

Why am I learning this?

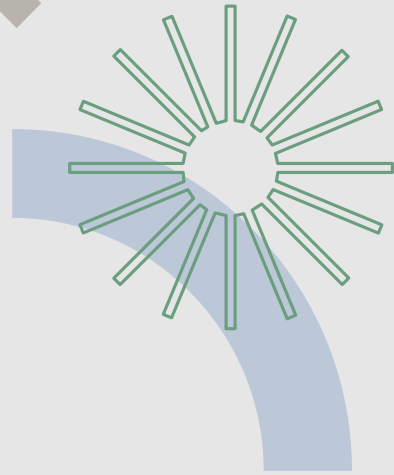
Or, why frameworks matter

John Cain · john@zerowidth.ai
Frameworks · UC Berkeley MDes · September 30, 2026



HUGH MENTIONED: ASKED AFTER CLASS, LAST WEEK

**“How do these frameworks
relate to designing?”**



Why learn frameworks?

The program's own answer:

*“A professional graduate program in design for emerging technologies... preparing students for a design career by connecting **technical rigor, design theory, and social practice.**”*

Frameworks are how the three talk to each other.

So, not ‘homework’, but equipment for your future practice!

A few frameworks in this class: a collection of ‘tools to think with’ — *Jacob Getzels*

1. Concept maps · say what you know so it can be argued with — Novak & Gowin
2. Shannon’s model · trace where meaning leaks between sender and receiver — Shannon
3. Boundary objects · one artifact two groups can share without agreeing — Star & Griesemer
4. Grounded theory · build categories up from the data, not down from a hypothesis — Glaser & Strauss
5. Feedback loops · see how a system corrects itself or runs away — Wiener, via Meadows
6. Stocks & flows · find what accumulates, and where it drains — Meadows
7. Causal loop diagrams · trace why a problem keeps coming back — Meadows
8. Affordances · what a thing invites you to do — Gibson
9. Problem framing · decide what the problem even is, before any solving — Schön
10. Wicked problems · test whether “solving” even applies — Rittel
11. Three models of strategy · spot which model a plan silently assumes — Chaffee
12. Conceptual models · design the model in the user’s head — Johnson & Henderson
13. Valence · ask whom a technology leans toward — C.G. Bush
14. Politics of artifacts · ask what order a thing enforces — Winner
15. Situated action · plans break; watch what people do instead — Suchman
16. Thick description · read behavior for what it means — Geertz
17. Pace layers · ask how fast a layer is allowed to change — Brand

And more to come...

THE COMMON PROPERTY

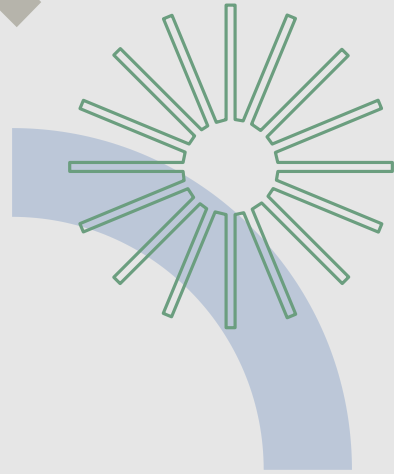
A framework is what you think with

a **lens** — it changes what you notice

a **tool** to think with — it does real work

a shared **language** — it lets a team argue

a **claim** about the world — it can be wrong



Where I always begin: problem setting

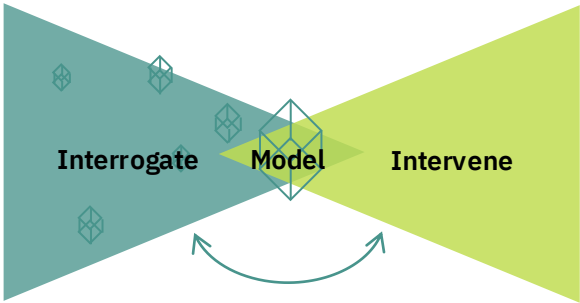
Solving is downstream.

“

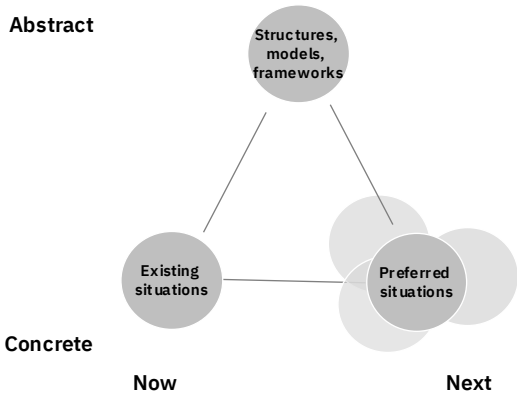
“[Designers] shape the situation, in accordance with [their] initial appreciation of it; the situation ‘talks back,’ and [they] respond to the situation’s back-talk.”

**Donald Schön, The Reflective Practitioner, ch. 3 —
this week’s reading**

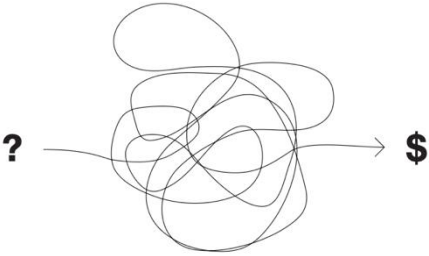
What does beginning in ‘problem setting’ look like?



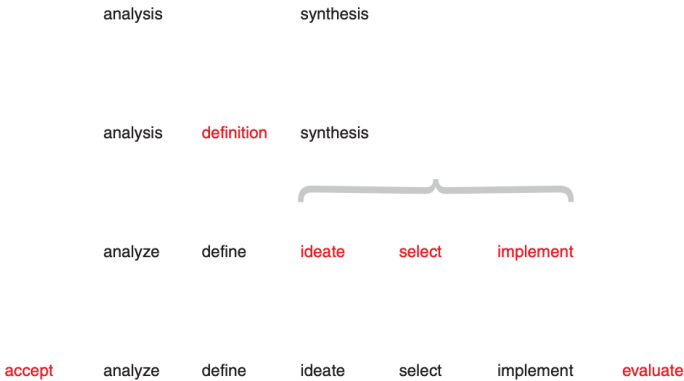
E-lab bowtie model



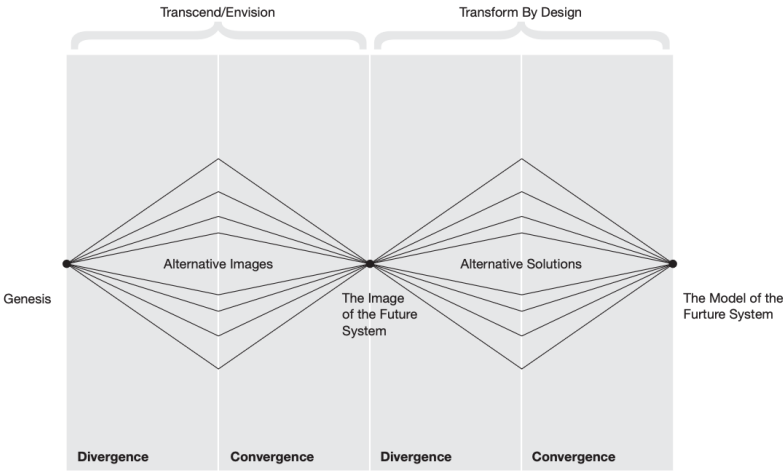
E-lab pyramid model



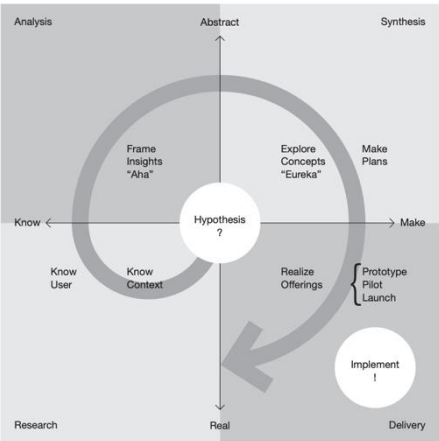
Design process after Tim Brennan (~1990)



