

## 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.

**Systems design explains the world: volume 1** by Avery Pennarun

<https://apenwarr.ca/log/20201227>

- **Introduction, led by Tammy Troup** / Mastodon: tltroup@digipres.club / [www.linkedin.com/in/tltroup](http://www.linkedin.com/in/tltroup)
  - Housekeeping -- Code of Conduct
  - Communication -- Miro and Zoom Chat
  - Timeline with half an hour to wrap up
  - General structure of topics as co-creation exercises (thanks Dawn Ahukanna)
    - Intro to section - 2m
    - Contribute to board - 5m
    - Summarize (paper did/did not say) - 3m
  - Transition to next section / continue conversation in Miro
- **What is systems design? led by Yvonne Lam**
- **Systems of control: hierarchies and decentralization, led by Tammy Troup**
- **Chicken-egg problems, led by Dawn Ahukanna**
- **Second-system effect, led by Andrea Magnorsky**
- **Innovator's dilemmas, led by Shaun Greene** / Mastodon: ductape@mastodon.social / [linkedin.com/in/ductape/](http://linkedin.com/in/ductape/)
- **Wrap**

## **Art of Gathering** Priya Parker <https://www.priyaparker.com/book-art-of-gathering>

Intentional communication

1. Decide why
2. Close doors
3. Create temp alternative world
4. Never start a funeral without logistics
5. Come as you are
6. Cause good controversy
7. Accept the ending



### Being Glue - No Idea Blog

Slides and notes for the Being Glue talk.



mitpress.mit.edu

### Control and Freedom

A work that bridges media archaeology and visual culture studies argues that the internet has emerged as a public medium by linking control with freedom and...  
[www.mitpress.mit.edu](#)

A comprehensive program to help groups of all sizes:  
Align interests • Support cooperation • Achieve shared goals

### PROSOCIAL



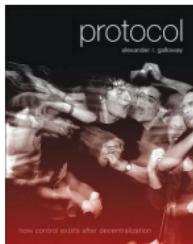
USING EVOLUTIONARY SCIENCE  
TO BUILD PRODUCTIVE, EQUITABLE,  
AND COLLABORATIVE GROUPS

PATRICK A. STEIN, PH.D.  
DAVID LEEANNE WILSON, PH.D.  
STEVEN C. HAYES, PH.D.  
FOREWORD BY RICHARD M. RYAN, PH.D.

davidsloanwilson.world

### Prosocial

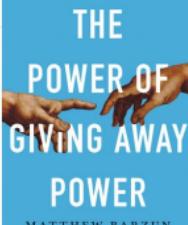
This book, coauthored with two leaders in Contextual Behavioral Science, provides a comprehensive guide to Prosocial, a practical framework for working with single groups and multi-group cultural ecosystems to become more prosocial and adaptable...



mitpress.mit.edu

### Protocol

A WORK FROM MITRE'S CENTER OF DISRUPTION PRESS  
HOW THE BEST LEADERS  
LEARN TO LET GO



www.penguinrandomhouse.com

The Power of Giving  
Away Power by  
Matthew Barzun;  
9780525541042 |  
PenguinRandomHouse.com  
Books

"This book is a breakthrough. It's beautifully written, perfectly timed and heralds a new way forward. I'm buying a dozen copies to share with friends and colleagues." —Seth Godin,...

www.goodreads...



### Maverick: The Success Story Behind the World's Most Unusual Company

The international bestseller that tells how Semler tore...



cuttlefish.substack.com

### 20 Things I've Learned as a Systems (Over) Thinker

This list has received positive feedback. It seems to be zoned in for people trying to coincide with Monday morning to help folks navigate their week. Take care of yourself. Your brain is working overtime all the time. Practice "radical" recovery.

### goodreads

www.goodreads.com

### Goodreads

Discover and share books you love on Goodreads.



