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Elements of a Systemic Sensibility: An Introduction
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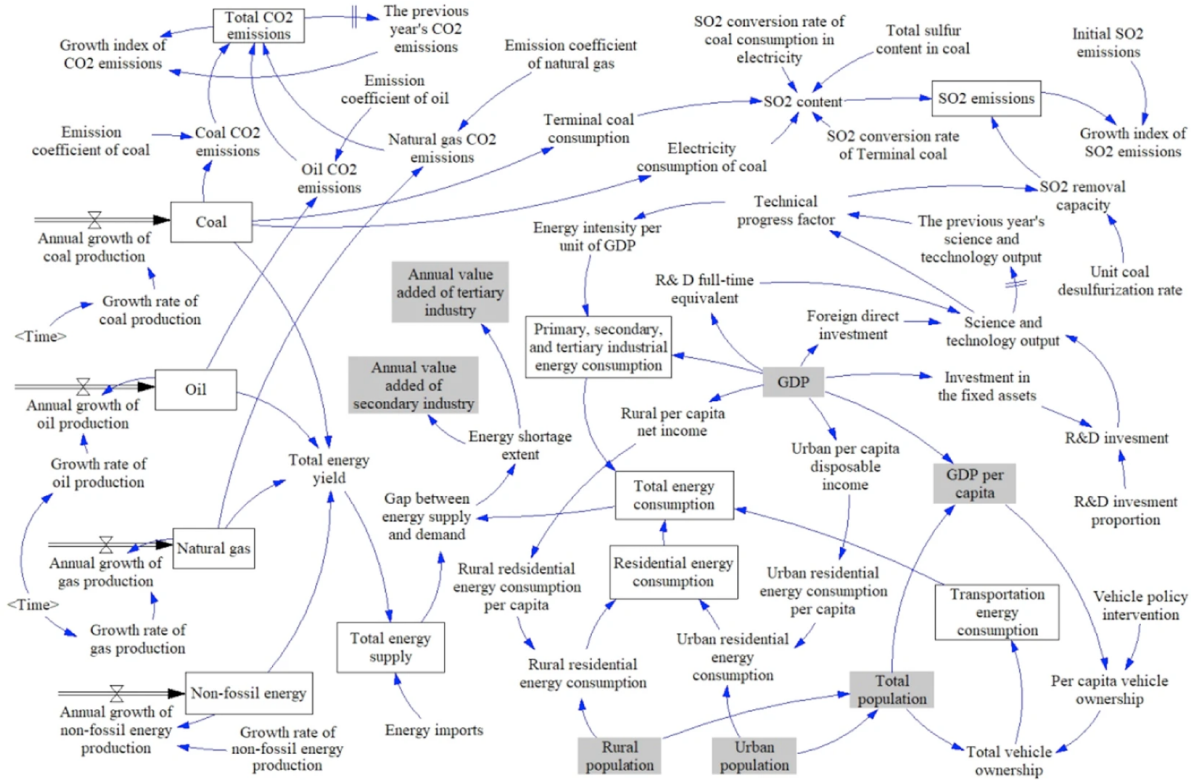
We Always Share the Same Water Supply

Systems[1] Thinking has a problem.

The phrase "Systems Thinking" entered the popular management vocabulary after Peter Senge's 1990 book "The Fifth Discipline: The Art of Science of the Learning Organization"[2] became the "It" leadership book of the decade. Central to that book was a pithy and persuasive treatment of the fifth discipline - Systems Thinking itself. Many people wanted to learn more, so they went to the source - academics working in the field of System Dynamics.

That's when the problem started.

Look at this:



[1] I'm defining a system as a set of elements related to one another so that a change in the performance in one causes a change in all, and where the failure of one element destroys the system.

[2] Peter, Senge. "*The Fifth Discipline. The Art & Practice of Learning Organization". Doubleday Currency, New York* (1990).

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According to the authors, this is a System Dynamics model of urbanization under energy constraints in China.

What happens when you see this? Eyes glaze over? Mine too.

That's the problem.

There is an immense gap between the way that academically trained system dynamists understand and communicate about the world and the way that rest of us do. Even my work in crafting casual loop diagrams - a far more qualitative approach than the modeling above - requires a day or so of literacy training where people learn the basic vocabulary and grammar of making these kinds of loops. Most people don't have the time, and most people don't care.

Decision makers don't have to know how to build these models to profit from them. After all, they consider analysis from people with expertise beyond their own all the time, and frequently take their counsel. The challenge with systems thinking is that it's analysis often suggests solutions that are unconventional and counterintuitive. It's easy to dismiss a systems-informed solution when you don't understand the particular and peculiar type of analysis that precedes it.