Expanded 2-step process after Don Koberg and Jim Bagnall (1972)

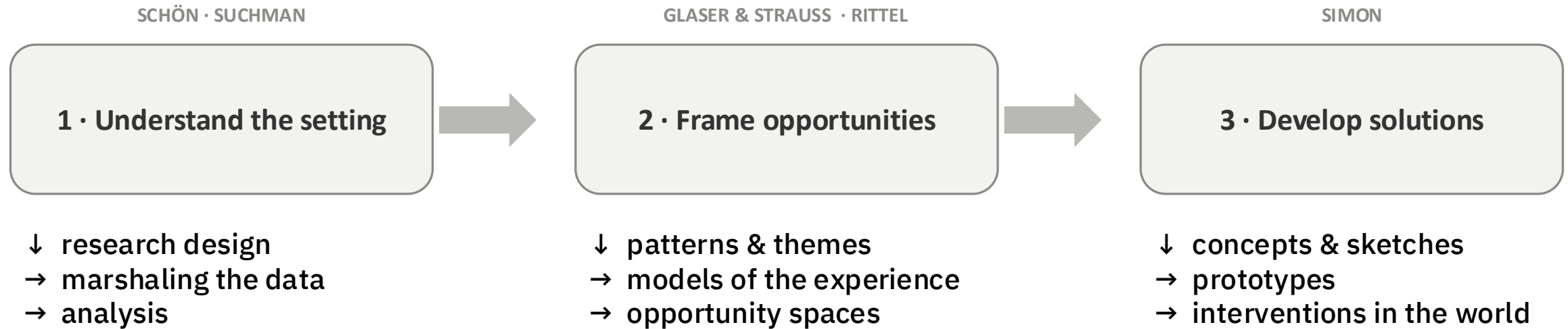


Dynamics of divergence and convergence after Bela H. Banathy (1996)

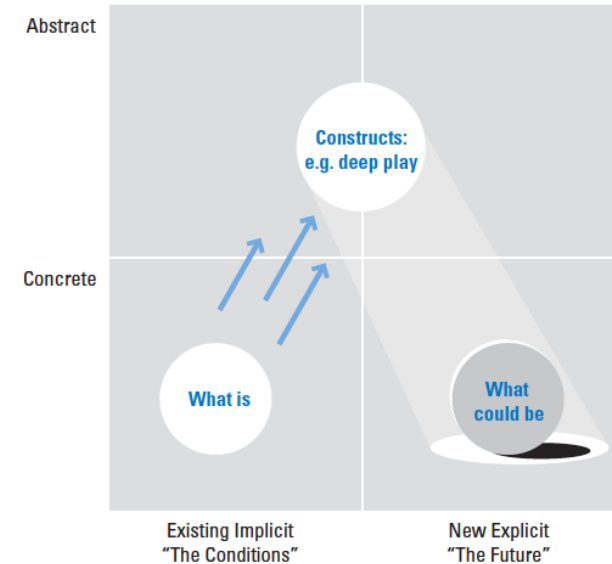


Innovation planning after Vijay Kumar (2003)

For tonight...a plain old design process model, on purpose...



The same model, in three words



Understand Context

Understand contexts, people, and things and why they do what they do.

Analyze and develop (an idea or principle) for how people think – attitudes, assumptions, beliefs, and the systems that inform them.

Relies on: tools, techniques, method

Model

Approach(es) for ‘fixing’ understanding (meaning) to an inspectable form –a model.

Mapping & modeling dynamic personal, social, cultural systems.

Change over time, and how systems come into being and are subverted, destroyed and created.

Play

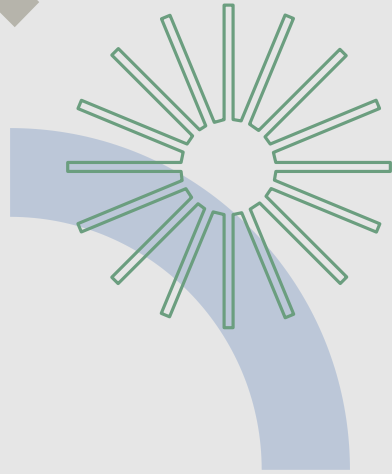
Possible futures of the model, the model you’d like to have (strategy).

“Opportunity shaping” -articulations of possible changes to the conditions of the model.

Willingness to break the model.

WHERE I START · IN THE SETTING, EVERY TIME

**You go to them.
Talk to them.
Write things down.
To an end.**



“But what do you bring with you, Rick?”

“It depends.”

It depends — on the people, the situation, what you’re trying to find out.

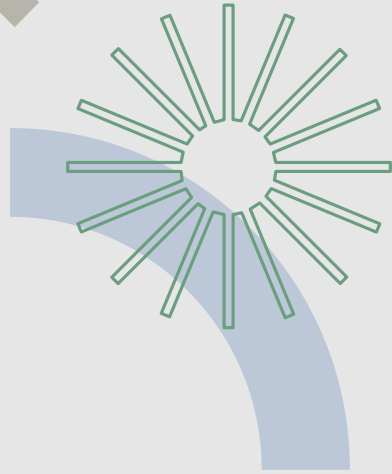
What you bring is a set of lenses. Frameworks.

You start with a mess and a lens — that’s how problems get set.

CASE ONE • WARNER-LAMBERT

Project Sneezy

New cold care products



First artifact: the hunt statement

Posted on the project-room wall

The Hunt

Understand the **cold experience** at home, at work, caring for themselves and others.

How do people respond, with what, and how do they know what works?

How might W-L intervene in experientially efficacious ways?



Not cold-medicine users —> people *having* colds.

The reframe is in the hunt.

