woods. “Common Ground and Coordination in Joint Activity.” In Organizational Simulation, 139–84, 2005.

That paper needs to be read by more people.

FWIW: Many things have been improved by taking an ecological approach, including the study of human performance.

Dunn, Winnie, Catana Brown, and Ann McGuigan. “The Ecology of Human Performance: A Framework for Considering the Effect of Context.” American Journal of Occupational Therapy 48, no. 7 (July 1, 1994): 595–607. https://doi.org/10/ghr9mf.
TL Troup to Everyone 2:07 PM
Re: restoration, there is also discussion about how environmental conservation is an offshoot of colonialism.
Rein Henrichs to Everyone 2:08 PM
Marshak, Robert J. Covert Processes at Work: Managing the Five Hidden Dimensions of Organizational Change. Berrett-Koehler Publishers, 2006.

Mcguigan, F. The Psychophysiology of Thinking: Studies of Covert Processes. Elsevier, 2012.
Dimensions of change (from Covert Processes at Work)

1. **Reasons**: Rational and Analytic Logics (this is the overt one)
2. **Politics:** Individual and Group Interests
3. **Inspirations**: Values-Based and Visionary Aspirations
4. **Emotions:** Affective and Reactive Feelings
5. **Mindsets**: Guiding Beliefs and Assumptions
6. **Psychodynamics**: Anxiety-Based and Unconscious Defenses

One of my favorites on the recursive nature of some holarchic systems (though he didn't call them that), which also explicitly deals with power dynamics:

Beer, Stafford. “Recursions of Power.” In Power, Autonomy, Utopia, 3–17. Springer, 1986.

sometimes not being legible (for the right audience) is a desirable feature as well

The "Covert processes at Work" is it a reference to this book? https://www.amazon.com/Covert-Processes-Work-Dimensions-Organizational/dp/1576754154