Take, for example, the system-based knowledge that the best way to prevent large forest fires is to allow small forest fires to burn unabated, and so reduce the fuel for fires on the forest floor.[4] Prevent fires by allowing fires? That's not only a hard sell, it's a weird one.

That's the bad news.

Here's the good news. Let me tell you a story…

> *Once upon a conference, I ran into Peter Senge as lunch was ending. We talked for a few moments, and then someone interrupted, reminding Peter that he had an appointment with a journalist.*
>
> *"I'm sorry John, but I have to go" he said.*
>
> *"I know Peter." I said, "It's just nice to share the same water supply with you again." It was something my father-in-law used to say.*
>
> *"John," he said, "we always share the same water supply."*

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[3] (n.d.). *(n.D.). Https://www.Nature.Com/articles/s41598-020-66125-3/figures/3*. Scientific Reports. Retrieved April 2, 2023, from https://www.nature.com/articles/s41598-020-66125-3/figures/3

[4] (2015, September 17). *To Prevent Huge Forest Fires, Let Them Burn*. Popular Science. Retrieved April 5, 2023, from https://www.popsci.com/new-study-finds-in-order-to-effectively-prevent-huge-forest-fires-let-them-burn/

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Bingo. That's exactly right - we always share the same water supply.

That simple, plain English insight is the result of years of mathematical models, stock and flow diagrams and casual loops, and of reflecting fearlessly on the systemic nature of the world. It's a revolution of the mind, an uncommon understanding of how the world works that goes beyond the detailed granularity of a model. It's not systems thinking, really. It's system sensing.

System Thinkers develop that sense about the world, an overall "feel for things" that grows out of their practice and becomes second nature. It colors every encounter, every idea, every issue, every day. They just see the world differently. The only thing I can compare it to is studying psychoanalysis and analytic psychology, the approaches of Freud and Jung. Once I really understood how unconscious ideas and feelings routinely shaped the way everyone in the world behaved, including me, everything changed. It's as if the world went from being in black and white to being in color.

That sensibility can be enormously helpful to anyone as they go about their work. And I see some people in organizations who have that sensibility, or elements of it, without having the formal training in system dynamics.

That's the good news.

Here's what they see.

Elements of a Systemic Sensibility

- **A regard for the whole.** This is one of the central sensibilities of systems thinking. It's based on the insight that there are some things – in nature, relationships, or social behavior of any size - that simply cannot be explained by looking only at that thing itself. Some individual things, trends or events only make sense when we see the web of things, events, or trends in which they are embedded.

- **A preference for connections.** A systemic sensibility focuses on the connections between things and is less interested in the things themselves. It is always asking "What caused that?" and "What does that cause?", because the ways systems maintain themselves is in the causal connections. It's not the forest **or** the trees - it's the connections between the trees, the grass, the robins, chipmunks, and foxes.

  John Muir put it best: ""When we try to pick out anything by itself, we find it hitched to everything else in the Universe."[5]

[5] Muir, John. *My first summer in the Sierra*. Houghton Mifflin, 1911.

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This also means that when system sensitive people try to change a system, they try to change the connections. The rule of thumb[6] is "To change a system, add a link, break a link, or reduce a delay."

- **A respect for the primacy of structure**. A systemic sensibility assumes that structure drives behavior. When systems thinkers talk about "structures", they are usually referring to the connections that characterize the system and the impact those connections have.

  This may be one of the more radical features of this sensibility. Most points of view assume that individual intention is the most powerful predictor of individual behavior. A systems point of view assumes that the structural forces that impact an individual - the web of connections - are more potent drivers of what they do and are frequently either hidden or functionally invisible because most people don't notice them.

- **An appreciation for the current**. A systemic sensibility assumes that, when dealing with complex social behavior, one must understand the dynamics holding the current state in place before one can intervene with any hope of systemic change. It tries to appreciate the problem before acting.

  This sensibility is closely related to the next.

- **A faith in what is.** The system we are examining, regardless of how much harm it may cause, is an adaptive response to a set of conditions, and the results it produces are a logical consequence of its connections, its structure. We may with good reason despise the results that the system produces, but we proceed with a confidence that the system has an internal logic, always. If we don't see that logic yet, it's because we are missing something.

Taken together, these two sensibilities lead systems people to be curious how a system "makes sense" so they can understand the underlying connections that lead these systems to behave the way they do. You can't know which links to add or break until you know where the links are.