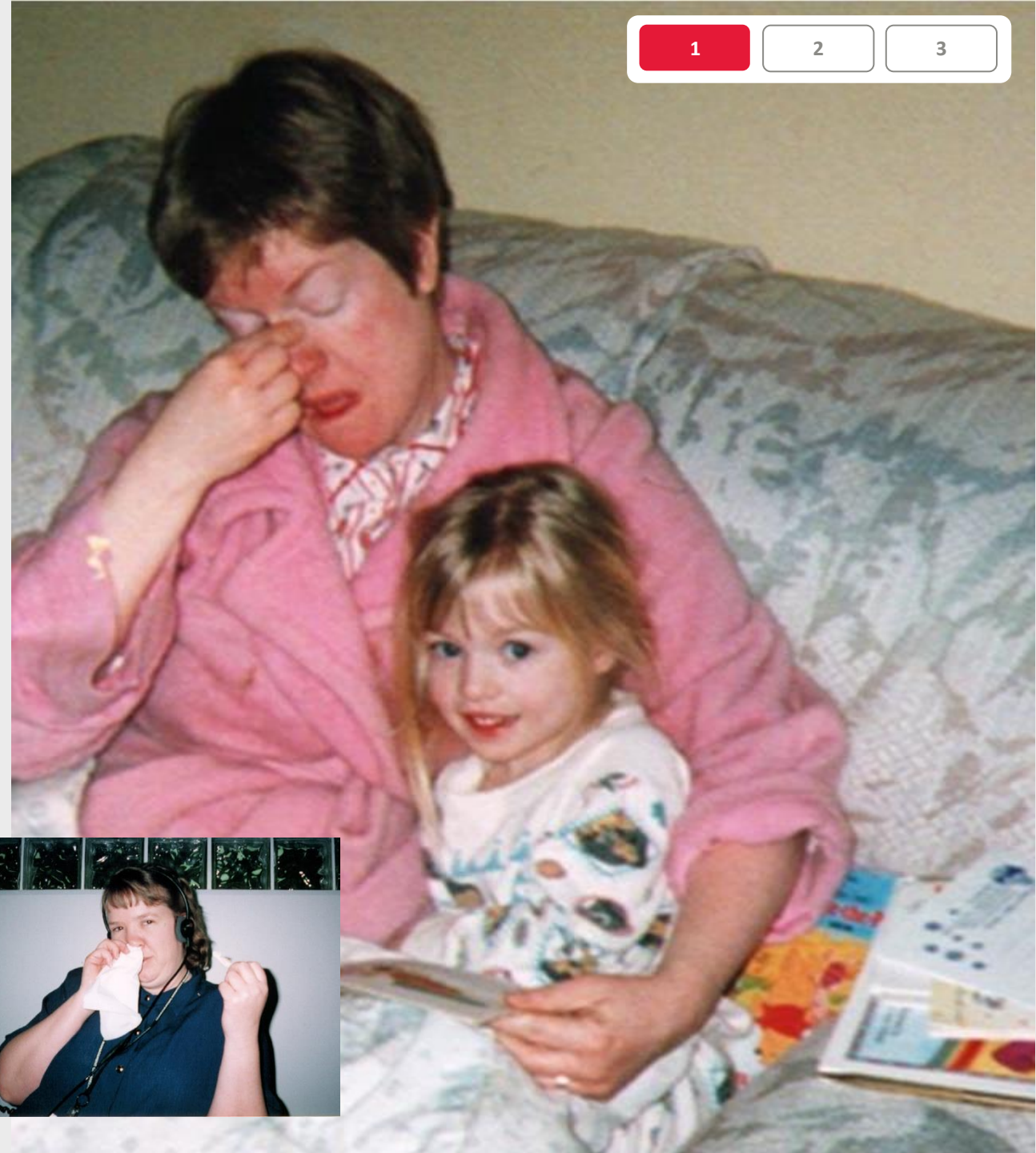
Then grounded theory takes over: the categories come up from the field, not down from a hypothesis.

Fieldwork: The Cold Experience

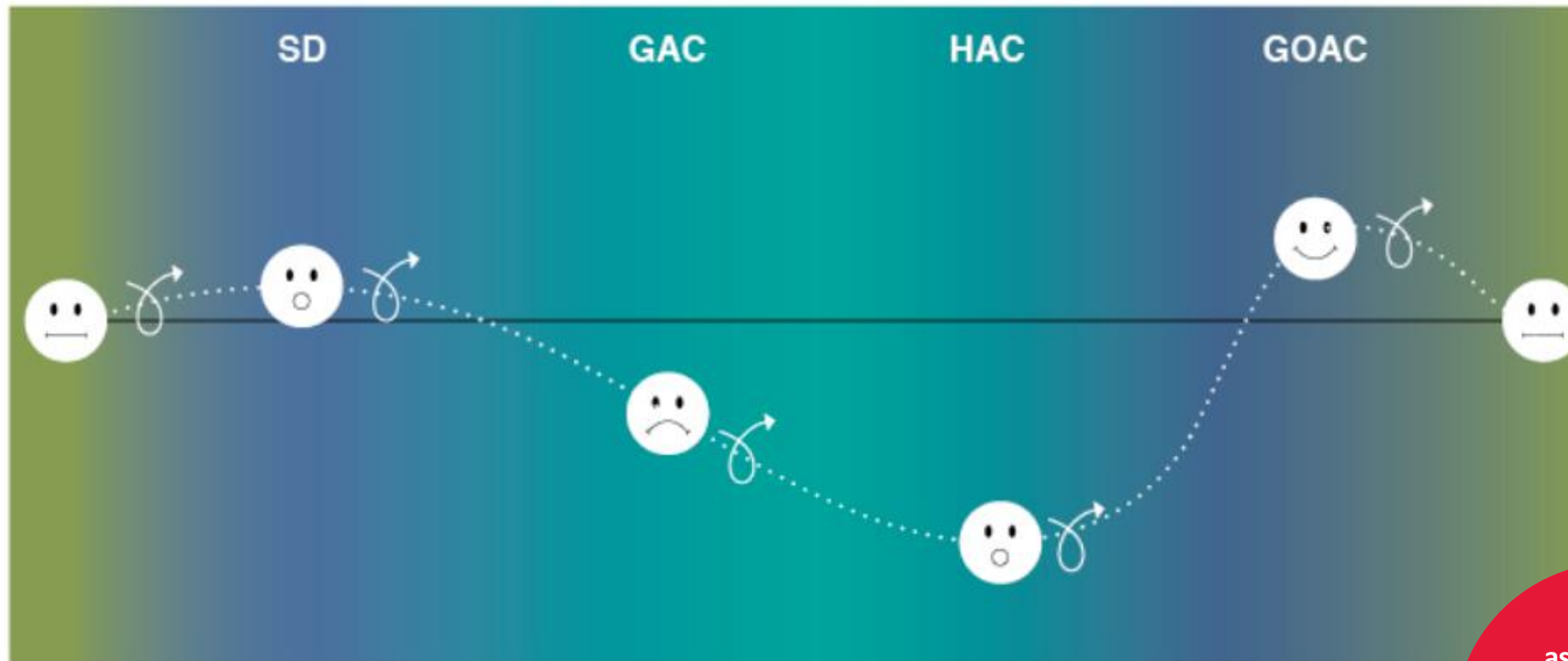
- Who is this woman?
- What is she doing?
- What's going on here?
- How does she feel?
- How do you know?

Grounded theory
Glaser & Strauss

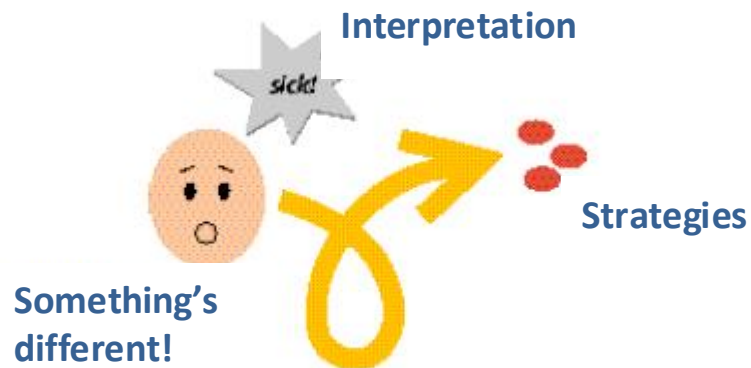
AEIOU
deciding what
to pay
attention to



Descriptive and interpretive modeling



Mind/Mental	Ignore the Illness
	De-Stress/Relax
	Distraction/Diversion
	Verify what you already know
	Get Information
Body	Help in Diagnosing
	Mask Symptoms
	Strengthen & Replenish Body
Environment	Flushing/Removing
	Clean/Remove threat
	Create a comfort zone
	Move to different location



SD: something's different, the onset of feeling like maybe a cold is coming on

GAC: getting a cold. Many people will comment that they are "getting a cold", but don't yet have one.