### SORTING THINGS OUT CLASSIFICATION AND ITS CONSEQUENCES

SETHFREY C. BONNER AND SUSAN LEIGH STAR

direct.mit.edu

### Sorting Things Out: Classification and Its Consequences

A revealing and surprising look at how classification systems can shape both worldviews and social interactions. What do a seventeenth-century morality table tell us?

## Chicken and egg problems

Archetypal systems design question - Which one comes first? Alternative question - Where do we begin and where does "it" begin?

Nick Sousanis - Unflatten(n/r)ing



The answer to the riddle is "neither".

Some chicken-egg problems:

- Electrical distribution networks
- Phone and fax technologies
- The Internet
- IPv6
- Every social network (who will use it if nobody is using it?)
- CDs, DVDs, and Blu-Ray vs HD DVD
- HDTV (1080p etc), 4K TV, 8K TV, 3D TV
- Interstate highways
- Company towns (usually built around a single industry)
- Ivy league universities (could you start a new one?)
- Every new video game console
- Every desktop OS, phone OS, and app store

The defining characteristic of a chicken-egg technology or product is that **it's not useful to you unless other people use it**. Since adopting new technology isn't free (in dollars, or time, or both), people aren't likely to adopt it unless they can see some value, but until they do, the value isn't there, so they don't: a conundrum - (to who?).

It's remarkable to me how many dreamers think they can **simply outwait the problem** ("it'll catch on eventually") or **outstrip the problem** ("my new mobile OS will be great, we'll just subsidize a few million phones"). And how many people think getting past a chicken-egg problem, or not, is **just luck**.

If you're building a **one-sided, two-sided, or three-sided market**, you'd better understand systems design, chickens, and eggs.



[@nsousanis@mastodon.social](https://mastodon.social)

**Nick Sousanis**  
(@nsousanis@mastodon.s

Attached: 1 image Been reading, thinking, planning, composing, and thinking about nothing (and beginnings) for about a year now. It's nice... good to make drawings about it finally... Onward. #nostos #unflattening 2



Who benefits?

nonprofitquarterly...

**Building Adaptive Communities through Network Weaving - Non Profit News | Nonprofit Quarterly**

This is an article that focuses on the basic principles of network weaving, using one grounded example to bring the theory to life. We recommend reading this back at Carl Sussman's article (see Winter 2003, "Making Change: How to Build...

what is the 'minimum viable network'? what is the minimum number of people who can use the tool and find value?

## Other questions



How to deal with the co-dependency?

## Answers

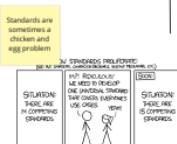


## Examples



Maybe in some cases there are some already existing and "similar enough" chickens or eggs you may use to convince people to use your technology?

But not just like with real chickens and real eggs, there's a way to do it by bootstrapping from something smaller. The main techniques are to lower the cost of adoption, and to deliver more value even when there are fewer users.



The POF framework from Nonprofits.org really can help you move from platform development and adoption to creating a sustainable space where various people exchanging value related...

Boundariesless - Enabler for the future of Organizing



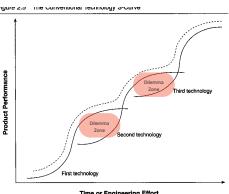
Boundaryless - Enabler for the future of Organizing  
Boundariesless: Enabling the global economy and breaking the hierarchy and organization. Design for the age of complexity

## Types of Chicken and egg systems

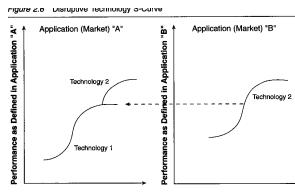
- 1 market
- 2 market
- 3 market

## Innovator's Dilemma

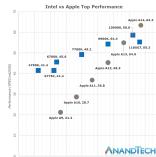
S-Curves



Source: Clayton M. Christensen, "Exploring the Limits of the Technology S-Curve, Part I: Component Technologies," *Production and Operations Management*, no. 4 (Fall 1992): 341. Reproduced by permission.



