

Hi there!

Please come on in, and...

- Take a seat at one of the tables
- Plot some of your past research communications experiences in the quadrants provided and share with those at your table

What is the Scholarly Commons?

- An idea
- A unifying force
- Principles and rules
- Open, FAIR, and citable
- A culture
- Something that the FORCE11 Scholarly Commons Working Group (and subgroups) have been working on for the last two years
- Related to 30+ submissions at FORCE2017
- A new system of scholarship and science

The Scholarly Commons

A systems perspective

Overall goal of this ambitious workshop

Removing biases and blinders

open a different type of dialog about the realities of scholarly communications so that we might see more clearly what it is we are working with and why/how those things came to fulfill the different roles they do now and decide what are the things that matter most in the future

Session One

A systems perspective of the
past and present

If a factory is torn down but the rationality which produced it is left standing, then that rationality will simply produce another factory. If a revolution destroys a government, but the systematic patterns of thought that produced that government are left intact, then those patterns will repeat themselves.... There's so much talk about the system. And so little understanding. (Robert Pirsig, Zen and the Art of Motorcycle Maintenance)

Goals of Session One

- a better understanding of the motivations and economics of the current system and how we got here
- Be explicit about things that have only been implicit
- answers to the question of why we do scholarship
- arrive at a concrete understanding and framework to judge future approaches in a systemic way

A workshop in three sessions

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3. [Systemic change](#)

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Session one in context

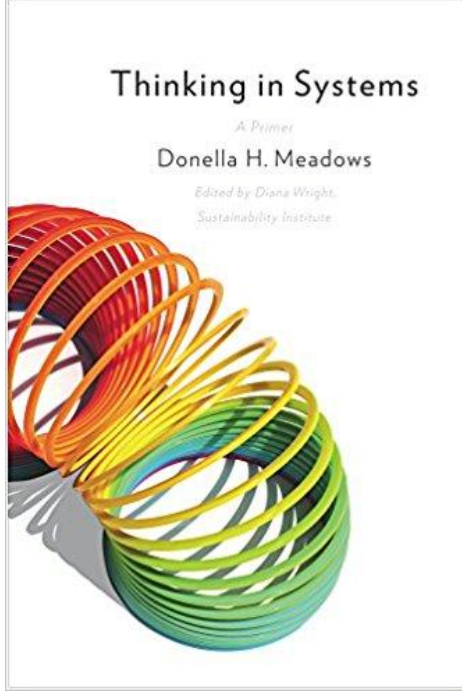
Reimagining research communications, but focusing on functionalities rather than high-level principles.

Madrid vs this: high-level principles vs low-level elements, structuralism vs functionalism?

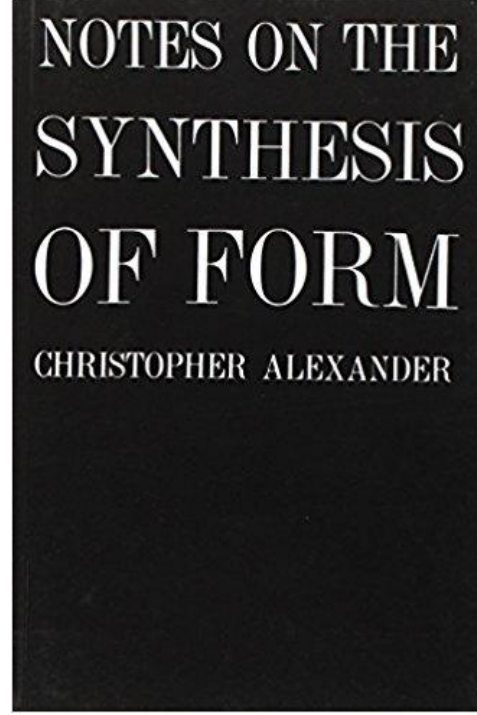
18 principles were further synthesized into what we have now (generative principles, from which all other principles could be derived)

List the three principles

Two useful books



Thinking in Systems: A Primer, by
Donella H. Meadows ([Publisher](#),
[Amazon](#))