HAC: having a cold, a point when most people start to do things differently (see table upper-right).

GOAC: getting over a cold. Feeling better than baseline, I can taste again!

Piaget's
assimilation
(improve existing
knowledge) /
accommodation
(change existing)
principle

Schön —
reflection-in-
action: reading
the back-talk

Opportunity mapping

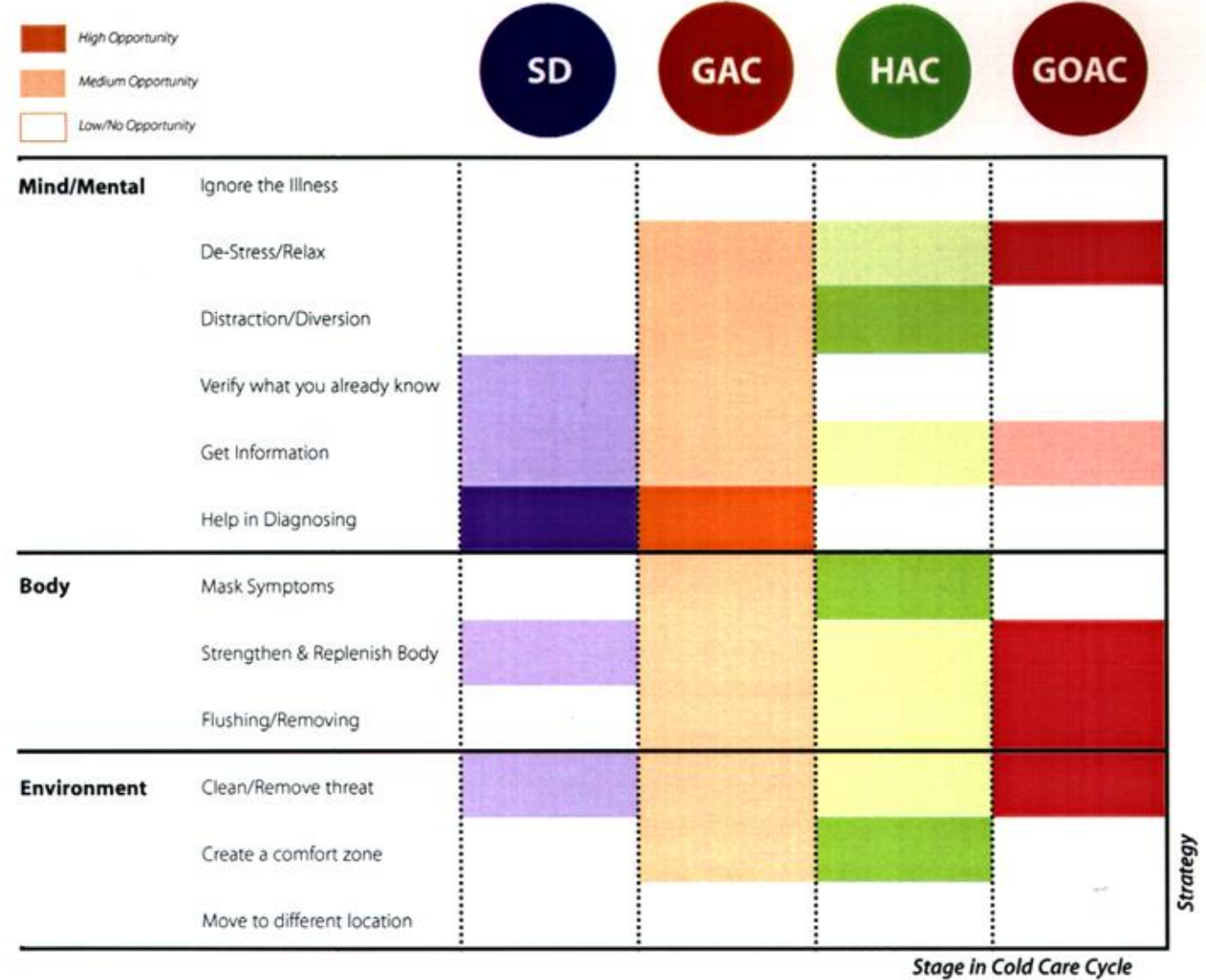
1

2

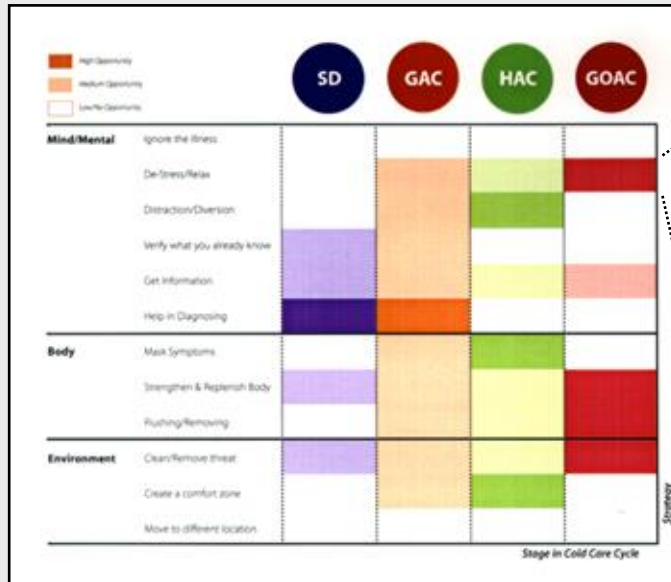
3

E-Lab —
opportunity
framing

Simon —
satisficing:
several futures,
not one



Innovation 'Blueprints'



GOAC relaxing

background

Characteristics of GOAC

- decrease in symptoms
- positive anticipation
- gaining physical energy
- heightened awareness of senses
- returning to routine and stress
- special treatment and OTC use decreases
- fresh memory of the cold
- preventing relapse
- pledging to change habits

Characteristics of Relaxing

- allowing the mind/body to slow down
- removing stress-causing elements
- rest and sleep perceived essential
- relaxation time not always justified

Data Bites

Shelly makes a beaver of hot oatmeal, then lays down in bed to watch t.v. great VD

Laura goes to work, but comes home early and goes to bed. Laura beeper study



action



Questions

- How can messaging justify and validate the need for relaxation?
- How can solutions link to activities/objects currently existing in GOAC?
- How can new solutions create new relaxing activities for GOAC?

Operative Objects

t.v.
music
magazines/books
couch
tea
bath/shower
bed
pillows
desk

Operative Activities

sleeping
meditating
calming thoughts
slowing down
massaging
drinking hot fluids
laying/sitting
reading
watching t.v.
returning to work

Fortified Fizzies

Kate noticed that everyone on her soccer team was coming down with a cold. On the way home from practice, Kate picked up some Fortified Fizzies. She dropped one in her drink at breakfast and one at night before bed. A few days later some team members were still sick, but Kate felt great!

Product Description

Fortified Fizzies are drink tablets that come in an take-with-you package. These tablets contain echinacea and are used to prevent full-blown colds. One dispenser holds 6 as a consumer just needs to take two drinks for three days in order to help build immunity against colds. These come in a variety of flavors (berry, orange, cherry, kiwi-mango) and could be taken hot or cold.

Product Benefits

Fortified Fizzies are portable and allow for easy dosing. They work fast, and allow you to customize to your own tastes.



