Faculty of Design

2014

Using material properties to understand and shape relationships in public and social services.

Aguirre, Manuela and Paulsen, Adrian

materializing systemic relations

a first attempt on using physical material properties to discuss inter-personal or inter-institutional relationships

manuela aguirre

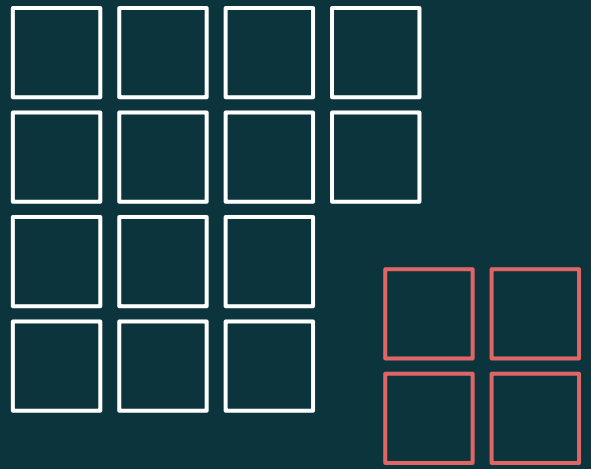
PhD Candidate AHO

adrian paulsen

Designer at Halogen

working with relations in complex systems

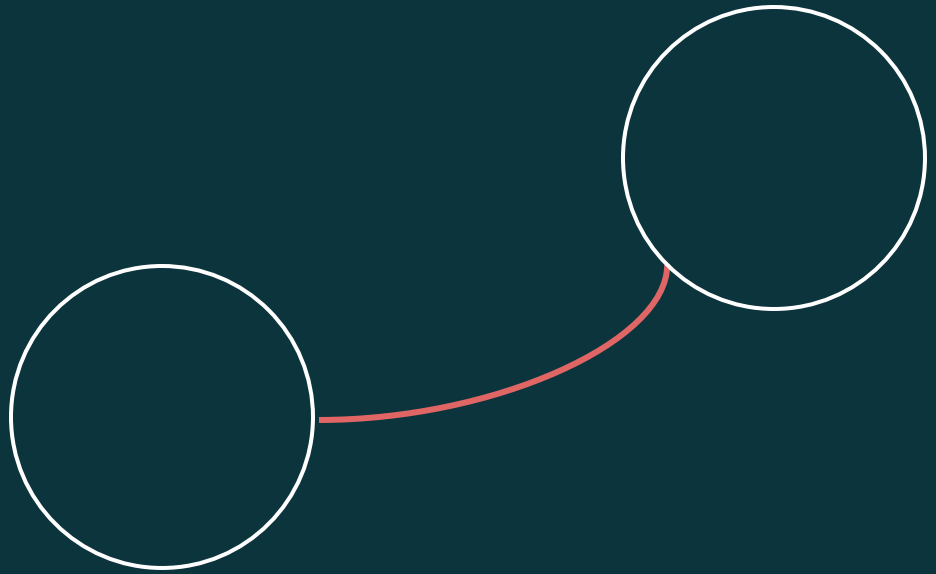
We tend to focus on nodes, or entities, or units, rather than on their connections or relations.



“I hate those yellow labels, they limit our thinking.”
(Birger Sevaldson)

working with relations in complex systems

We tend to focus on nodes, or entities, or units, rather than on their connections or relations.



1. RELATIONS IN SYSTEMS THAT ARE DEPICTED WITH NODES AND CONNECTORS (typically objects connected with lines or arrows)

1.1 STRUCTURAL RELATIONS, HIERARCHICAL SUPRA AND SUB SYSTEMS (GREENS) (STR)

1.1.1 Structural relations (Functional relations)

Very often systems are described as the assembly of parts where the sum is more than its parts. This is not a cause effect relationship but structural relationship.

Example: there is not a causal relationship between the wheels and the frames of a bicycle in the sense that e.g the frame decreases if the wheels increase. They are assembled in a structure where they generate together a surplus output. The whole is more than the sum of the parts.
Example: The relation in the air traffic system between the planes and the control system. The amount of plains do not automatically decrease if the control system is reduced. It only happens through institutional regulations.

1.1.2. Macro systemic relations (MSR):

Relations that are caused by the entities being subsystems in the same "supra-system" but without necessarily being inn direct contact with each other.

Example: Bikes and cars are related because they are sharing the same macro system: the roads. (They are related in additional ways than this)
Examples: The winter coat and the bikini are both part of the clothing wardrobe of the same person.

1.1.3. Micro systemic relations (MiSR):

Systems that are related because they share a relation through a sub system:

Example: The rubber in the tires of the cars and the bikes come from the same producer.
Example: A Mixmaster and a hair dryer can share similar electronic parts from the same manufacturer.

1.2 ASSOCIATIVE SEMANTIC AND THEMATIC RELATIONS (BLUE) (ATR)

1.2.1. Thematic relations (TR):

Thematic relations are entities being part of the same thematic field or category. Themes are manmade sorting devices and there needs not necessarily to be e.g. a causal relation between members of a theme.

Example: the relation between Universal Design and Ergonomics
Example: Genres of music. There are many possible relations between genres of music but if we think of the relation between the music of the Australian aborigines and a symphony by Bach we can only think of very few like biological (music being programmed in our genes) and thematic relations (both being music).

1.2.3. Associative relations (AR):

Metaphors and analogies: These are the types of relations that pop up in brain storms by associations.

Example: If two people are very similar to each other in their look there is an associative relation.
Example: If I say bird, you say fish....

1.3. SOCIAL RELATIONS (Yellows) (SR)

1.3.1. Structural social relations (SSR)

Example: Family, friends etc

1.3.2. Institutional social relations (ISR)

Example: Work, municipality, nation, culture, language etc.

1.2.3. Actions (ASR)

Social relations created through action

Example: Sharing political interests.

1.3. HARD RELATIONS, CAUSAL RELATIONS, FLOWS ETC. (REDS) (CR)

1.3.1 Causal relations (CR)

Cause and effect models: The nodes depict what entities causes an effects and what entities are being affected while the relations (normally arrows) depict the effect.

Example: If the heat is turned on the kettle starts to boil
Example: If the tolls for entering the city by car increases the passengers on public transportation go up.

1.3.2. Qualitative Causal Relation (QCR)

The amount or intensity will not be influenced but the quality will be changed

Example: The relation between architectural space and micro climate

1.3.3. Tools (CRT):

Tools are typically modifying and influenci

Example: AR used to increase cultural und

1.3.4. Flows in human systems (FHS):

These are the concrete flows of values in our society. They are driven by needs and

-

1.3.7. Negative relation (NCR)

If node A increases, node B decreases

Examples: The fox and rabbit example, (this tends to be a self stabilizing system)

+

1.3.8. Positive relations (PCR):

If node A increases, the node B increases or if node A decreases node B decreases:

Example: The increase of profit on the stock market leads to the increase of the amount of traders

1.3.9. Feedback loops (Floop):

The effect of a chain of causal relations between variables returns to the "starting node"

Positive feedback loop (+Floop):

The sum of the relations is positive, The system is unbalanced

Example ? (I find these very hard to get right because it is very difficult to interpret and it is all dependent on the variables one makes up) Hostile negotiations accelerating into war.

Negative feedback loop (-Floop):

The sum of the relations is negative: the system is balanced.

Example? Fox and rabbit.
Example: if the price goes up the sales go down (-) then the price goes down (+) and then the sales goes up (-) and the price goes up (+). This is seemingly a self stabilising system but it's not a negative feedback loop because it's neutral (two – and two +). The model is never quite like reality.

2. SYSTEMIC RELATIONS THAT RESIST THE MODEL OF NODES AND CONNECTORS

Not all systemic relations can be abstracted to nodes with connections. they will have to be diagrammed with spatial maps, intensity maps or along time lines.

2.1. Spatial proximity (SP):

Elements sharing the same space within an operational proximity for the agent (e,g, user)

Examples: The relation between a chair and a table. There is of course also a thematic relationship because they both are furniture and also maybe a historic relationship because both belong to the same style. There is also a functional / structural relationship. (Who said this is simple?)