Notes on the Synthesis of Form, by
Christopher Alexander ([Publisher](#),
[Amazon](#))



The GDR as a centrally planned step forward of socialism. Checkpoint Charlie circa 1988 (Bundesarchiv / unbekannt / CC-BY-SA 3.0)

Understanding the context

“Christopher Alexander discusses the process by which a form is adapted to the context of human needs and demands that has called it into being. He shows that such an adaptive process will be successful only if it proceeds piecemeal instead of all at once.... When the designer, in our own self-conscious culture, is called on to create a form that is adapted to its context he is unsuccessful, because the preconceived categories out of which he builds his picture of the problem do not correspond to the inherent components of the problem, and therefore lead only to the arbitrariness, willfulness, and lack of understanding which plague the design of modern buildings and modern cities.” ([source](#))

Intro to systems thinking

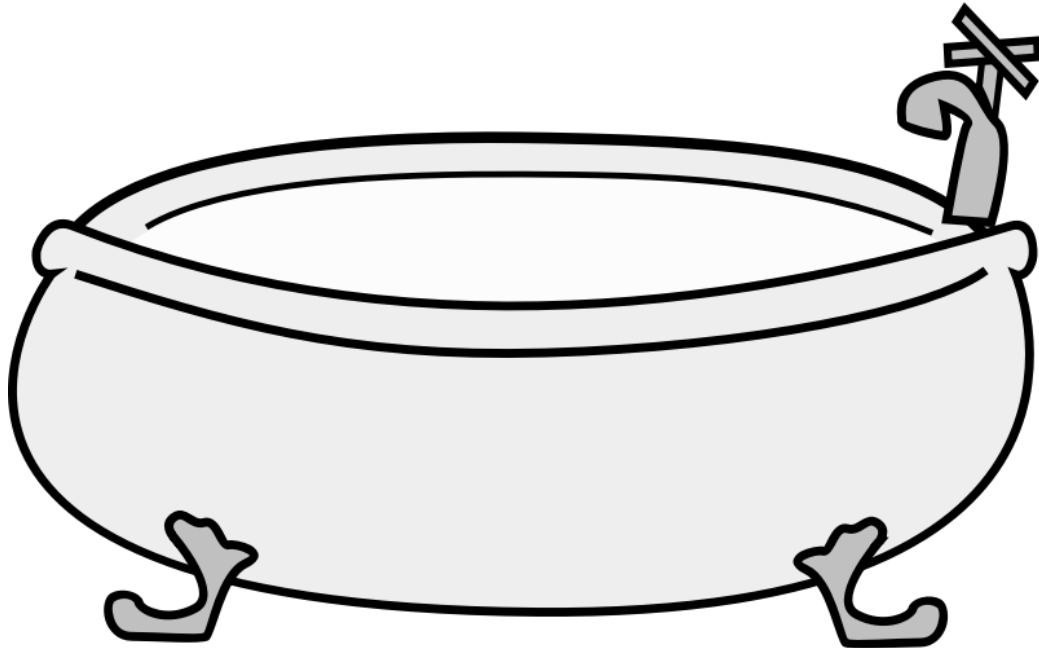
“A system is an interconnected set of elements that is coherently organized in a way that achieves something.”

Or more simply stated...

A system must consist of three kinds of things:

- Elements
- Interconnections
- A function or purpose

Example: a bathtub system



(thanks to [monicams](#))

What are the elements of a bathtub system?

- Basin
- Faucet
- Claw feet
- Water (hot, hopefully)
- Plug
- ...