Syrup Spoons

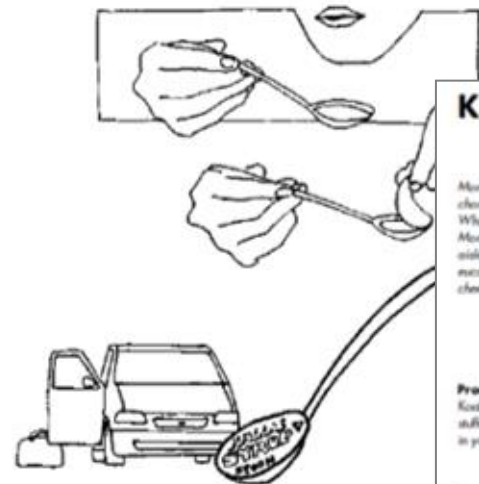
Paul and his family are going on vacation. He thinks he might be coming down with a cold so he throws a few portable syrup spoons in his travel bag because they are lightweight and he knows he can use them anywhere.

Product Description

A ready-dose portable spoon with cough syrup in the dish to be taken by itself or mixed in hot or cold drinks, then discarded.

Product Benefits

This product can travel anywhere and can be bought individually or in packs. Syrup spoons come in doses for both kids and adults. Spoons are easy to use, each spoon providing one dose.



Koala Care

Mom feels bad that her daughter Shelly is missing a chest ritual because she's come down with a cold. While picking up cough syrup for Shelly at the store Mom notices the Koala Care Doll in the cold care aisle. Mom buys the bear because she thinks it's eucalyptus scent will help Shelly breathe while it cheers her daughter up at the same time.

Product Description

Koala Care is a small, cute, comforting Koala toy stuffed with good smelling eucalyptus. It can be found in your local cold care aisle.

Product Benefits

Koala Care provides a comforting friend for children or adults when their cold is at its worst. The mild eucalyptus smell helps clear nasal passages.



Halls Peppermint Rub, Halls Citrus Rub

Frank has a bad cold and complains: 'I can't breathe!' He remembers how soothing it was when his mom used vaporub on his chest, but he couldn't stand the smell. His wife suggests Halls Citrus Rub for its soothing action and pleasant smell.

Product Description

A soothing, good smelling rub that is applied to the chest. It provides relaxation while opening nasal passages. Comes in mild peppermint and citrus scents.

Product Benefits

Halls rubs provide the comforting touch of other rubs without the strong, displeasing smell.



Cold Care for the Home

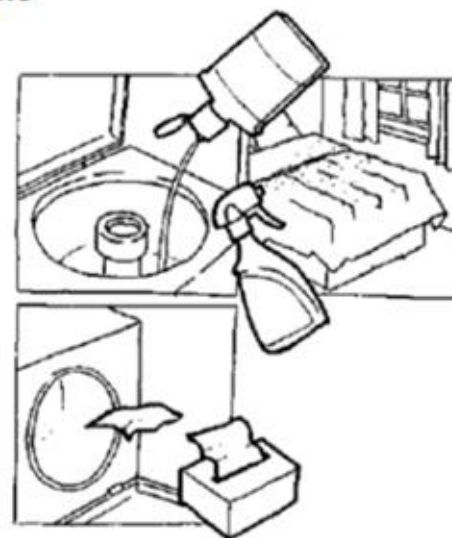
Betty's children have been fighting colds all season long. To help combat all the germs she knows are in her home (especially on sheets and towels), Betty uses the Cold Care for the Home anti-bacterial laundry system instead of her regular detergent and fabric softener. She especially likes to use the fabric spray on days she doesn't do laundry.

Product Description

A system of anti-bacterial laundry cleaning aids for use during the cold season: anti-bacterial laundry detergent, scented dryer sheets, and anti-bacterial fabric spray. All products comes in a variety of scents: citrus, peppermint, or unscented.

Product Benefits

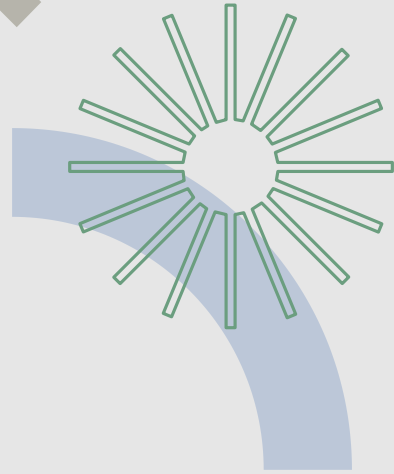
Fits into your normal cleaning routines. Gives you specialized tools to fight germs in your environment during illness or the cold season. Gives you some control over the germs in your environment.



CASE TWO • SC JOHNSON

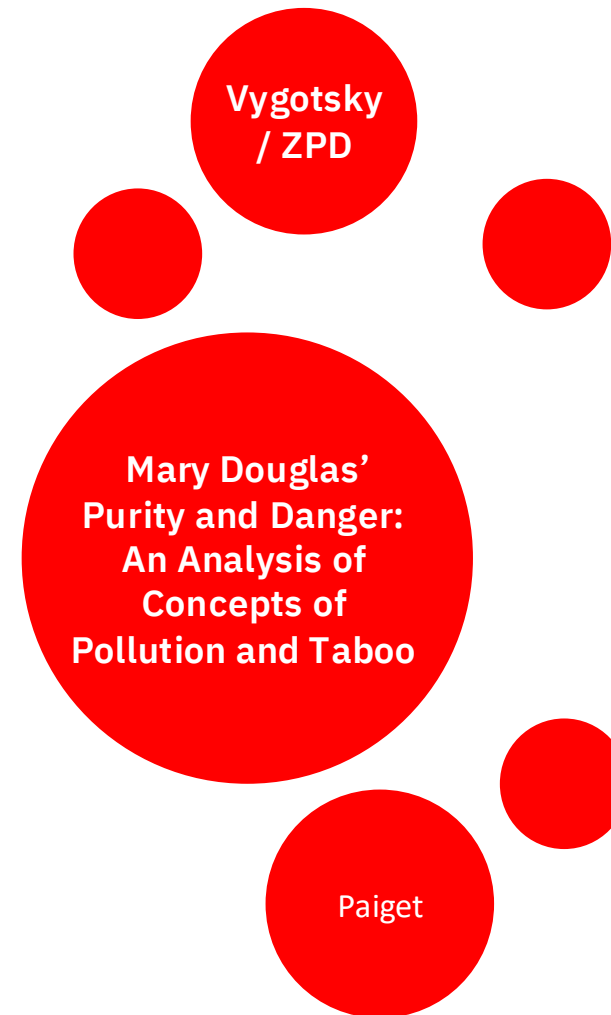
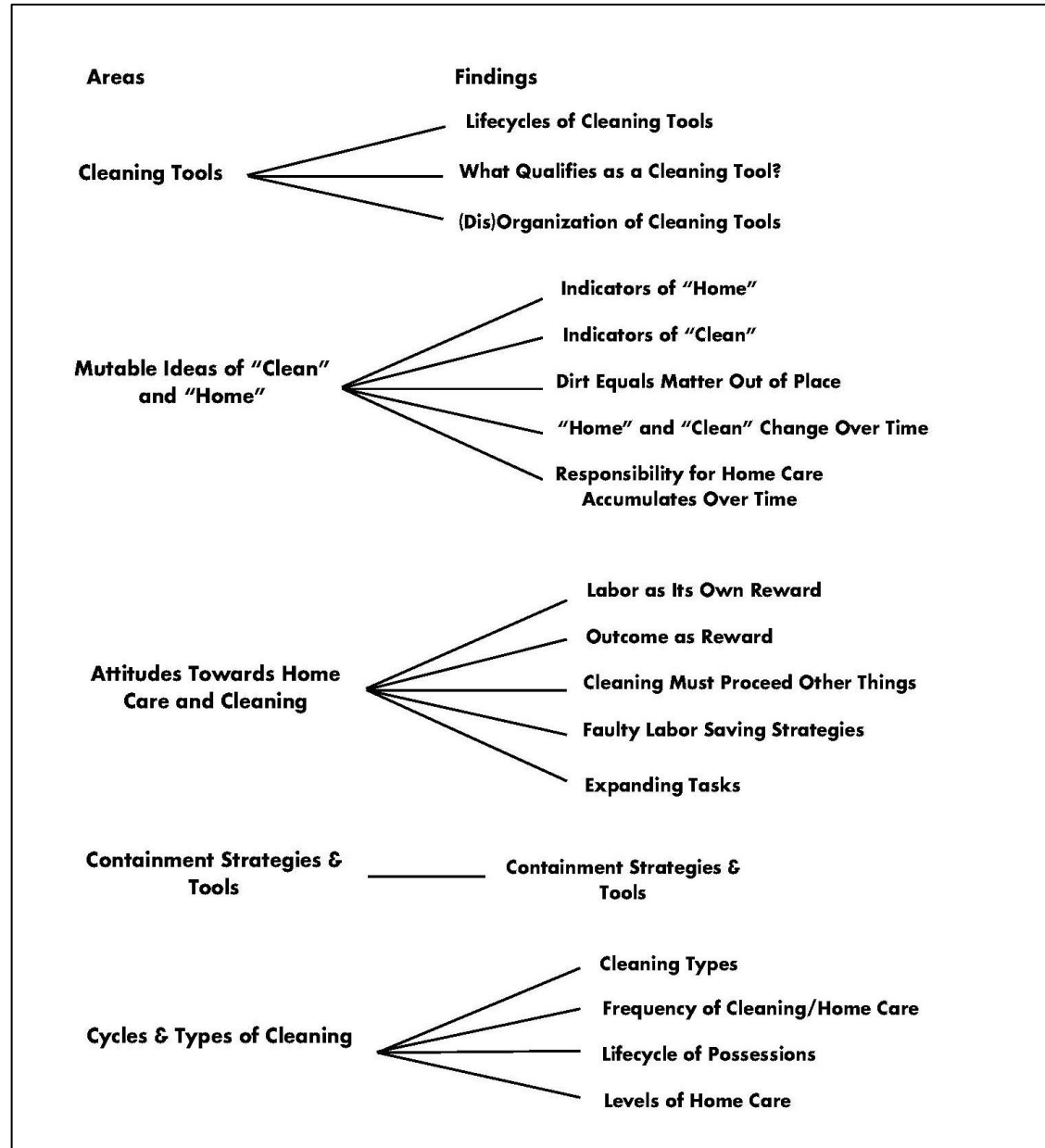
Project 'Scrub'