Example: the proximity between a neighbourhood and a park.

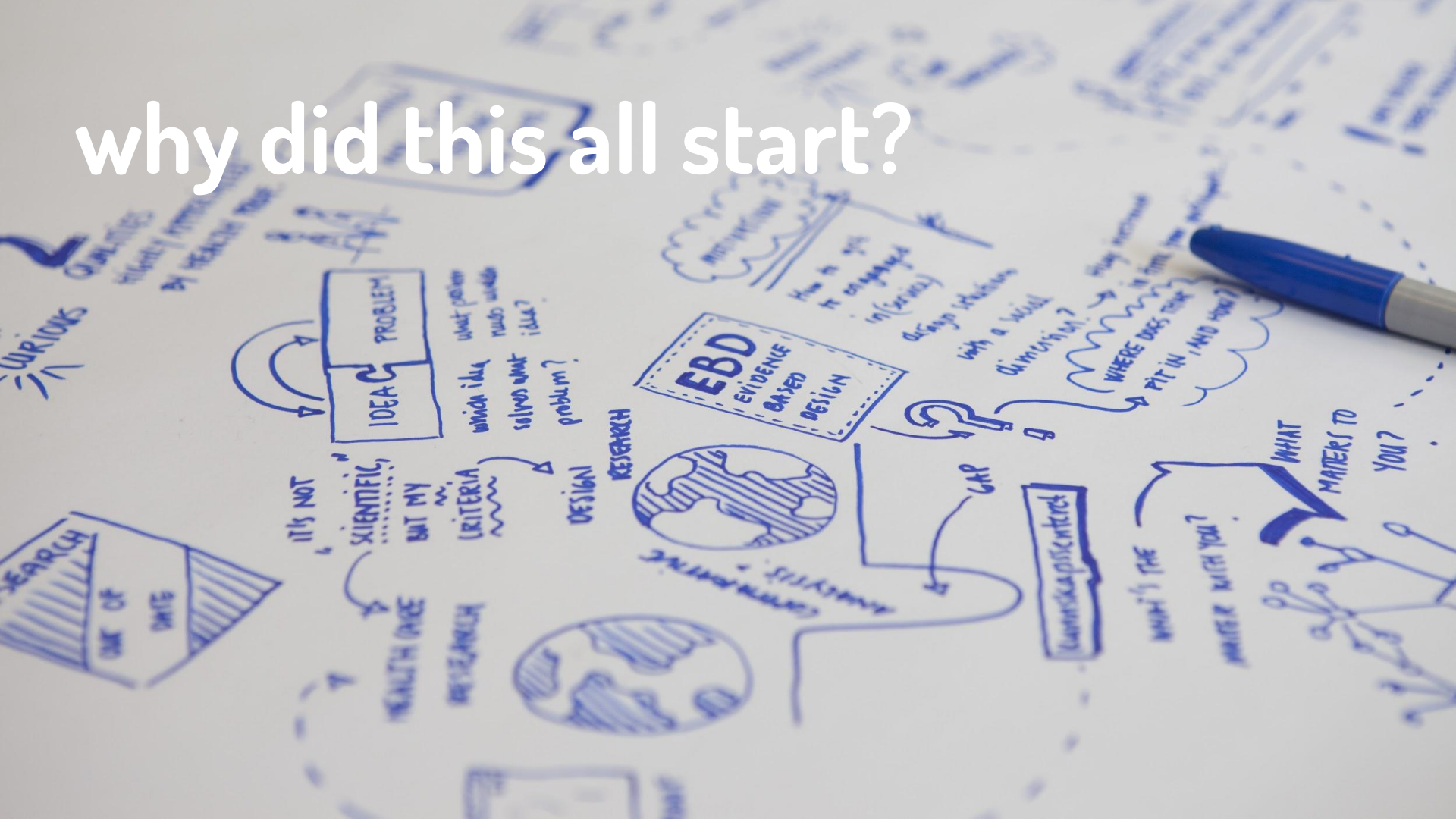
Example: the proximity of the Bygdøy museums

(day length).

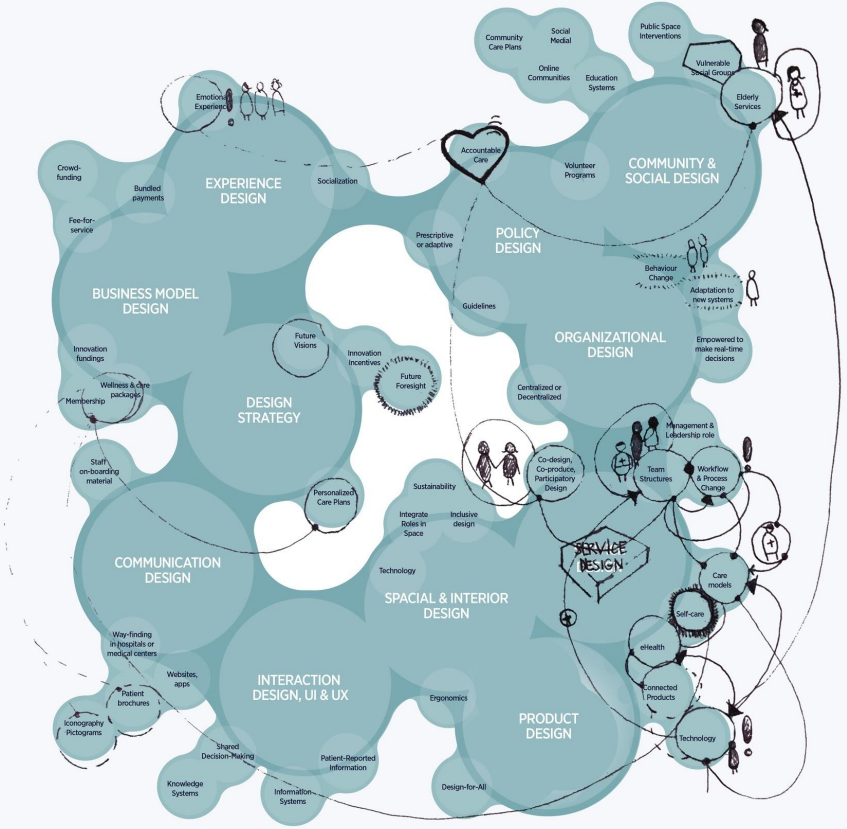
Example: A cafe serving lunch at lunch hours.

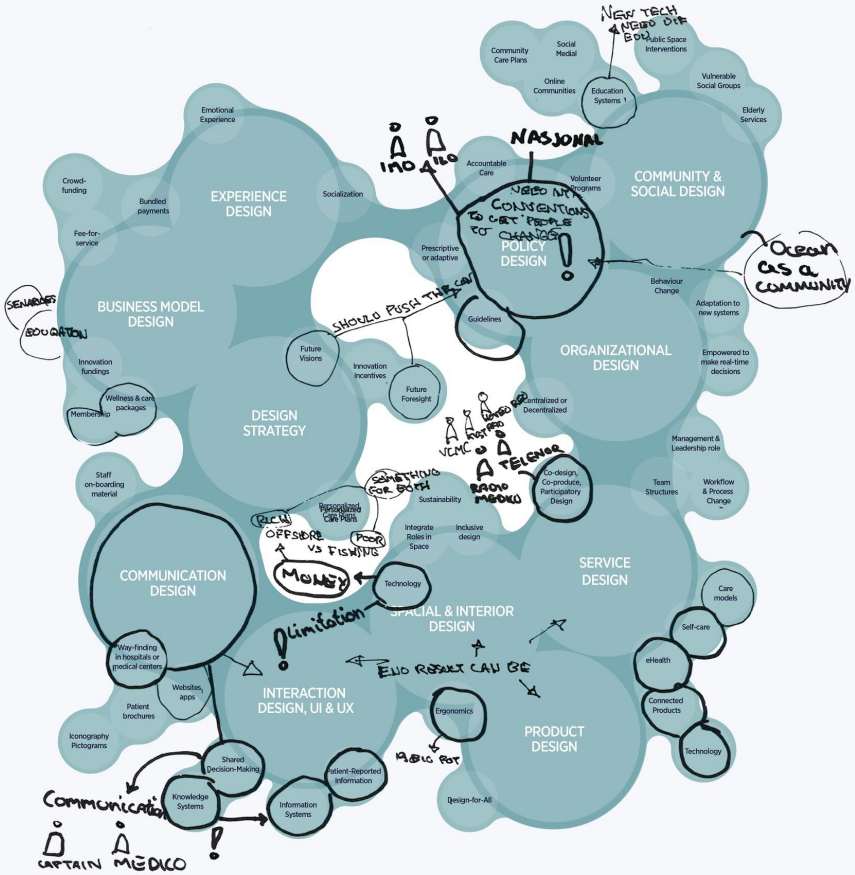
http://www.systemsorienteddesign.net/index.php/giga-mapping/types-of-systemic-relations

why did this all start?