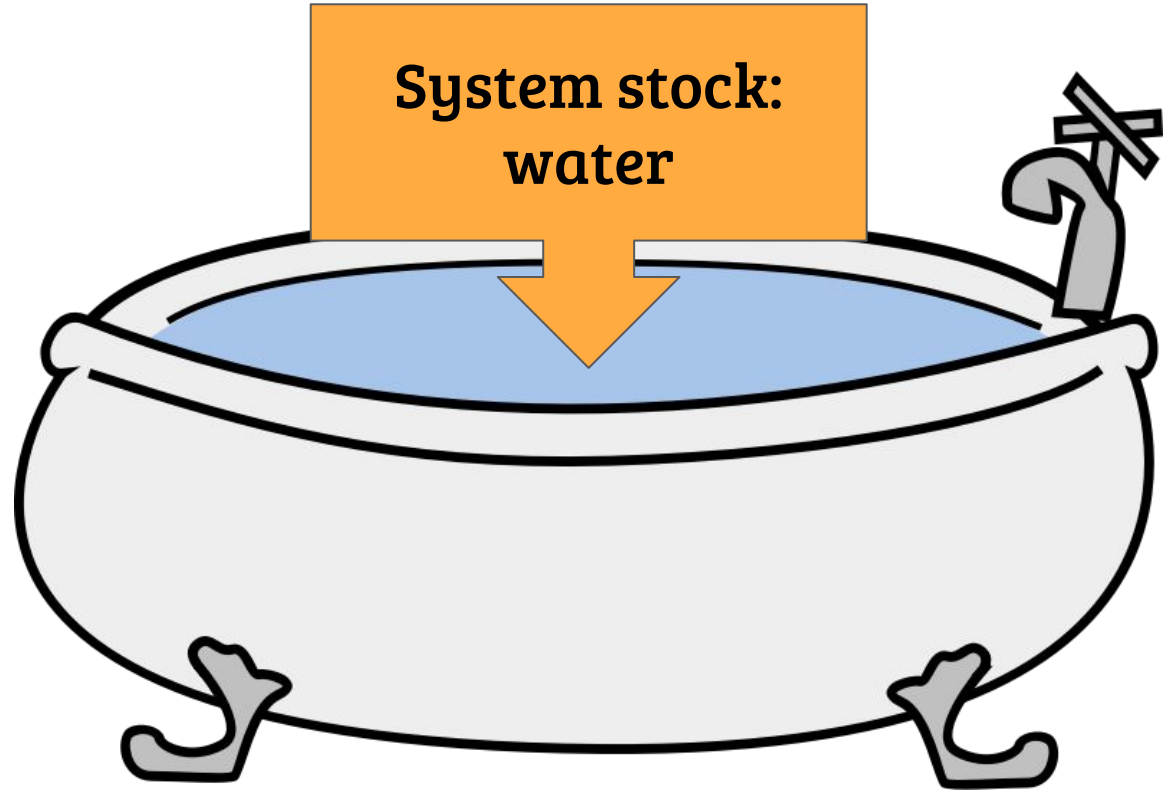
What are the interconnections of a system?

Interconnections are the relationships that hold the elements of a system together.

- Water flows into the tub when the faucet is open
- Water flows out through the drain when the drain is open