Societal problems like racism or class oppression, and global problems like climate change, are terrible, powerful engine of suffering that have regrettably proven to be robustly resistant to change. To someone with a systemic sensibility, this robust resistance suggests that these engines possess a set of connections that has enabled them to sustain themselves for centuries - that they make sense somehow, or they would not have persisted.

This suspicion does not constitute approval: on the contrary. To a systems thinker it's the first and essential step in appreciating and understanding the complex set of connections that perpetuate suffering, so that those connections can be dismantled, and the system dissolved or transformed into an engine of justice.

- **A bias toward balance.** A systemic sensibility assumes that sustainability means dynamic balance, where all the elements maintain a fluid equilibrium around a steady state. And it assumes that most of the time, most systems are in this dynamic balance.

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[6] Yes, I know. Hold your horses. (n.d.). *The meaning and origin of the expression: Rule of thumb*. The Phrase Finder. Retrieved April 3, 2033, from https://www.phrases.org.uk/meanings/rule-of-thumb.html

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- **A skepticism about growth.** Conversely, a systemic sensibility assumes that growth is anomalous, occurring rarely in natural systems, difficult to maintain, and frequently comes with negative consequences for some other part of the system. There is no example in any system of perpetual growth or, for that matter, perpetual decline.

These two sensibilities run counter to a deeply embedded cultural focus on growth rooted at least partially in the intrinsic need for growth that's baked into Capitalism[7]. I have been in the room when business leaders have talked about "growing into sustainability." To a systemic sensibility, that statement is absurd, as sensible a proposal as smoking one's way to good health.

- **A curiosity about consequences.** A systemic sensibility assumes that the consequences of actions are separated from them by time and space[8]. Consequences may occur later, and they may show up in another part of the system, far from the action being taken.
- **A suspicion that we participate.** And carrying this curiosity about consequences a bit further, a systemic sensibility entertains the idea that the problem we are trying to understand might be an unanticipated consequence of some action that we took in the past. We ask the question "How might we have contributed to creating the problem we are trying to solve?"

These last two sensibilities together lead to some very interesting points of view for systems-oriented people. These are not simply an intellectual understanding. It leads systems-oriented people to not only question the cause/effect relationships that other see, but to suspect cause/effect relationships where others do not.

I have an activist friend who spent months organizing a campaign in her small Maine town to ban single use plastic bags, the kind that grocery stores supply for people to bag produce. She succeeded - the ordinance passed in a town election. After, I became curious about the consequence of using other kinds of bags, particularly the organic cotton one that are popular.

I found that studies show that to equal the per. use impact of a single use plastic bag, an organic cotton bag would need to be used 20,000[9] times, or twice a week for 194 years. In fact, the data suggest that single use plastic bags have a low impact on the environment compared to the alternatives.

My friend was not bad or stupid. What she had was confidence in the obviousness of a credible appearing cause → effect link (plastic bad → eliminating plastic bags good) and a confidence in the trustworthiness of her own good intentions.

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7 "What this means quite simply is this: capitalism is always about growth. There can be no such thing as a capitalist social order that is not about growth and accumulation on a progressively increasing scale." Harvey, D. (2010). *A Companion to Marx's Capital* (p. 261/744). Verso.

8 Thanks to Senge for putting this so succinctly.

9 (2020, April 30). *Plastic, Paper or Cotton: Which Shopping Bag is Best?* Columbia Climate School. Retrieved April 3, 2023, from https://news.climate.columbia.edu/2020/04/30/plastic-paper-cotton-bags/

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Living with a systems point of view, I lost both of those confidences long time ago. Too often, as Pogo said, "We have met the enemy, and he is us."

- **A reluctance to blame.** Because structures are seen as so powerful, a systemic sensibility tends to not blame individuals to the same extent that we usually do. It assumes that people's behavior make sense given the structural pressures they encounter. This does not release individuals from moral responsibilities, but it does acknowledge that, as history has shown, under the right conditions normal people will predictably do terrible things.
- **A sensitivity to what's missing.** A systemic sensibility is also curious about what is missing. Sometimes what is missing is a feedback loop, a way for the system to regulate itself, the way that a thermometer gives a thermostat information about the temperature of the room it is regulating. Sometimes, systems fail to self-regulate because the consequences of a decision do not accrue to the decision maker and the systemic solution is to connect these two elements, to add a link where none currently exists. And sometimes the reason that a system seems to not make sense is because the explanation is incomplete, missing the perspective of some part of the system.

I could write much more about each of these, and I will. Look for further treatments of some of these sensibilities on my website later this year.

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