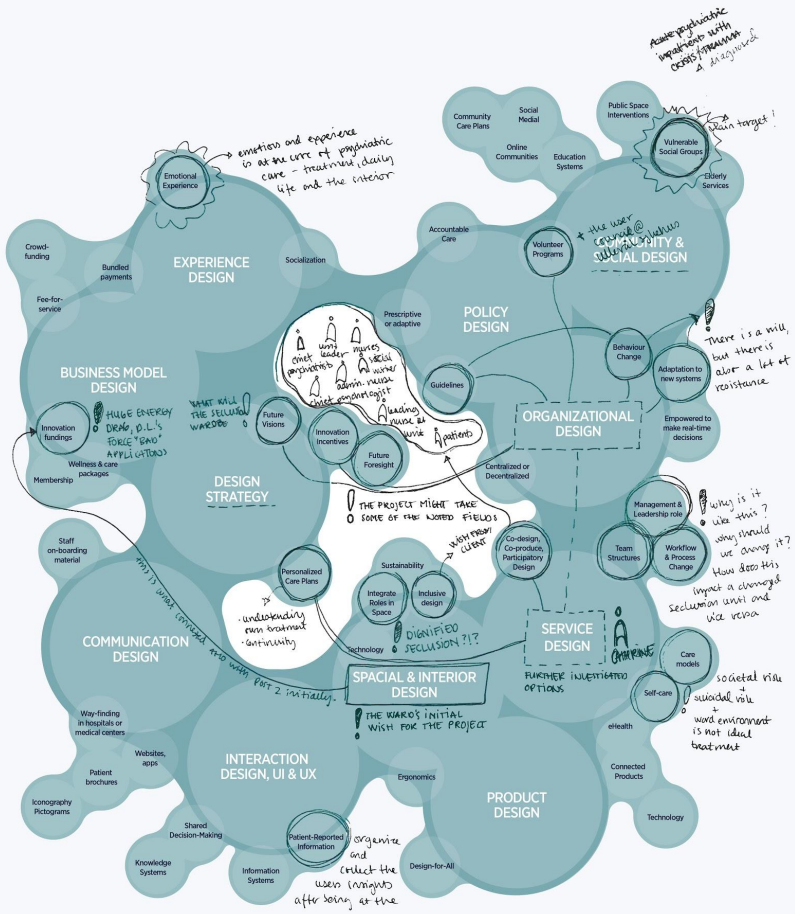


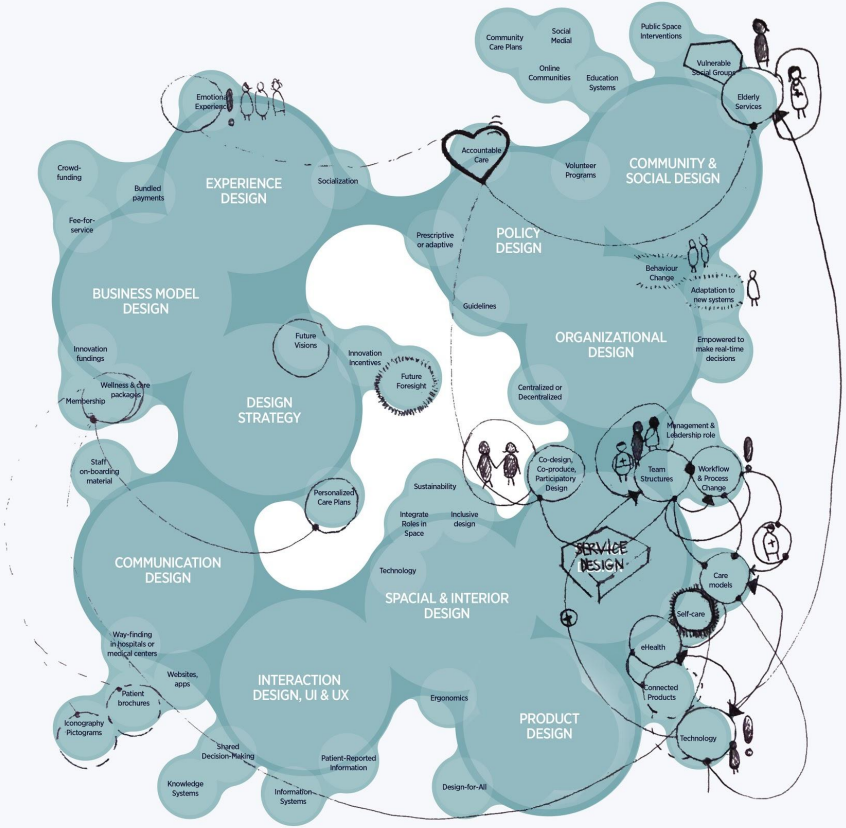
sharing experiences when design meets health





Inspired on “Building the Service Design Research UK Landscape, Lancaster University, 2013”





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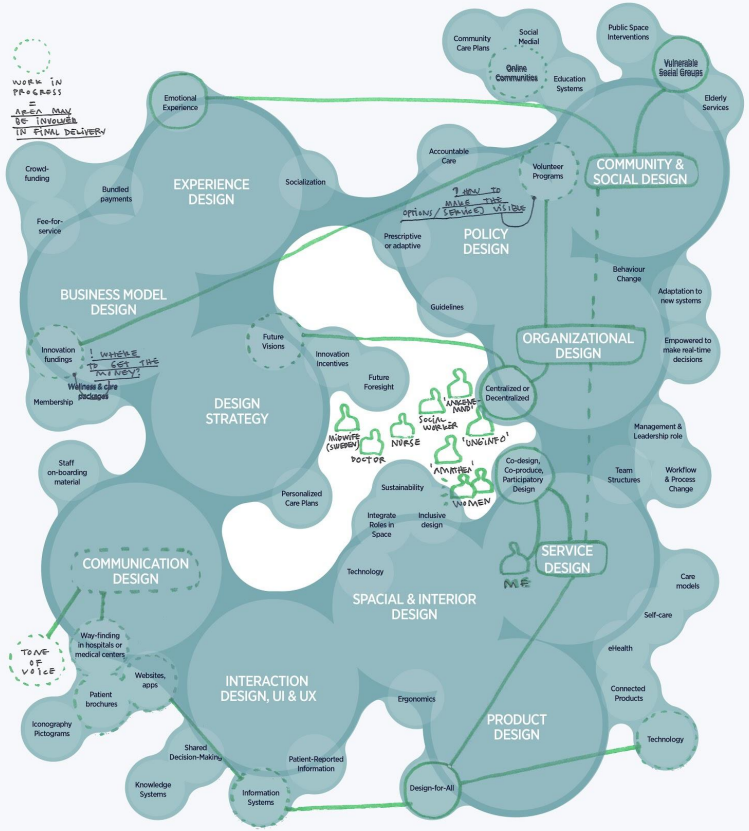