Source: Clayton M. Christensen, "Exploring the Limits of the Technology S-Curve, Part II: Component Technologies," *Production and Operations Management*, no. 4 (Fall 1992): 341. Reproduced by permission.



A dilemma is a difficult choice between two or more unfavorable alternatives. In the concept of technology, the choice is often for leaders to decide to continue investing in the current technology, or if the time is right to invest in a new technology.

Wait too long to invest and your product/technology gets left behind and loses competitiveness, i.e., Intel vs Apple silicon. Or invest in new technology that might cannibalize existing product. Jump too soon (immature technology) and lose your existing market, jump to fast and get beaten by competitors in current curve.

## Dilemmas you have experienced

supporting  
SOAP/SOA  
services

investing in  
Flash/Flex for  
rich internet  
experiences

working on BMW's  
microdrive (quarter-sized  
hard-drive) tech in  
late 90s as flash  
began to appear

Making CV algorithm  
work with black and  
white (easy to  
develop) or colorful  
(more beneficial but  
difficult to develop)  
images

Investing in  
preventing failures  
from happening in a  
system.  
Preventive vs.  
Reactive

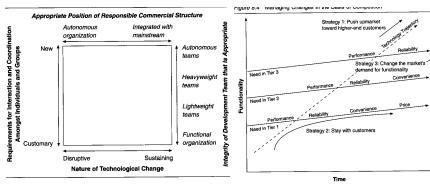
## Discussion area

Like paradigm  
shifts (Kuhn)?  
but for  
business

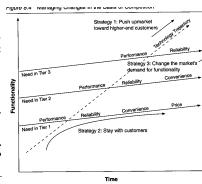
capitalism  
forces the  
incumbent  
to retreat up

Many  
competitors  
fail

Incumbent  
buys  
competitor



[PDF] The Innovator's Dilemma | Semantic Scholar  
Innovator's Dilemma: my search for an answer to the puzzle of why the best firms can't seem to stay on top. This is a must-read for anyone who studies genetics, avoid the trap of thinking that the best firms are the ones that come along only every thirty years...»



## What is systems design?

What is systems design? led by Yvonne Lam

### Labor issue

Who does it?

How is it  
accomplished?

By its nature, it  
can come from  
anywhere



When does the  
system cross the  
threshold where it  
needs explicit  
"design"?

How do we get  
better at detecting  
this threshold and  
identifying when it  
happens?

Systems  
work can  
"come from  
anywhere"

### Glue work



Dealing with  
components  
ownership &  
system "grey  
areas"

system  
designer &  
institutional  
power

a person without  
the title, but with  
other kind of  
influential power?

Once you reach a certain  
level, your job description  
doesn't tell you what to do  
explicitly, it is up to you to find  
out what needs to be done.  
Systems thinking helps a  
lot here.

additional reading:  
[https://cutlefish.substack.com/p/20-things-i've-learned-as-a-systems-thinker](https://cutlefish.substack.com/p/20-things-ive-learned-as-a-systems-thinker)



 cutlefish.substack.com

#### 20 Things I've Learned as a Systems (Over) Thinker

This is my received positive feedback.  
It seems to have struck a nerve. Sending  
it to coincide with Monday morning to  
help folks navigate their week. Take care  
of yourself, and if you're not doing  
overtime-all the time, Practice "radical"  
recovery.

the solution to leadership woes is often more leadership, being explicit about how to step into power, not only about who has power, is key

## Systems of design

systems of control: hierarchies and decentralization, led by Tammy Troup



# Second-system effect

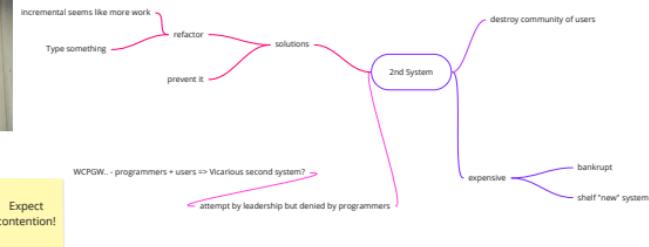
Second-system effect, led by Andrea Magnorsky