New cleaning products

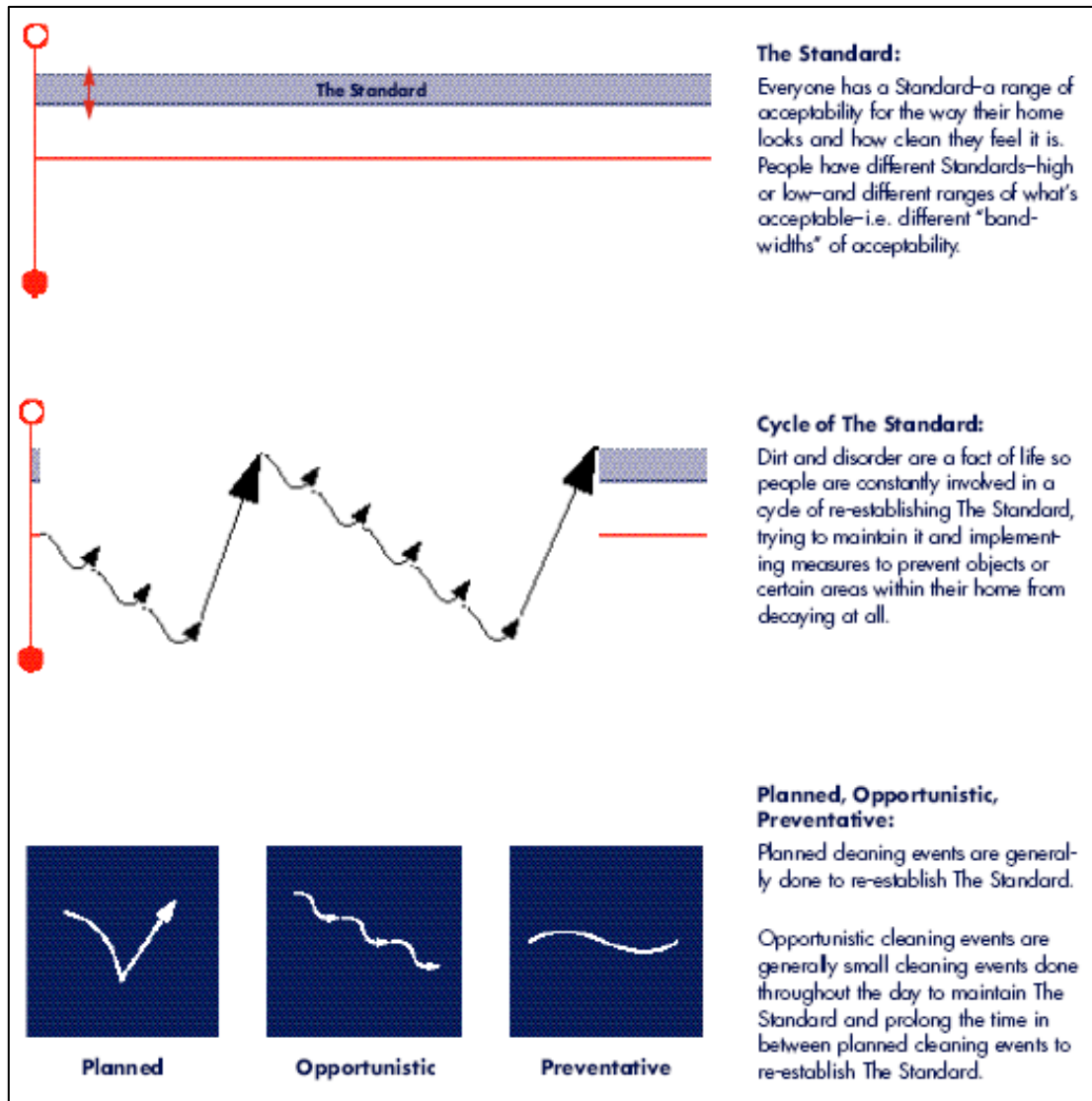




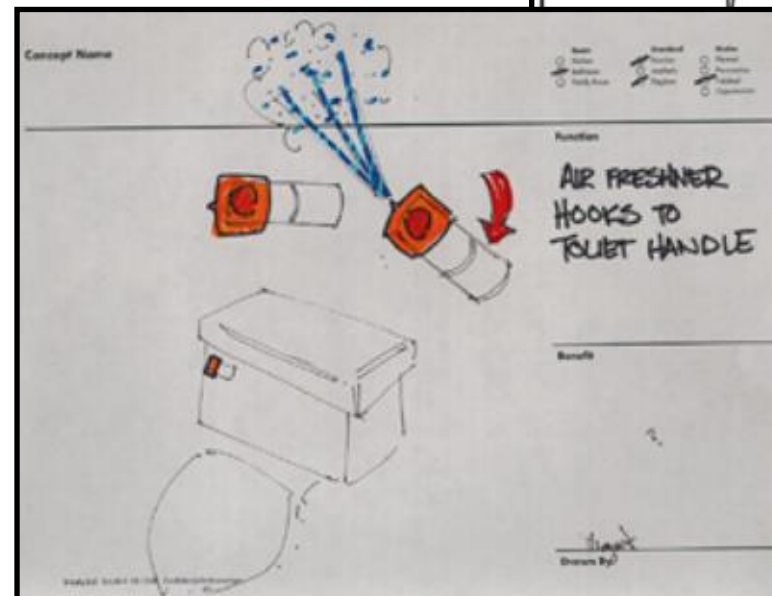
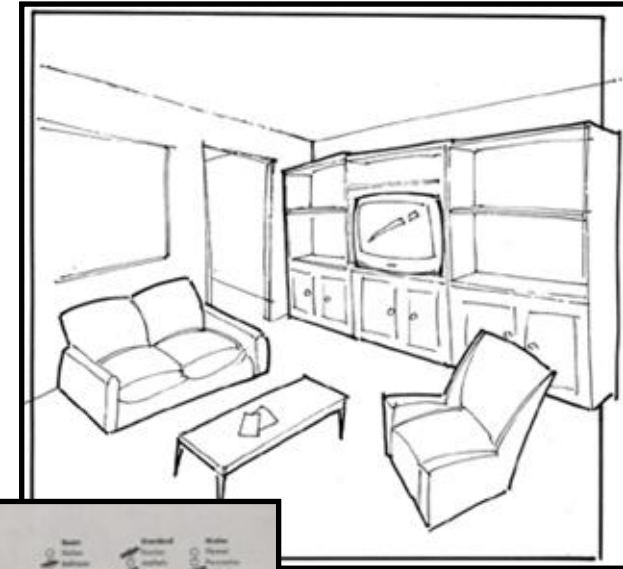
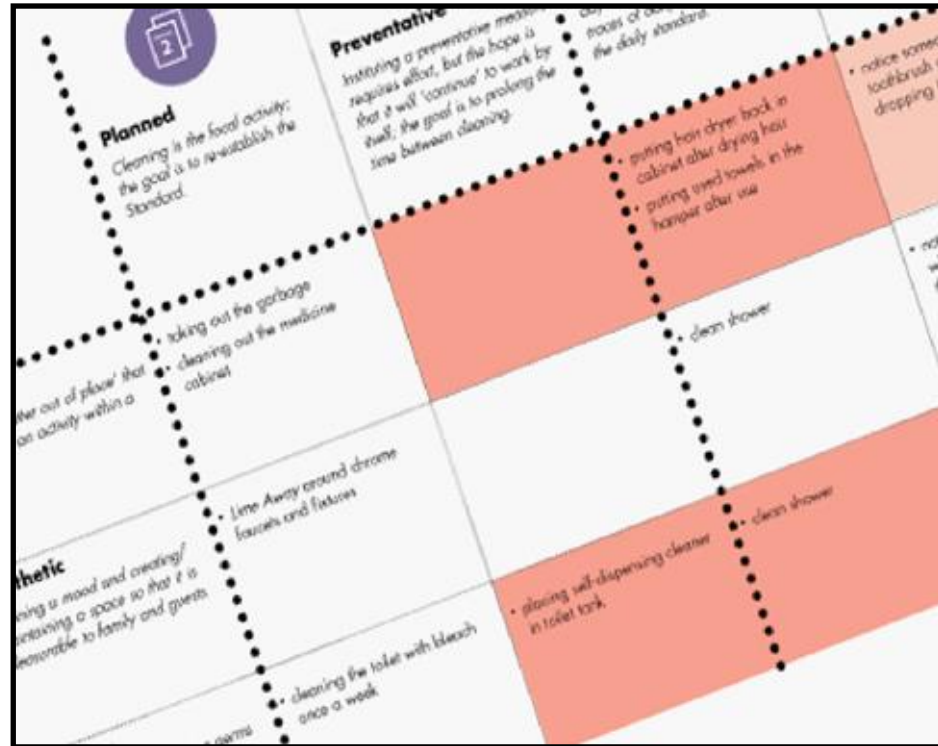
Emerging descriptive categories