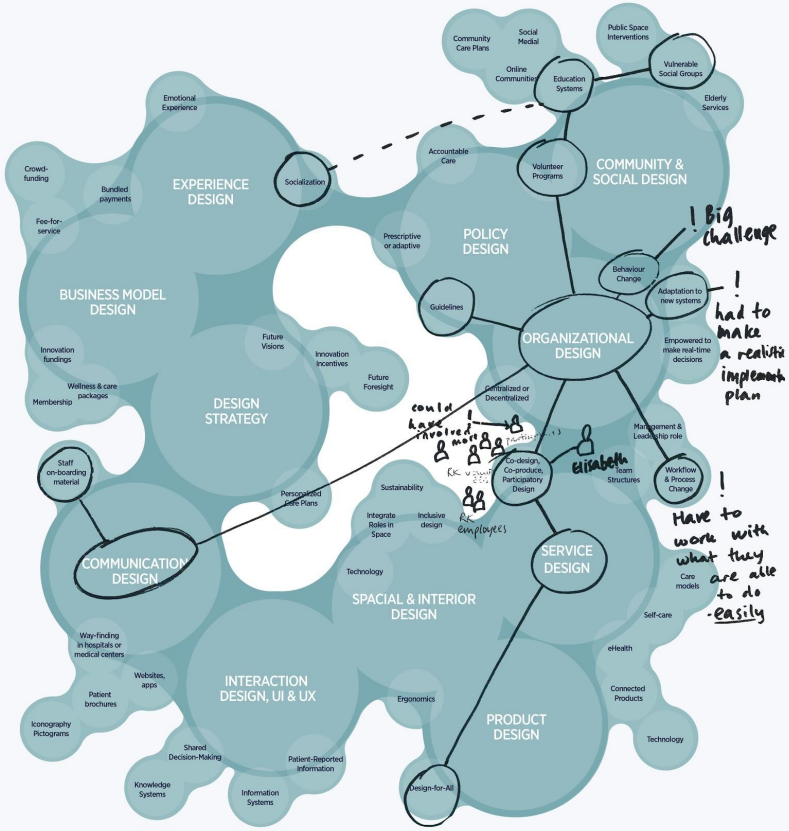

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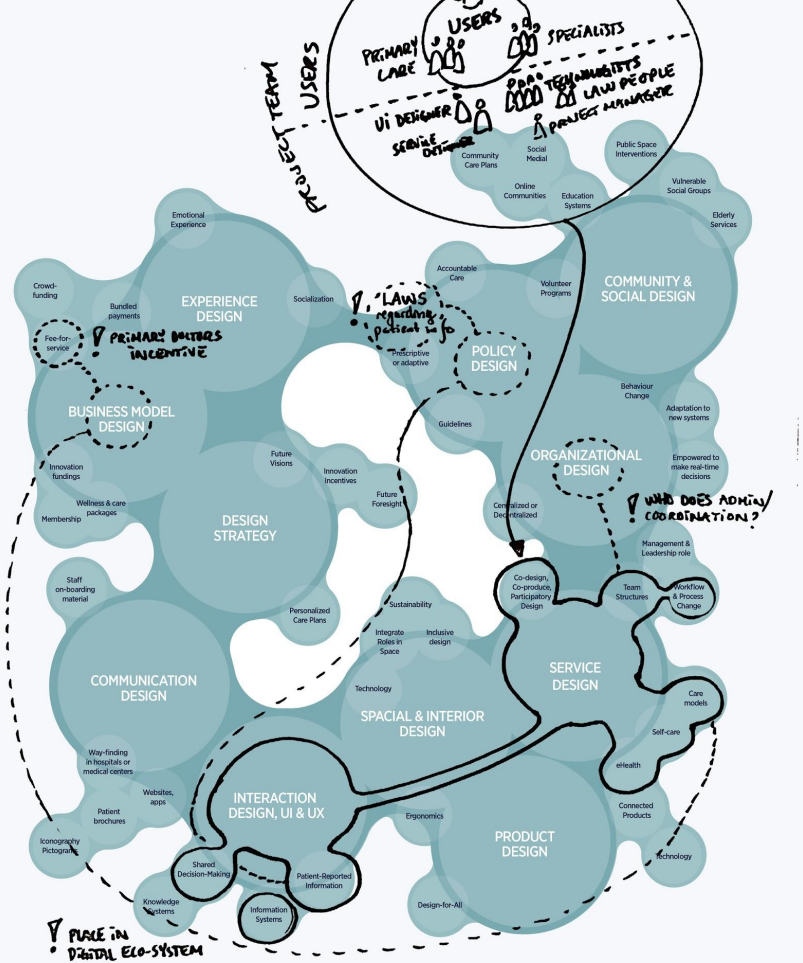

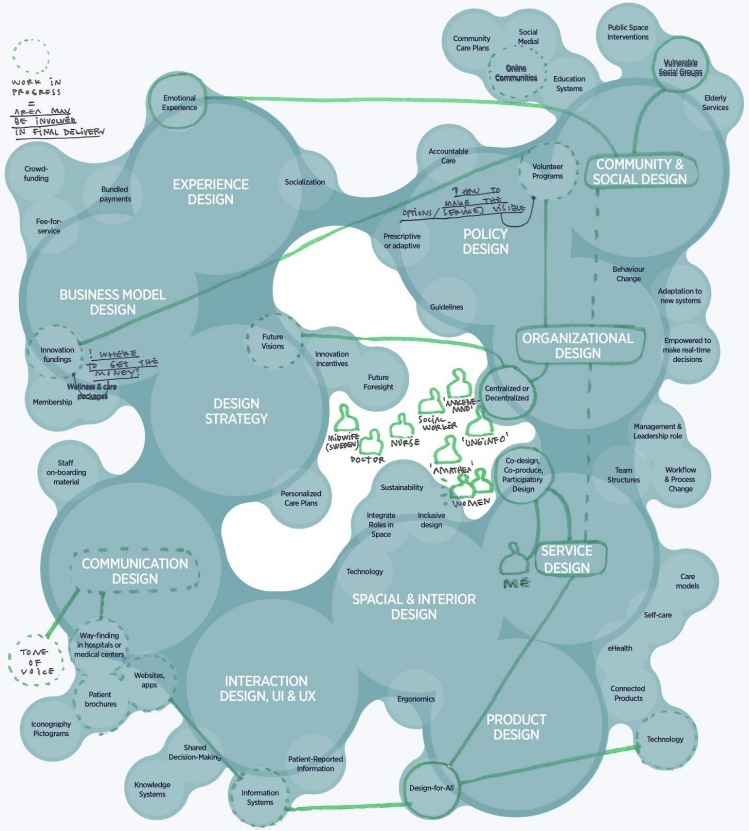

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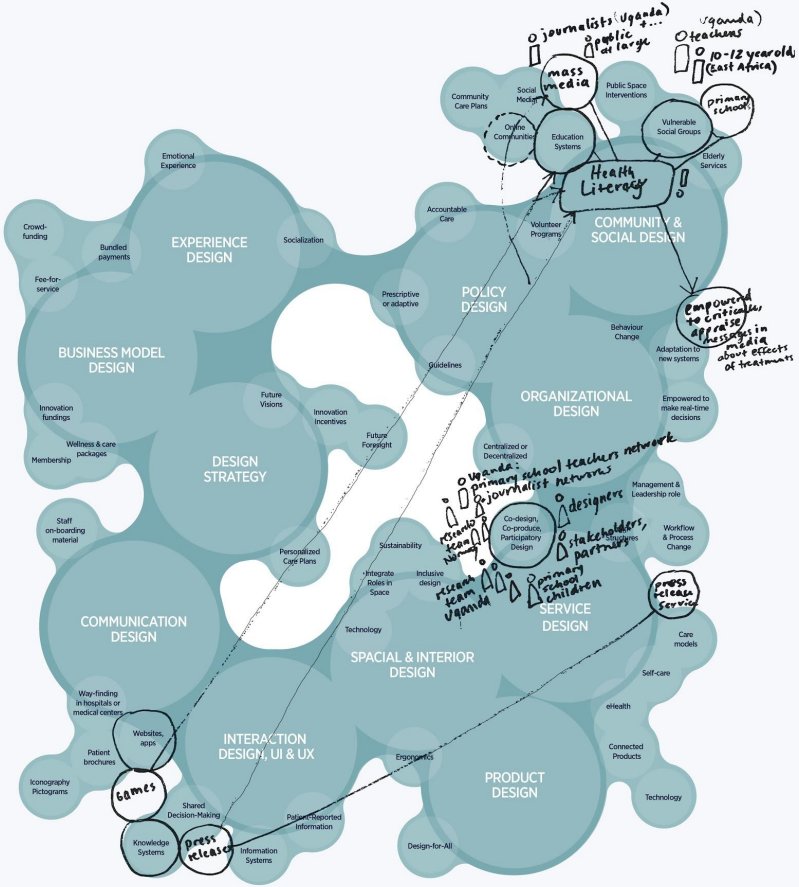

