

- **Introduction**

- Code of Conduct
- Communication -- Miro and Zoom Chat
- Introduce Yvonne Lam
- Follow Yvonne on Mastodon: @yvonnelam@mastodon.social and bluesky, twitter: @yvonnelam

- **Discussion led by Yvonne Lam**

- The paper is available at: https://monoskop.org/images/5/58/Franklin_Ursula_The_Real_World_of_Technology_1990.pdf

- **Wrap**

- Thank you Yvonne Lam!
- Continuing the discussion: discord
- Next paper: Suggestions!
- Follow #PapersInSystems on mastodon



Teaching

1989 https://en.wikipedia.org/wiki/%C3%89cole_Polytechnique_massacre

https://www.researchgate.net/publication/242461431_The_Description_of_Technical_Objects

The Undercommons
- <https://www.minorcompositions.info/wp-content/uploads/2013/04/undercommons-web.pdf>

Teaching to Transgress
- <https://www.routledge.com/Teaching-to-Transgress-Education-as-the-Practice-of-Freedom/hooks/p/book/9780415908085>

How infrastructure works:
<https://www.amazon.com/How-Infrastructure-Works-Inside-Systems/dp/0593086597>

Ackoff video about cars & externalities.
<https://www.youtube.com/watch?v=OqEelG8aPPk>

Richard I. Cook, MD - The Bone Talk: Resilience and resilience engineering
<https://www.youtube.com/watch?v=9tYgRXologQ>

Shop Class as Soulcraft

Giving people "problems to solve" vs "work to do" - Bracken

VC backing pre-supposes scale is the prime objective -Shaun

Psalm for the Wild Built (scifi with robots grappling with these problems)
<https://www.therscribes.com/a-psalm-for-the-wild-built>

Control technologies - making things legible to the people not doing the work -Yvonne

Legibility from above / from below

Seeing like a state

De-Description of Technical Objects
https://www.researchgate.net/publication/242461431_The_De-Description_of_Technical_Objects

Work
Technologies
/ Control
Technologies

Holistic
technologies
/ prescriptive
technologies

technology as
practice and
its influence in
the social
context

Social & political
impact of Rx tech
is the key to
understanding
the entire tech
ecosystem

The scale
becomes not just
about "size" but
there is a positive
moral judgment
around it

Scale can be
necessary to
accomplish
a task.

Bay Area
VCs/Tech VCs
dictating culture
definitely assign a
moral imperative
on scale.

People are
seen as the
problem,
machines as
the solution

Models and
analogies are
always needed
for
communication

Rx technologies
remove human
decision-
making/judgment -
especially principled
judgment

Sometimes
this is a
good
thing...

If we push
specialization too
far, it becomes
dehumanizing
and undesirable.

Cross-functional
teams to
organize for
holistic
approaches

Move to
prescriptive
work removed
need for lengthy
apprenticeships

Satisfy need for
autonomy in one
area, willingly
sacrifice in
another

What is
technology,
what is
context?

Prescriptive
technologies
distance decision-
making from
production.

Yvonne mentioned:

<https://www.amazon.com/How-Infrastructure-Works-Inside-Systems/dp/0593086597> -> this book I assume

Yes (I think)— that's the one I pre-ordered based on her online recommendation 😊

1989

Ecole Polytechnique

also the year Taylor Swift was born since we're covering significant events of 1989 ;-)

https://en.wikipedia.org/wiki/%C3%89cole_Polytechnique_massacre

Very aware of this, since I lived in Montreal for several years and attended Universite de Montreal for about 3 years.

Memorialized on "STEM: Women Are All Over It" among scientists and engineers and astronauts.

in orgs with 100% managed desktops, you get all of the monitoring with less of the prescriptiveness, which is arguably even worse

talking about going from early discovery to commoditization:

when I read that, my first thought were the various stages in Wardley mapping

"Negative effects of over-specialization" ~Bruno

People in boxes:

Looking at this Zoom screen, while talking about putting people into boxes....

formal specs for jobs can also favor an outsider

Google had a whole project about signal and noise in their hiring process.

For software, I don't think we've actually done much to eliminate apprenticeships.

> Or to embrace them formally... many of my relatives are union electricians and their formality of apprenticeship seems much preferable to me than watching a lot of juniors get thrown into sink-or-swim and hope they find a mentor.

I think these aren't competing styles of work, they are the correct patterns in the correct contexts. The problems come when a style is forced to maximize control or profits or other non-human first systems.

> Like many companies with a good idea/product but which are forced into a certain scale by VC/investors that is not in the best interest of delivering their product value.

are the new, specialized folks disruptive in a good way? a bad way? (lowering the barrier to entry via moving away from a holistic and guild model - from Ross)

> I'm not convinced that specialization reduces barriers to entry, depending on what we're trying to gain access to.