Second system effect arises through the following steps:

- Starts small and is built incrementally
- Over time, the product grows in popularity => becomes profitable.
- As the system evolves, getting more and more hacks on top. Early design tradeoffs start to be a bottleneck.
- The team figures out a new design that would fix all the things (And they're probably right.)
- Since the product is already popular, it's easy to justify spending. A project is launched to rewrite everything from scratch.

## Consistent results

- Slower than predicted
- Solves known problems.... and also creates new problems 😊
- Time split between old and new systems
- As schedule slides, new project is forced on to users. The users are not happy



How many second systems of you built in your career?

Me: 3

I spent the last few months getting a team out of the second-system mentality and adopt an evolutionary approach...

"strangler pattern" (needs a better name) is ex. of avoiding the second-system

In my experience some teams used the "first" system anyway, ignoring the second one, because it was buggy and nobody knew its risks (aka the evil you know)  
====

a mindset of "perpetual beta" can help get away from first vs second system experiences

really interesting work in the artifacts from this workshop on keeping humans in the loop

[sites.google.com](http://sites.google.com)



against Workshop

Artificial science has been traditionally aimed around the individual as the subject of study. In contrast, studying concepts learning, perception, memory, language, and neuroscience typically isolate their subjects as...



perpetual beta - our new normal

The perpetual beta model describes how to build products that cross professional networks, communities of practice, and cultures. It's important that it's necessary to connect all three in our work to bring in new ideas and perspectives - as well as us...

## Wrap up

Kudos to  
Tammy the  
time  
constraint  
worked!

When I tried to pull it all together, it fell into two parts:

- organizing for systems (roles of integrators and glue people and what we reward and don't based on what we (choose) to make visible/see; structures for decision making, information flow and workflows, etc.)
- major considerations for surviving and thriving as *econo-socio-technical systems move through the evolutionary lifecycle*: beginnings (chicken and egg); middles (second systems) and endings (Innovator's dilemma).

Discord server: I  
(Ruth) will follow  
up with an email  
to those who  
indicated interest  
in the chat.

TL Troup to Everyone 2:00 PM

Discord link

<https://discord.com/channels/1041110468762292235/1087094910190112900/1092492017092796496>

Ivan Rublev 2:04 PM

How to get an invite to the Discord?

TL Troup 2:06 PM

Ivan, I think the channel that I linked is public, but other channels are used by class alumni.  
@ruth, will Ivan need an invitation to the server to access the papers-in-system channel?

Simon Kohlmeier 2:08 PM

I'd also be interested in discord access if that is possible. The link says there are no channels I have permissions for

Ivan Rublev 2:09 PM

Same here,

Lari Hotari to Everyone 2:09 PM

I heard someone mention that there's also a Discord channel to continue discussions later.  
Where can I find the way to join the Discord channel? This is very interesting discussion and I'd like to keep connected.

Well, yes. They did. They did it by making the **single worst strategic mistake** that any software company can make:

They decided to rewrite the code from scratch.

Don't throw away all the code base at once - tests of the legacy code are its best documentation :)

People always think they can do better than others, when they don't think about the context in which things were built.

The idea that new code is better than old is patently absurd. Old code has been used. It has been tested. Lots of bugs have been found, and they've been fixed. There's nothing wrong with it. It doesn't acquire bugs just by sitting around on your hard drive. Au contraire, baby! Is software supposed to be like an old Dodge Dart, that rusts just sitting in the garage? Is software like a teddy bear that's kind of gross if it's not made out of *all new material*?

It's important to remember that when you start from scratch there is absolutely no reason to believe that you are going to do a better job than you did the first time. First of all, you probably don't even have the same programming team that worked on version one, so you don't actually have "more experience". You're just going to make most of the old mistakes again, and introduce some new problems that weren't in the original version.