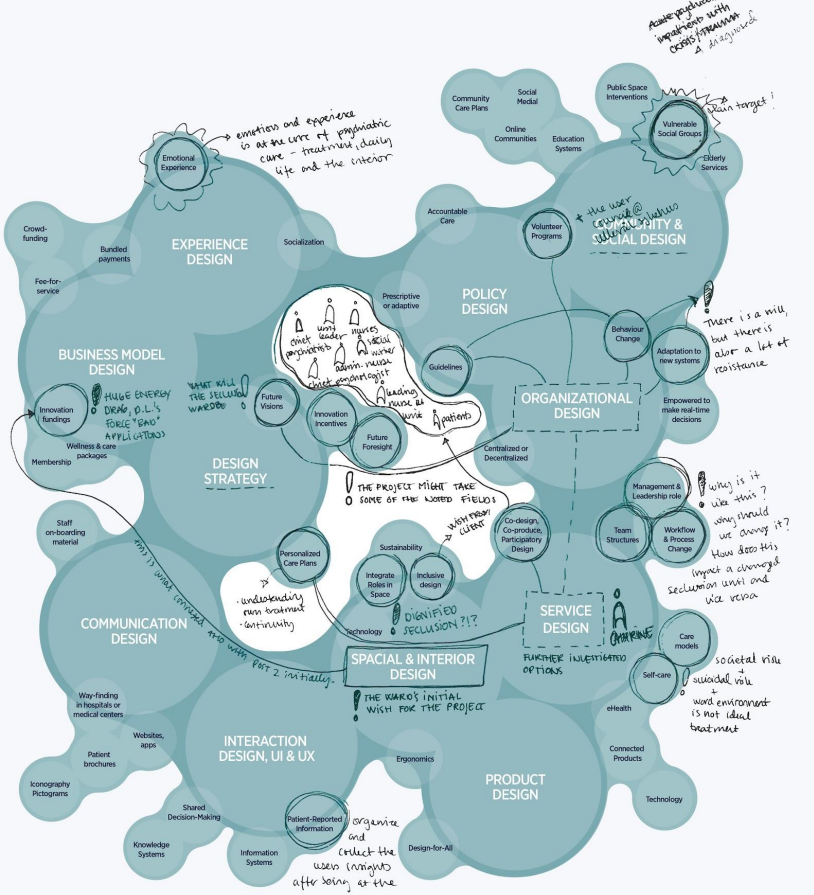

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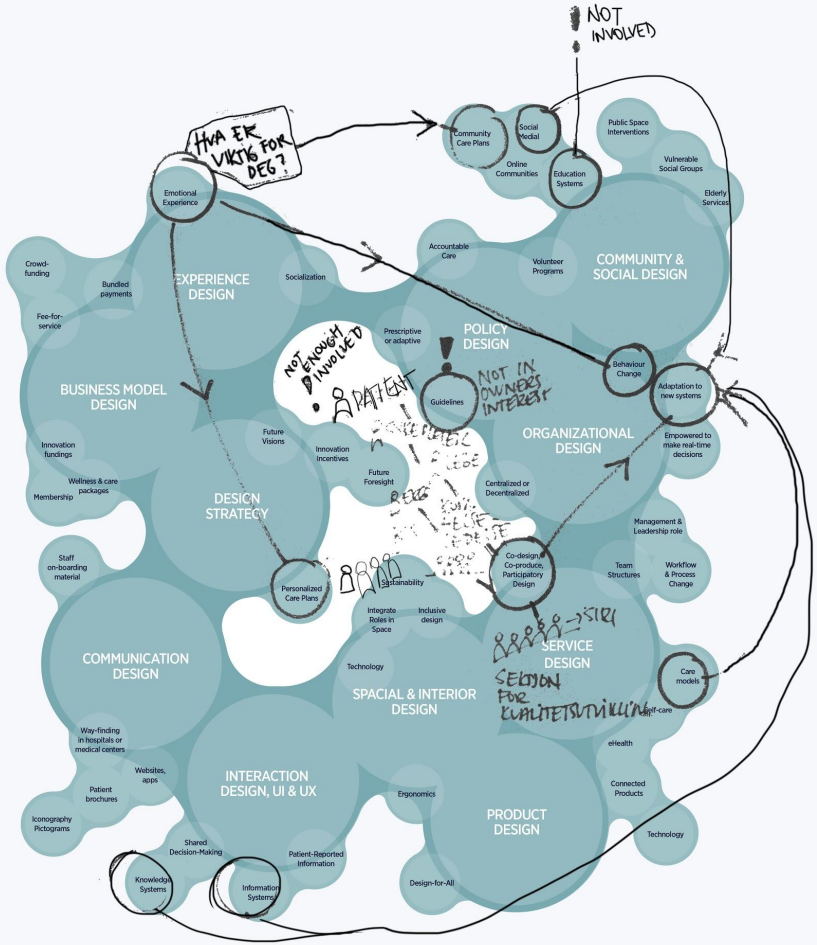