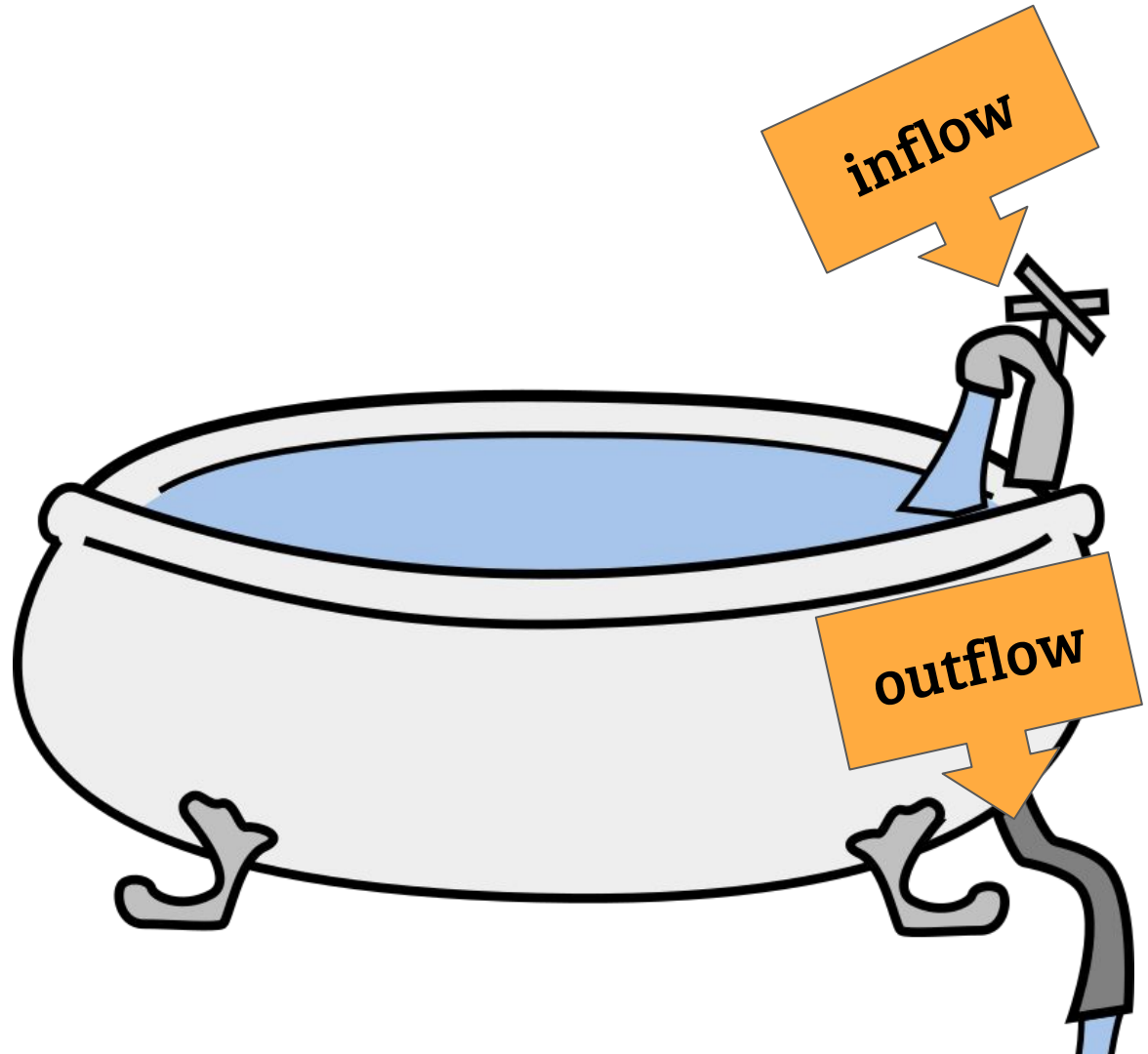
Stocks

“Stocks are the elements of a system that you can see, feel, count, or measure at any given time. It may be the water in a bathtub, a population, the wood in a tree, the money in a bank, your own self-confidence.”