Yvonne Lam (she/her) 1:11 PM

[https://cuttlefish.substack.com/p/20-things-i've-learned-as-a-systems](https://cuttlefish.substack.com/p/20-things-ive-learned-as-a-systems)

TL Troup to Everyone 1:15 PM

Yes! The Jo Freeman article

Nick Travaglini (he/him)to Everyone 1:15 PM

<https://mitpress.mit.edu/9780262572330/protocol/>

<https://mitpress.mit.edu/9780262533065/control-and-freedom/>

Bruno Felix to Everyone 1:16 PM

orgs/companies do have similarities to political bodies

Nick Travaglini (he/him)to Everyone 1:17 PM

[https://en.wikipedia.org/wiki/Race\\_After\\_Technology](https://en.wikipedia.org/wiki/Race_After_Technology)

^ A few books on internet technology and control

laura nolan to Everyone 1:17 PM

Avery has another article about what these at the top know:

<https://openwatt.ca/log/20190926/#~text=Tol%20paraphrase%20the%20book%2C%20the%20and%20to%20ratify%20good%20decisions.> . (Tldr not much)

Corstian Boermanto Everyone 1:20 PM

Fascinating read on the process of pushing decision making power down through the organisation:

<https://www.goodreads.com/book/show/32994.Maverick>

christina bowento Everyone 1:21 PM

Maverick is classic

Bracken M to Everyone 1:26 PM

Yes, I love the connection of the chicken-egg problem and the second-system effect. Such a well written article with flows like that.

Bracken M to Everyone 1:28 PM

I like that point Bruno, the chicken/egg problem definition is often around things that have a "done" state, and that is rare in software. So if your system design and definition relies on a "done" you may be approaching it less effectively.

Bracken M to Everyone 1:29 PM

Yvonne, that sounds like the best kind of person to have in a standards group! the wrong "why" is usually the root of it not succeeding.

TL Troup to Everyone 1:29 PM

I'm intrigued by ideas of attachment when integrating into new systems. In emergent Chick/Egg systems, one can create barriers if they expect more maturity. You really need a beginner's mindset when learning or integrating new systems.

Bruno Felix to Everyone 1:29 PM

To @Yvonne's point it also connects with internal tooling

Matthew Reinboldto Everyone 1:29 PM

@christina - What was that exercise/process/framework you found beneficial? Was it the Network Weaving?

christina bowen 1:30 PM

<https://boundaryless.io/?pdtsite=1>

christina bowen 1:30 PM

It's called the Platform Design Toolkit

christina bowen 1:30 PM

It's also on the board, but the thumbnail is for the main site

Bracken M to Everyone 1:31 PM

Standards are just as often about control from a group vs solving in a way that actually involved all the systems involved.

christina bowento Everyone 1:31 PM

What's the minimum viable standard..

Bracken M to Everyone 1:31 PM

html :)

Nick Travaglini (he/him)to Everyone 1:32 PM

[https://www.goodreads.com/book/show/276044.Einstein\\_s\\_Clocks\\_Poincar\\_s\\_Maps](https://www.goodreads.com/book/show/276044.Einstein_s_Clocks_Poincar_s_Maps)

Matthew Reinboldto Everyone 1:32 PM

Time is an essential component of the standards discussion - if people have done as they do without the standard, justifying the "WHY NOW" is essential - a clear understanding of what changed is important.

Yvonne Lam (she/her)to Everyone 1:33 PM

Bowker and Star's Sorting Things Out is great (and open access) on standards <https://direct.mit.edu/books/book/4738/Sorting-Things-Out-Classification-and-Its>

christina bowento Everyone 1:34 PM  
We need humans in the loop!

Matthew Reinboldto Everyone 1:35 PM  
Standards are the artifact that comes out of that process.