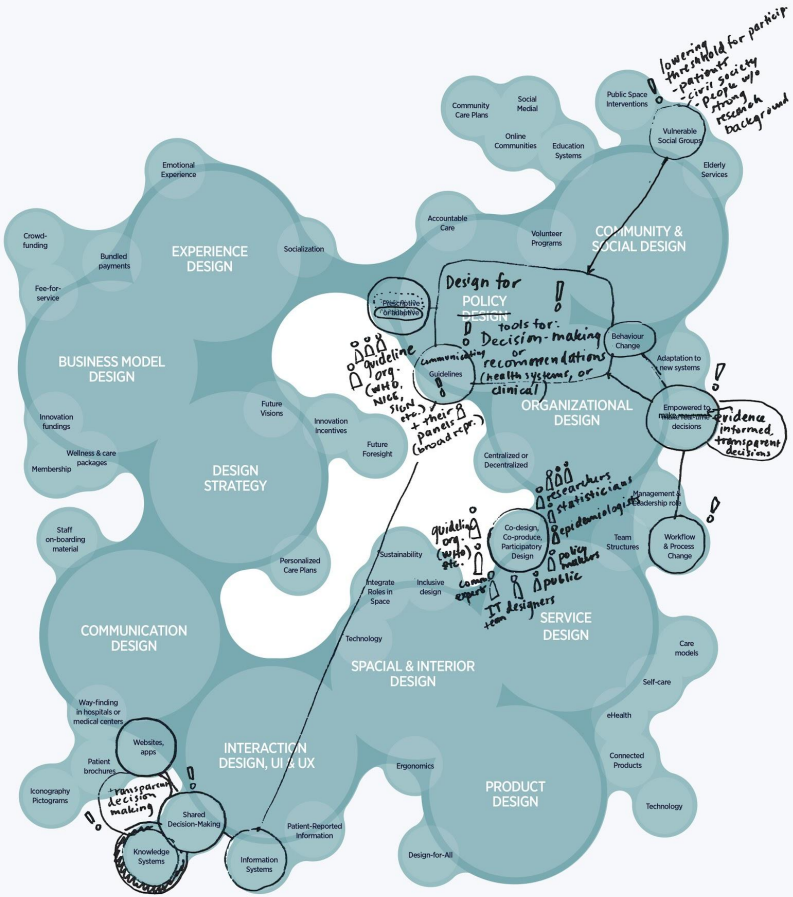

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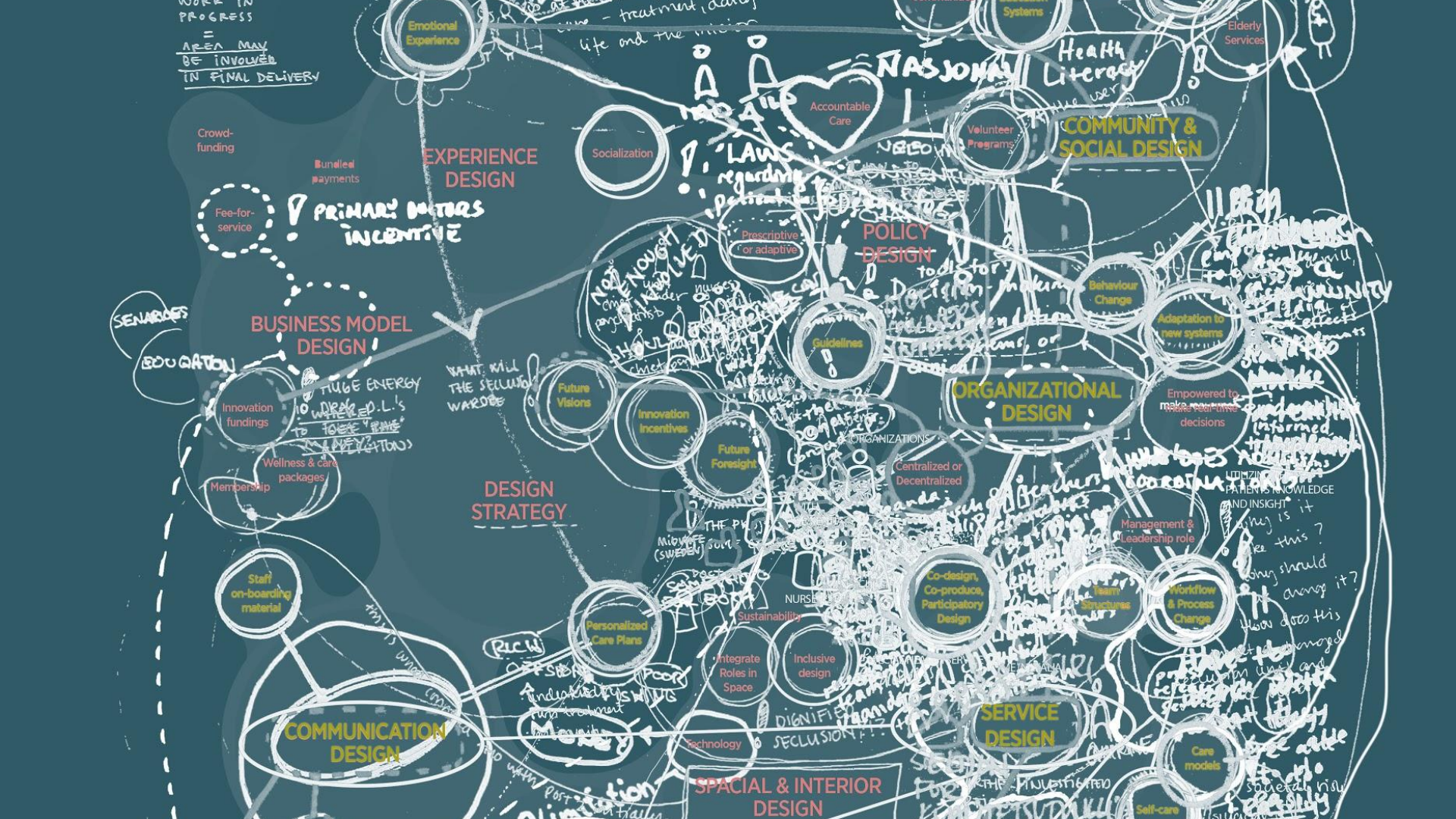
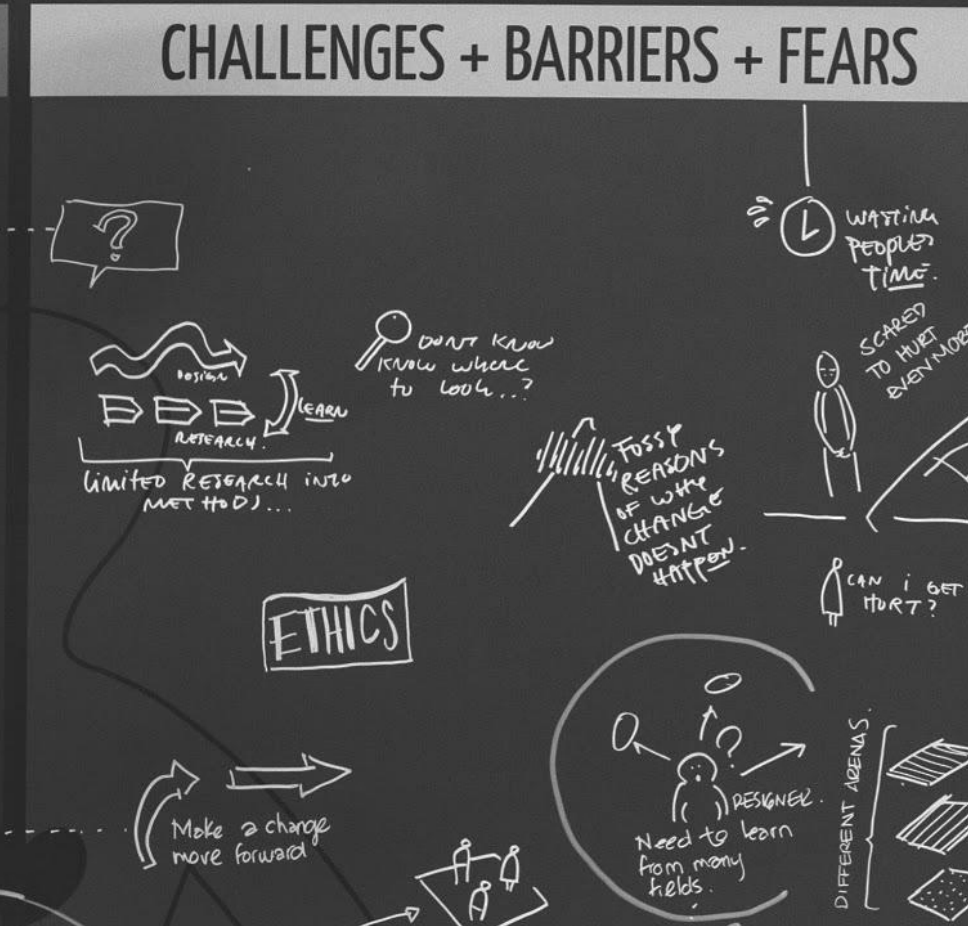

WORK IN PROGRESS = AREA MAY BE INVOLVED IN FINAL DELIVERY
Emotional Experience
Elderly Services
Health Literacy
NASJONAL
Accountable Care
Volunteer Programs
COMMUNITY & SOCIAL DESIGN
Crowd-funding
Bundled payments
Fee-for-service
EXPERIENCE DESIGN
Socialization
PRIMARY MOTORS INCENTIVE
LAWS regarding
Prescriptive or adaptive
POLICY DESIGN
Behaviour Change
Adaptation to new systems
BUSINESS MODEL DESIGN
EDUCATION
Guidelines
Innovation fundings
Wellness & care packages
Membership
Future Visions
Innovation Incentives
Future Foresight
ORGANIZATIONAL DESIGN
Empowered to make real-time decisions
ORGANIZATIONS
Centralized or Decentralized
DESIGN STRATEGY
Management & Leadership role
Staff on-boarding material
Personalized Care Plans
Sustainability
Co-design, Co-produce, Participatory Design
Team Structures
Workflow & Process Change
Integrate Roles in Space
Inclusive design
COMMUNICATION DESIGN
Technology
SERVICE DESIGN
SPACIAL & INTERIOR DESIGN
Care models
Self-care

THE EXPERIENCE OF DESIGNING IN HEALTHCARE

MOTIVATIONS + ASPIRATIONS

CHALLENGES + BARRIERS + FEARS



consumption

move to other areas. thing

do they right right.