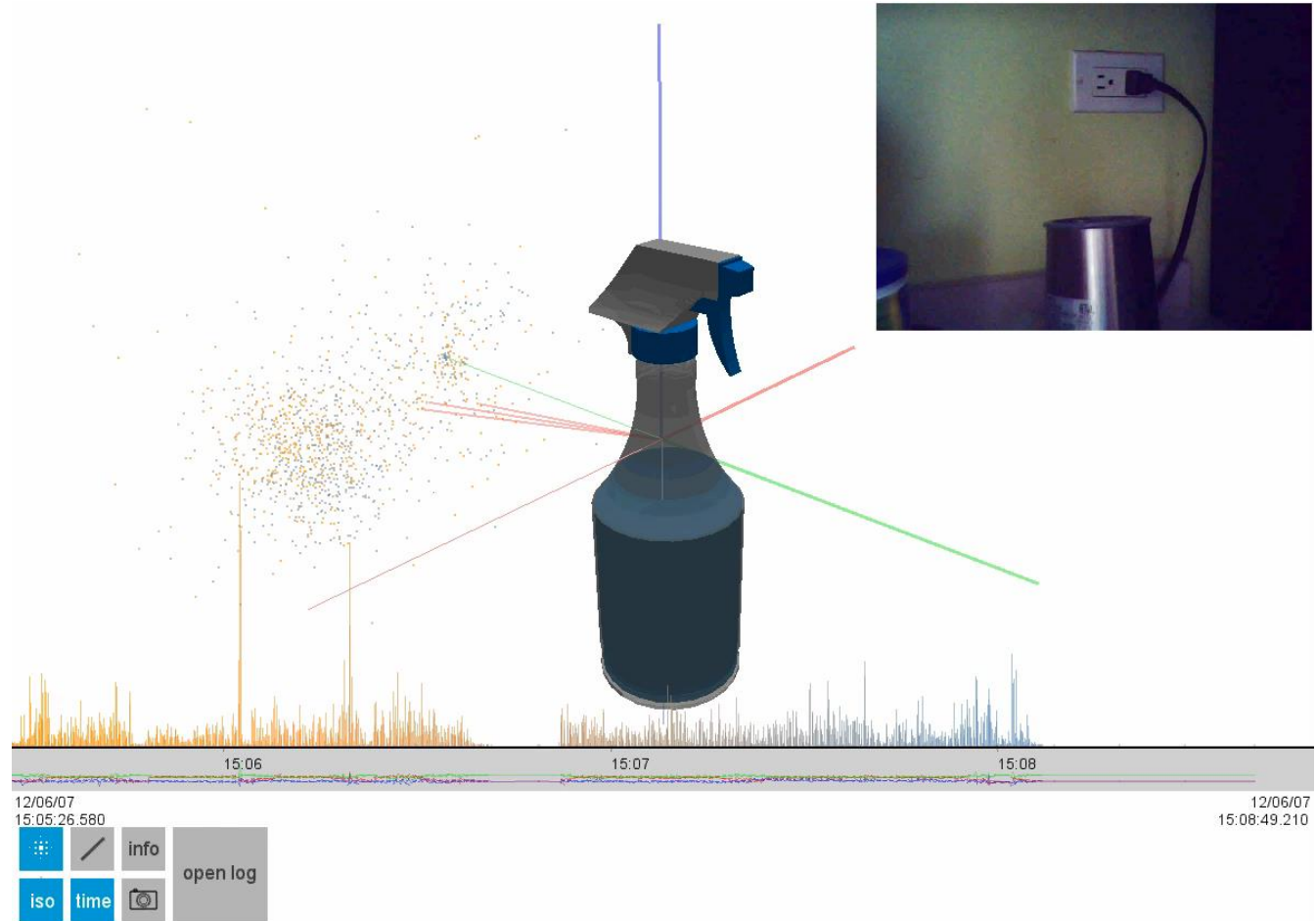
Story-based (Schon's metaphors) modeling



Innovation 'blueprints' & innovation sketching



Iota: instrumenting products with sensors



Bottlecams. Accelerometers. Squirt counts.