Matthew Reinboldto Everyone 1:34 PM  
Standards are just a means to an end - the creation of a conflict resolution process where once there wasn't one.

Bracken M 1:35 PM  
I like that creation of conflict resolution process phrase, that's great!

Bracken M to Everyone 1:36 PM  
Bruno, that ties into the systems of control we already talked about too.

Bruno Felix to Everyone 1:36 PM  
Yep!

Bracken M to Everyone 1:38 PM  
I like that not only do they not have the experience, they only know the surface problems and so solve those well, but those problems are often far removed from the real problems causing the re-write in the first place.

Bruno Felix to Everyone 1:39 PM  
It also creates expectations that frankly set everybody for failure  
Bracken M 1:40 PM

It is very painful to watch projects progress that you already know are going to fail but can't stop.

christina bowen 1:42 PM  
A lot of that in human experience right now! ☺

Krisztina to Everyone 1:43 PM  
this is why we end up dealing with new problems  
besides the changed context

christina bowento Everyone 1:44 PM  
"Accidental Complexity" its a great book name, Abdull

Matthew Reinboldto Everyone 1:44 PM  
To the question of why this keeps happening - don't underestimate the power of signaling - new people, new technology, new approach are all promises that this time it will be different, that something has changed will lead to different results. This promise of the new creates a pull for capital and resources. Often the line "Insanity is doing the same thing over and over [with the same people, doing the same things] and expecting different results".

Bracken M to Everyone 1:44 PM  
Something related to System Design is System Vision I guess, the ability to see how the current system works and how it might evolve to solve problems. In relation to Corstian's situation for example, it's hard to convince people they're going down a wrong path when they can't see a broad enough view to understand your admonitions.

Matthew Reinboldto Everyone 1:44 PM  
Not saying that is right, but there is a lot that goes into things.

Kristzina to Everyone 1:46 PM  
Rahul +1

Corstan Boermans Everyone 1:46 PM  
Cognitive accessibility!

Rahul Agrawal (+5:30 GMT)to Everyone 1:45 PM  
It reminds me of someone telling me - in an attempt to build the best - don't loose the good also

christina bowen 1:46 PM  
☒ "The perfect is the enemy of the good"

Nick Travaglini (thehim)to Everyone 1:49 PM  
<https://archive.org/details/the-real-world-of-technology>

Kristzina to Everyone 1:49 PM  
wardley maps FTW

Srini to Everyone 1:49 PM  
Even after building a second system, I have seen cases where we have to do a lot of change management to bring in customers to the new system. We had replaced a lotus notes systems to web, but still took a time to convince people to use it (even it was hacky, people are used to it and attached to it).

TL Troup to Everyone 1:48 PM  
Great point, Rahul.

Rahul Agrawal (+5:30 GMT) 1:51 PM  
Thx. I pass on the credit to the mentor who taught me this .

Bracken M to Everyone 1:50 PM  
When is not investing in current problem to invest in the new one an ill-defined chicken and egg problem?

Bracken M 1:52 PM  
the egg disrupted the chicken  
Krisztina to Everyone 1:52 PM  
.D

Logan Dean (theyhem)to Everyone 1:54 PM  
The Structure of Scientific Revolutions

TL Troup to Everyone 1:50 PM  
@Cristina, are there "innovator's dilemmas" in living systems?

Bracken M 1:51 PM  
maybe you can see that in JavaScript and other web frameworks and heml/web components themselves.

christina bowen 1:53 PM  
Yes, but also the competitive forces are overestimated. Cooperation is much more adaptive than we humans generally think (in mainstream culture)

christina bowen 1:54 PM  
If you really want to dive into that, the work that David Sloan Wilson is doing on human evolution in groups is great

TL Troup 1:54 PM

Excellent, thank you for the resource.

christina bowen 1:55 PM

[https://en.wikipedia.org/wiki/David\\_Sloan\\_Wilson](https://en.wikipedia.org/wiki/David_Sloan_Wilson)