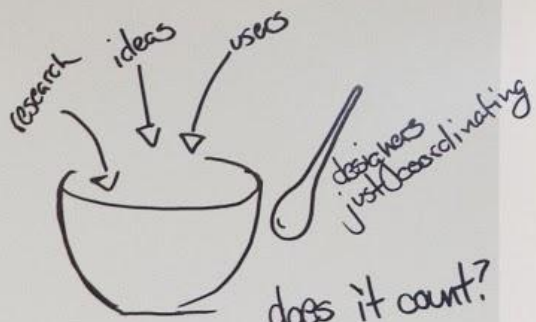
Age Barrier

dreams don't get implemented.

pt. + MD + systems

consider everything or nothing.

Healthcare is becoming trendy



does it count?

system design

brings us up a level

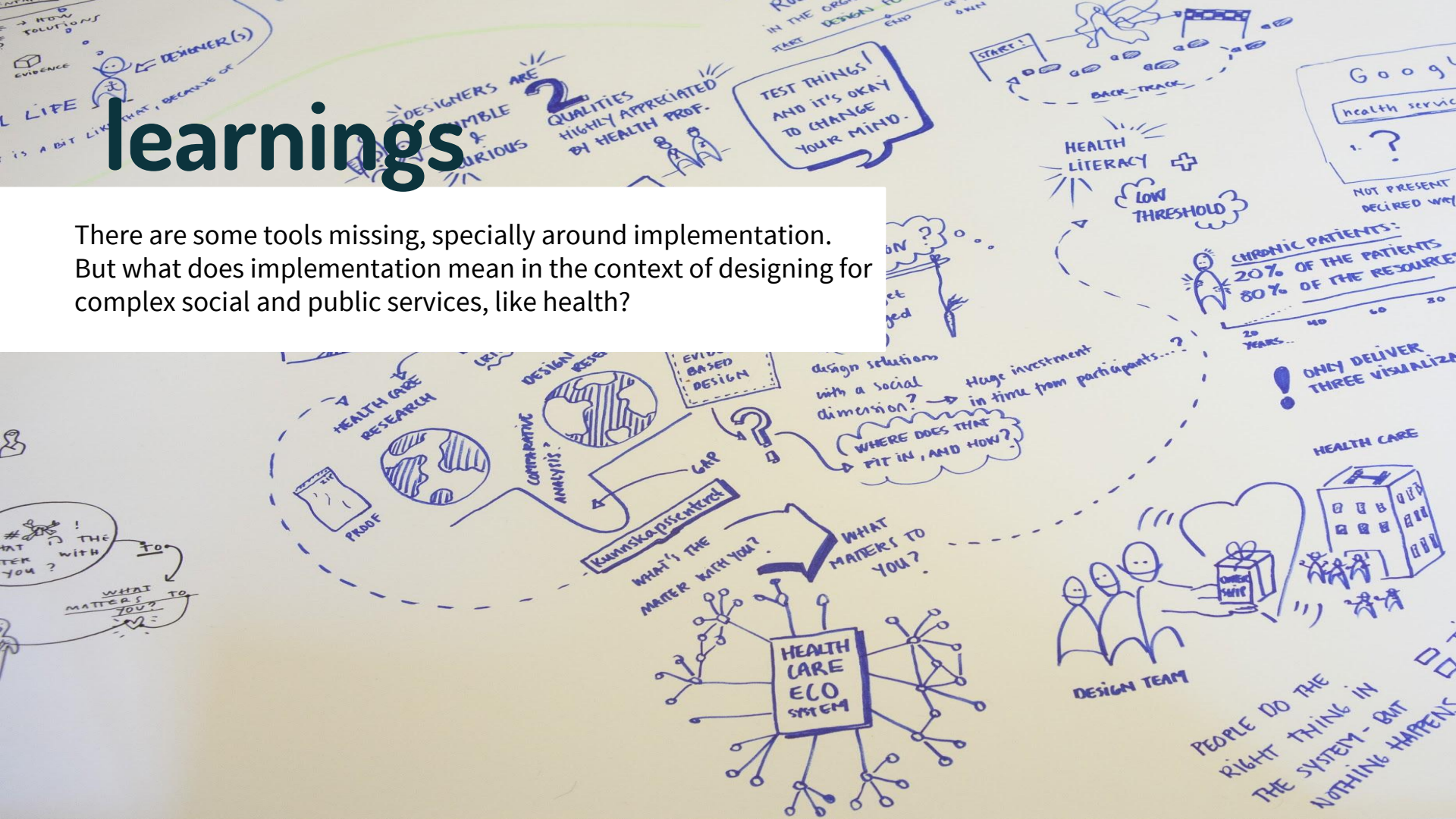
what do you do?

always mapping more & more!

which layer?

learnings

There are some tools missing, specially around implementation. But what does implementation mean in the context of designing for complex social and public services, like health?



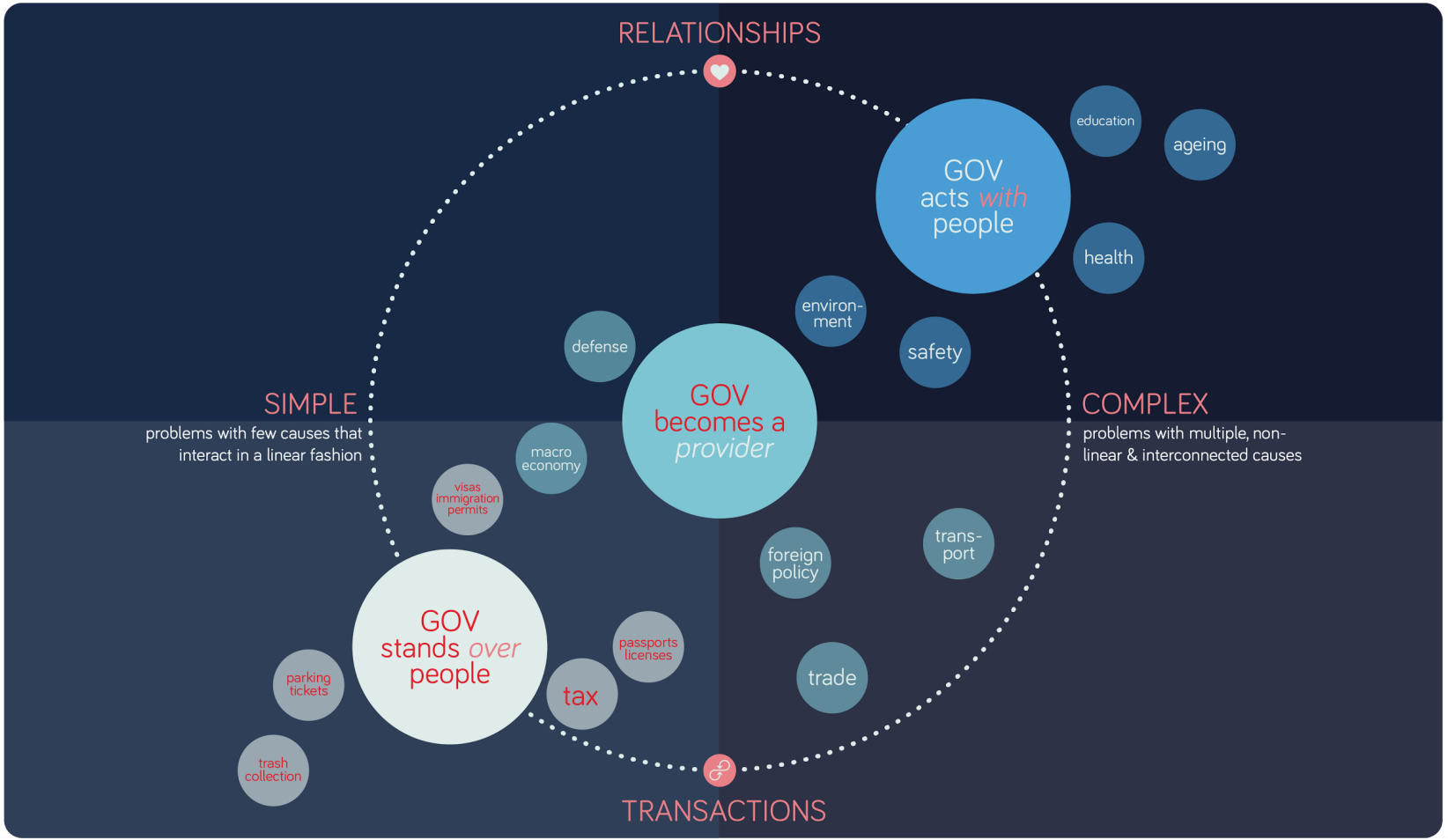
From Delivery State to Relational State

Sources: Muir & Parker 2014; Cooke & Muir 2012

FROM EFFICIENT TRANSACTIONS

TO MEANINGFUL RELATIONSHIPS

Sources: Muir & Parker 2014; Cooke & Muir 2012



Sources: Muir & Parker 2014; Cooke & Muir 2012

WHAT IS THE RELATIONAL STATE?