FWIW they're also not binary. You can be prescriptive on a spectrum...this often makes sense (standardize undifferentiated heavy-lifting)

And on the topic of hollistic and prescriptive work it's about tradeoffs, but where we get into a slippery slope is when we internalize that prescriptive work is "good" by definition irrespective if it is what is appropriate in a given context.

If anyone else appreciates odd little synchronies, I recommend reading "A Psalm for the Wild-Built" while thinking about Franklin's book (and this chapter).

> This is not the first time I've heard that recommended.

<https://www.otherscribbles.com/a-psalm-for-the-wild-built>

there's a book... Shop Class as Soulcraft

"a computer built to last a lifetime, as they all are" - (A Psalm...)

@Jim Luke - it's amazing to hear you use that phrase after my colleague and I have been chanting "there's value in doing the work" all over our organization

Precisely!! As a ceramicist, I value the process to practice creativity and outsource memory (e.g., Lukasa memory boards).

> Everything else is an externality, however cooperation and shared imagination can be missing in holistic systems.

> *single-individual created and managed holistic systems.

> Yeah, that was part of the tradeoffs I was thinking about in relation to cross-functional teams.

this in response to the deluge of "let LLMs write all of our unit tests"

Prescriptive work lends itself well to keeping the illusion of control alive and well

One of the other distinctions that I found striking in here was the contrast between growth vs production models. For those who are familiar with it, it reminded me of Richard Cook's "bone" talk, where he distinguished between resilience engineering as enhancing existing resilience and resilience engineering as intervention and modification of the mechanisms of resilience.

> this one? <https://www.youtube.com/watch?v=9tYgRXolggQ>

> Yes. I saw him present it for the first time at REdeploy in 2019.

that's great Ross, thanks! And yeah, it's when you take the humanity out of the system where you end up forcing people to do things that they don't like in their current life context.

"coherence": I like that.

"on call for other people's systems"

:(

> Interesting. I recently read "A General Theory of Love" and the authors — psychologists posited that the intentional acts of regulating other people's systems (limbic systems, though there are other examples) are acts of love.

Definitely agree with wanting people to deal with incidents more holistically than with just a prescribed series of steps to execute.

> Perhaps that's a difference between the support process that needs to handle the majority of requests in a prescriptive way vs escalations that reach on call people who need to take more context into consideration to solve a problem.

meaning, I think that incident response should be paired and apprenticeship-based

(based on my last job's experience)

Incident *response* (triage, communication, escalation) can be proscriptive but incident *resolution* is a holistic skill..

(nod, check; resolution, yes. that's pattern recognition, comprehension, connections)

Interfaces/how prescriptive roles interact— improves as "practice" matures meaning we iteratively get better at defining those boundaries/interfaces. So "technology" improves.

cwodke invented OKRs? (!)

OKRs - important, regardless of urgency

(or rather, important but not urgent; return to that thing!)

Radical Focus is, so far, the best book I've read on OKRs.

Production and specialization only works where there's understanding.... In poetry and war, it's much harder to predict outcomes. I like how the Cynefin framework makes a distinction between domains where different habits excel:

<https://thecynefin.co/about-us/about-cynefin-framework/>

(I feel ill-used by OKRs, but any complex process pushed into a hierarchy can do that)

a named process can be simplified and sold, but it is corrupted and decontextualized in being sold as a named(tm) thing.

"agile manifesto" - holistic
SAFe - trying to make it prescriptive again

"legible to a person who is not doing that work"

(I had that fight with the sr PjM who was not a programmer)

big overhead trying to track hours spent on this or that, and WHY?

Agile processes vs the adoption curve is such a striking thing: the leading edge ~always do it as described: human centered, about productivity; the further back on the adoption curve, the more it's about control from the outset.

Hours feed receipts of the success of a prescriptive system.

@jim - later in the book she develops the idea of "reciprocity" in technologies, which ties in here

We have specialize people to feel empathy for the user ;)

Ouch. Yes, and... ouch.

ouch, definitely true at scale but it hurts to think of it like that. :)

oh right User Stories (and tasks, and things you need to do: like a trolley user doesn't care about laying cables, they just care that the trolley gets them there in a safe and timely way)

better than the many teams which... don't have this 😊

a trolley operator may be sensitive to some of these things a passenger doesn't notice
Like the metal used on the tracks has a different sound, or reduces braking...

I read trolley and for the first time I thought of the trolley car users in the classic trolley car problem. 😞

oh no!

the portfolio approach expects waste?

(VC-ism)

Yes! And in fact they treat it as gambling, and you can discard the external costs of all the 'losses'

pushing the costs on the losing bettors in that particular start-up

(the staff)
(the customers)

Yup. Very zero-sum thinking too.

Capturing a long-term stream of value, it doesn't matter which.

It's easier to accept zero sum when you are summing things that aren't yours and don't really affect you...