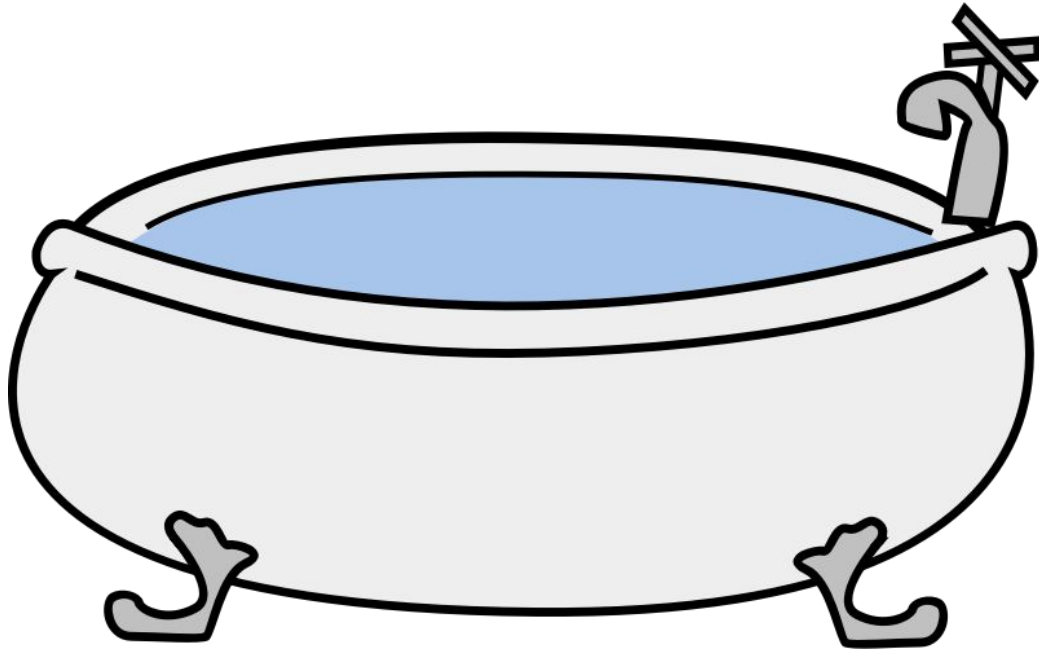


Flows

“Stocks change over time through the action of a flow. Flows are filling and draining, births and deaths, purchases and sales, growth and decay, deposits and withdrawals, successes and failures.”



What is the purpose of a bathtub system?



**“An important
function of almost
every system is to
ensure its own
perpetuation.”**

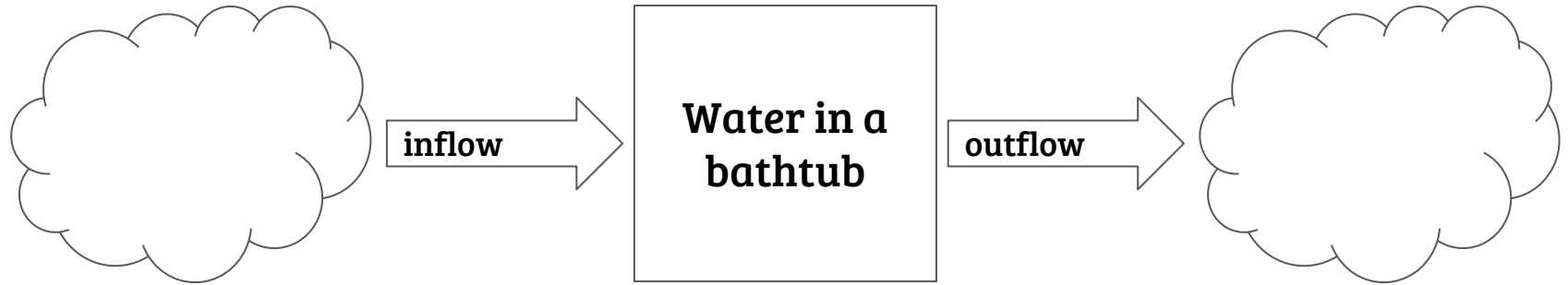
System dynamics

“A stock can be increased by decreasing its outflow rate as well as by increasing its inflow rate.”

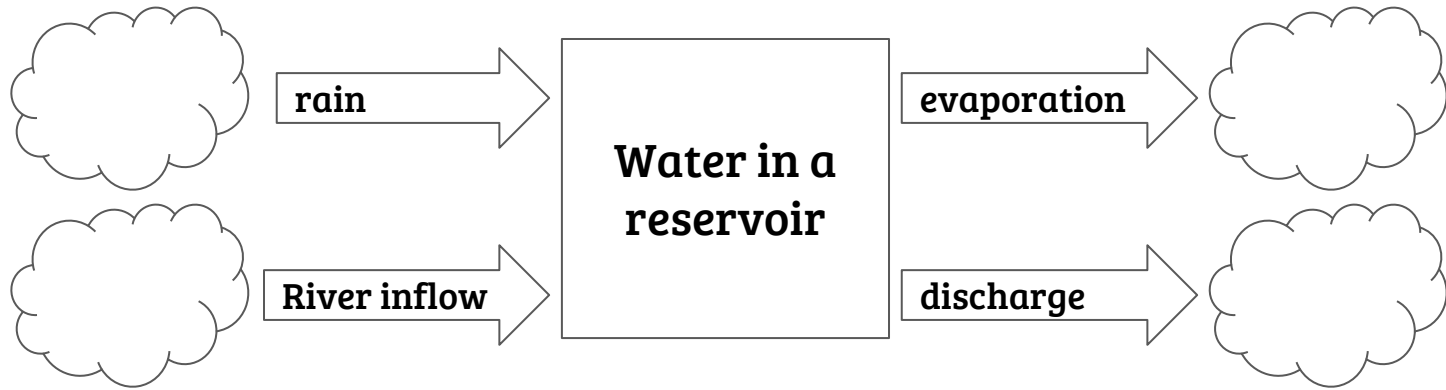
“A stock takes time to change, because flows take time to flow.”