“

Counter, mirror, table, sink. The bottle says *what*. It cannot say *why*.

TJ's rig: the nude bottle descending a staircase.

Iota / TJ McLeish
instrumented objects





M. Duchamp, 1912
Nude Descending Staircase, No. 2



Iota Partners, LLC

Results: product lift in the market



New product

- Consumption: 10% increase in use by volume & instance
- Lowers the threshold of what merits cleaning—creates a higher standard for “clean” and new cleaning moments



Existing product changes

- Longer ‘straw’
- Improved usability

The bridge: what is → what might be (Simon's 'satisficing')

Knowledge artifacts to align interdisciplinary teams

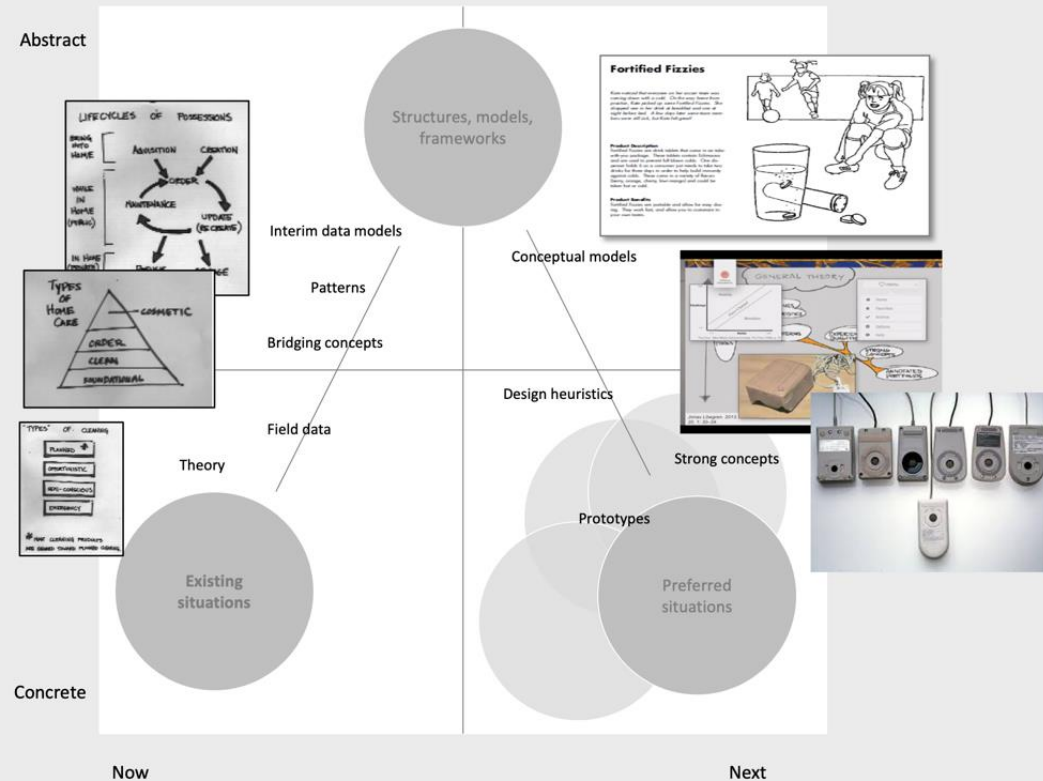
This is not *a linear* process ->

You can start anywhere it's convenient or where you have a point of entry

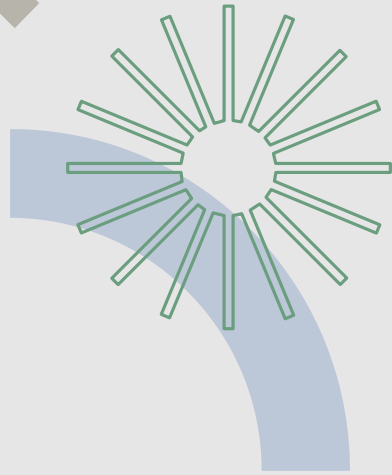
Rather, it is a description of:

- stages
- phases
- evolutions
- TRANSLATIONS

The activity at each point is to establish a 'language' (used by interdisciplinary teams) for a given project step or stage



**You have to *start* somewhere.
You also have to *land* somewhere.**



The missing idiom

“

*“It seems as if for most researchers and practices, **the work of innovation research or technology development research is carefully agnostic about what should happen**: the comfort zone is clearly what has happened or what might happen, could possibly happen.*

*I doubt that this is a moral failure, for though **we have all the descriptive and the structural idioms for describing the ‘up until now’** side of any particular human-technology interaction, there is **not a similar idiom for looking ahead, especially one that grasps the responsibility inherent in building a convergence of technical capability and expression of values** — of imagining what ought to be and helping to get there.”*

Rick Robinson, writing for Intel, 2009

Judgment *is* the job

“Will this matter in my career?” It is the career.

The cases ran the whole bridge: what is — and what might be.

What they don't hand you is the choice among might-bes. That choice is *judgment*.

Not a hunch: judgment with a basis — grounded in reality, shaped by what you thought with.

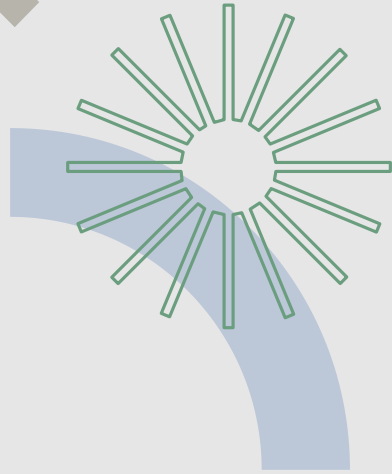
The old basis was the master's intuition — the architect-god.

Yours: frameworks and ground truth.

BACK TO LOOM

Sitting with readings is also... sitting with people.

Homes, colds, sock drawers, texts — same move. You bring yourself. You take it apart. You say what you find.



Two ways of knowing

“ You know the health bar: you found it, you chose it, you ate it.

An LLM knows it too — from words about it.

Both count. Only you can say why.

IMPLICIT

associative · sub-symbolic

*like knowing a friend's voice
instantly, but nothing you
could write down*

or having 'a feel for the game'

EXPLICIT

relational · symbolic

*like a recipe...every ingredient
and step written out*

Why Loom exists

The way we read and write is changing.

Something is up — we can't quite see what yet. Loom is our experiment for seeing it.

So: sit with the readings. Take them apart. Name your links.

Don't just ask the LLM. That answer is everyone's — and no one's.

TO END • WHY AM I LEARNING THIS?

**Because someone has to propose
*what ought to be.***

You open the conversation.

The situation, and its people, talk back.

Where values come in...