"Highlander" for a sector: "there can be only one!"

Software does not produce physical products, yes. It produces something else - containers of logic.

Highlander for sectors: th

versus "the sustainable business", "the lifestyle business"

true Shaun, and depressing. :)

Replying to "a trolley operator m..."

An equivalent from bicycles: frame metals are mostly equivalent to a rider unless you're super picky. But to repair, aluminum is WAY harder than steel to repair. And carbon fiber even more so.

a process and a set of tools, yes

teaching a process vs doing a process

I was just thinking about that for sewing!

<http://aristobit.com/blog/pages/habits-and-tools/>

self-selecting audience

"I'd teach it differently from how I'd do it."

(when I was with a bunch of high-powered consulting programmers in NYC: I ended up being the go-fer)

which was important when the client was unresponsive!

"Why don't you just..." vs. "How would I know that??"

prescriptive technologies meaning that folks can be called in to help and maintain things that needed more specialized whole-system knowledge to create

bicycles

This tangent makes me think about how specialized language/communication develops within prescriptive systems vs. holistic systems.

bicycles are an example!

Replying to "This tangent makes m..."

Does communication develop more robustly or quickly in prescriptive systems since there is more of a "tell need" rather than a "show need"?

I suspect there is a lot of design-for-maintainability in the developing world that we are unaware of in our wealthy nation bubble.

Replying to "I suspect there is a..."

I think I mean "comprehensibility" more than "maintainability."

Replying to "I suspect there is a..."

The ability to quickly acquire it as a holistic technology.

Sousveillance. What a wonderful word.

Replying to "I suspect there is a..."

I have a lot of colleagues in former soviet republics and it's impressive how much Ladas (soviet cars) are able to be repaired with a hammer and stick welder.

Replying to "This tangent makes..."

Probably slowly, as it takes a lot of communication to reach agreement around what the outcome (prescription) is.

observing people at work helps a lot in understanding if they'd want the thing

yeah I got the chance to travel a bit in sub-saharan Africa, and I can tell you that those people are super resourceful. They can keep stuff running with very minimal resources/training

we read you five by five

for three-month-old feature requests, it really helps to freshen them up

(by having a person's name who is current)

backplane and modules approach to software?

> Platforms vs Products

<https://www.youtube.com/watch?v=BYYbKQ5g61M>

Gladys, it's your turn to be on-call

field engineers advocating for backplane when something allowing module support is a better priority?

Replying to "<https://www.youtube...>"

I like how she stays with the plane as it lands safely.

I hear "single person's name" and I think about "truck number?"

why is that person authoritative in isolation?

oh what a good point Yvonne

Here's the example I was referencing about electric lamps - Akrich, not Stengers

https://www.researchgate.net/publication/242461431_The_De-scription_of_Technical_Objects

I think A LOT about bad knowledge handoffs losing context.

You're smart folks, you'll figure out the context. (not so much, really, no one is that smart)

I love a wiki with workflow and URLs and history and cross-references.

Maybe this is for a paper for future discussion— what about systems that can only measure “progress” then adjust/align based on things that are done (e.g. impossible to know what “should” be done until stuff is being done and adjusting). I've seen this successful in many enterprises. Kinda like a wrong-answer on Stack Overflow gets more feedback than an open-ended question.

("a wiki with workflow and URLs and history..." my notion of Jira)

JIRA tickets should either be very low context requests or high context requests for deeper conversation. Mid-context JIRA tickets are a dangerous anti-pattern.

[enforced workflow has been my bane with Jira]

I literally chose my employment this time largely based on them not using JIRA

Replying to "I literally chose my..."

Proxy for process management disfunction...

Replying to "I literally chose my..."

Yes!

Replying to "I literally chose my..."

and the structure we do have is so vastly better than every place I've used JIRA. We're using github tickets, which are not in fact actually good for most bigger orgs. But it's really well aligned with us.

Have any of y'all read Seeing like a State?

It goes really big into the idea of 'legibility'

On my reading list :)

Replying to "It goes really big i..."

was thinking about that in distinguishing legibility from above/below

Replying to "We don't teach manag..."

Or is still emergent/not commoditized enough to use it as a prescriptive technology and our current scale has outpaced our holistic understanding...

Replying to "Have any of y'all re..."

Sme.

Replying to "It goes really big i..."

Yes! I think they're almost entirely separate concepts.

Replying to "Have any of y'all re..."

*Same

I see Seeing Like a State everywhere.

Replying to "It goes really big i..."

Like inspectability / introspectability vs legibility.

Speaking of glue work, we should chat about our next paper.

Replying to "Have any of y'all re..."

the author ran off and started a farm, #goals

Replying to "We don't teach manag..."

Just simple things about understanding variability, sources of error or differences, and how to kindle enthusiasm in loosely connected people

Join the discord to continue the conversation 😊

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.