**Systems happen all at
once.**

Diagramming a system



Diagramming a system with multiple flows



Economics of system dynamics

- As long as the sum of all inflows exceeds the sum of all outflows, the level of the stock will rise.
- As long as the sum of all outflows exceeds the sum of all inflows, the level of the stock will fall.
- If the sum of all outflows equals the sum of all inflows, the stock level will not change; it will be held in dynamic equilibrium at whatever level it happened to be when the two sets of flows became equal.

“Stocks allow inflows and outflows to be independent and temporarily out of balance with each other.”

“A feedback loop is the basic operating unit of a system.”

Feedback loops

“A feedback loop is formed when changes in a stock affect the flows into or out of that same stock.”



Work Time!

Goal: Create a systems perspective of the current system

Be prepared

We will step into the future of research communication in session 2.

Some starter future systems: <https://goo.gl/zkUWCW>

Session Two

Systemic visions of the future

What if we just started from scratch and designed a system for current technology instead of trying to adapt our current pre-digital system? Such an exercise would cause us to examine our assumptions about the way things should be. And, once we knew what a system should look like, we could see how close we were to achieving it.... We will be engaging the FORCE11 community and our allies around the world to articulate their visions for the Scholarly Commons. (Maryann Martone, [The Future is a Happy Place](#))

Goals of Session Two

- open our minds to the possibility that there is more than one alternative for how to move forward and what those alternatives could be
- extract from these alternatives systemic elements, interconnections, and purposes that would be desirable for a future system to have



Checkpoint Charlie as a tourist attraction circa 2011 (Esosan / CC-BY-SA 3.0)

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**“Paradigms are the
sources of systems”
(Donella H. Meadows)**

Session Three

Systemic change

Right now, the research system works in an extremely complex manner where pecking orders, legitimacy, memory building through proper archiving and bibliographic efforts and even communication :-) takes place. This is the given and we must start from there while, simultaneously conjuring up the right vision for the future. In short we must simultaneously have the right vision of the present and the right vision of the future to have a chance to chart the right course between now and the future. The word "right" occurs three times in this sentence and it points to the fundamental difficulty of the task. In fact it is daunting, but it should not discourage us. (Jean-Claude Guédon)

Goals of Session Three

- identify systemic levers and how they could be used to move towards the future

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Intervening in the current system

From Dona Meadows, in order from least effective to most effective:

12. Numbers
11. Buffers
10. Stock and Flow Structures
9. Delays
8. Balancing Feedback Loops
7. Reinforcing Feedback Loops
6. Information Flows
5. Rules
4. Self-Organization
3. Goals
2. Paradigms
1. Transending Paradigms



Bundesarchiv, Bild 183-1990-0622-028 / Grimm, Peer /
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“If you want to change the system, you should eventually be willing to become the system.”

Derk Loorbach

Transition to some other commons activities @F17

- Are we ready for a scholarly commons? (plenary session)
- Mind the Gap: Scholarly Commons from theory to practice
- What do (commons-compliant) researchers really want?
- Decision Trees Hackathon
- Sounds good in principle - do the principles of the scholarly commons work in practice?
- The 2020 project - moving from petitions to commitments