Sources: Muir & Parker 2014; Cooke & Muir 2012

relational public services

We need to see public services as interconnected systems.

The role of the government changes from a manager to an enabler.

Actors and institutions take the lead.

A bigger role for communities, service providers and individuals.

At all these levels, we need to foster deeper relationships.

source: Muir & Parker. 2014. Many to Many: How the relational state will transform public services

lets rewind 24 hours

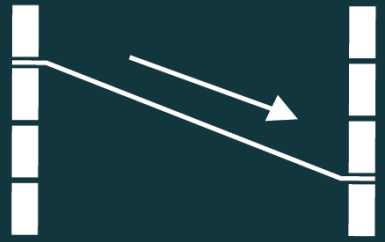

setting up the workspace

supporting people as they age

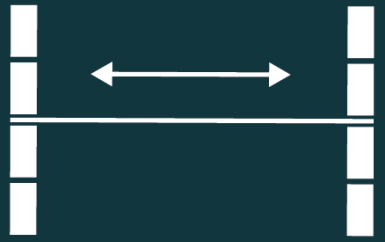
mental health challenges in young people

formally strenthening caregivers

systems & service levels



Direction

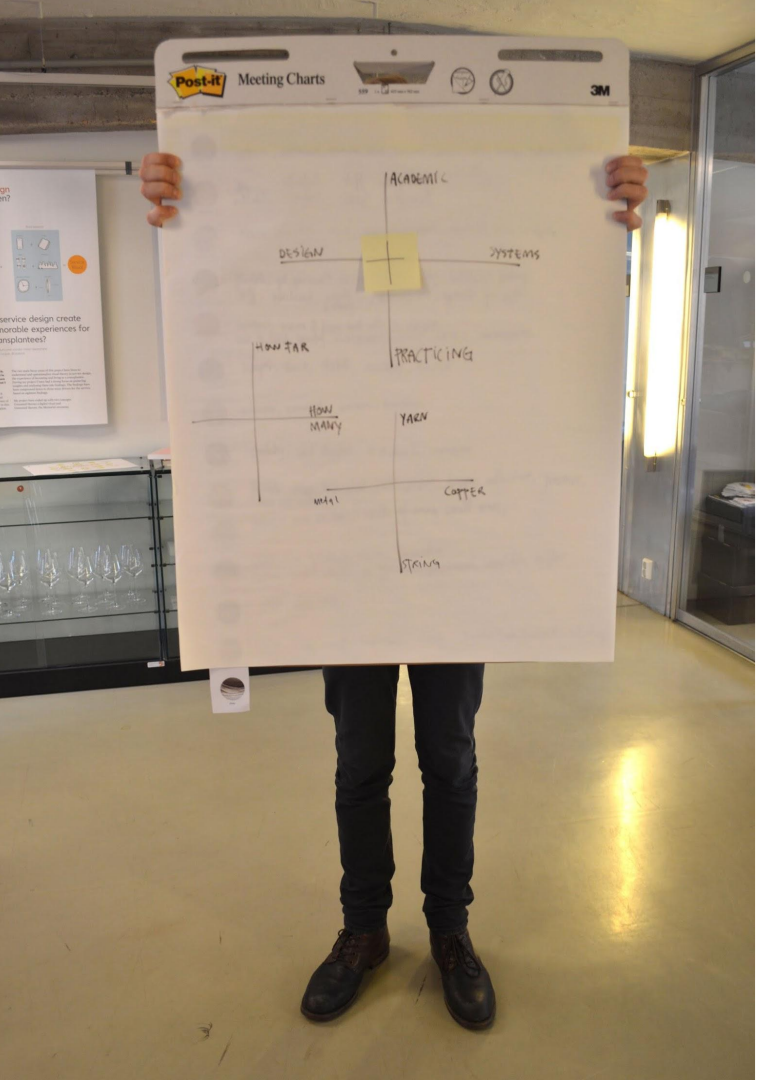


Equal

systems & service levels

systems & service levels


introducing the day



warm up: segmenting

Design-Systems & Academic - Practical (same as Birgers)

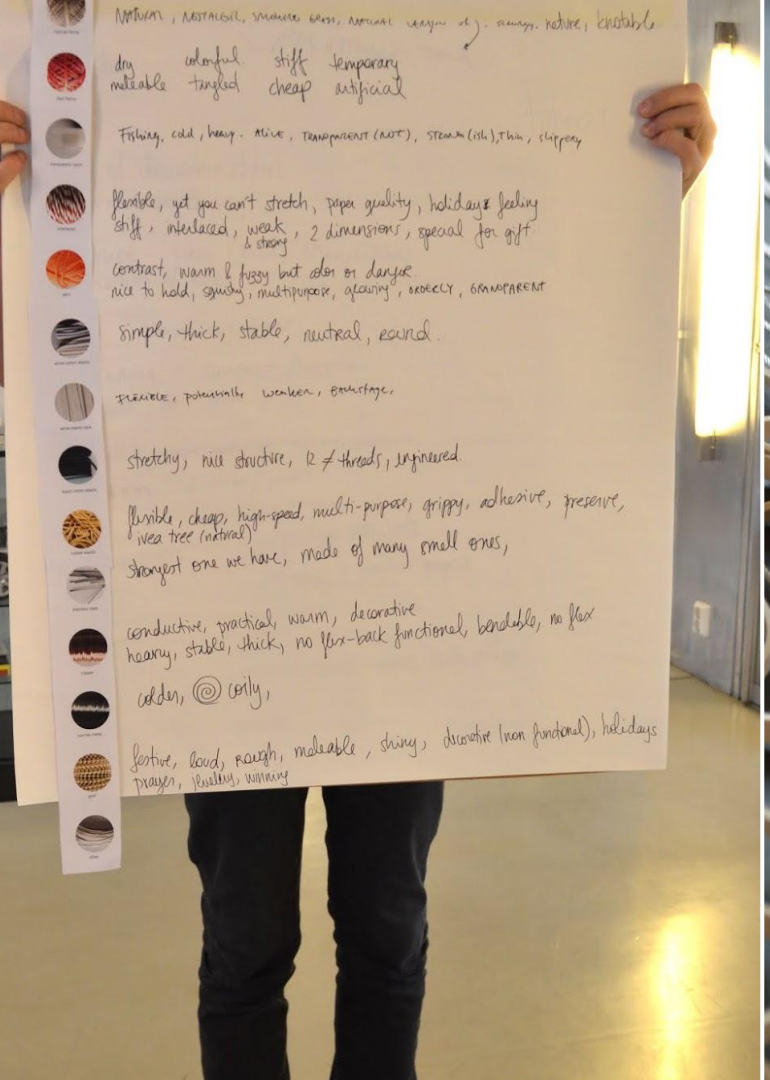
Copper - Metal & String - Yarn

invisible forces that shape social interactions, like:

1. Taboos
2. Hierarchy
3. Cultural norms
4. History of discrimination
5. Lack of confidence
6. Social standards
7. Political agendas
8. Conflict of interests
9. Ability to express fear

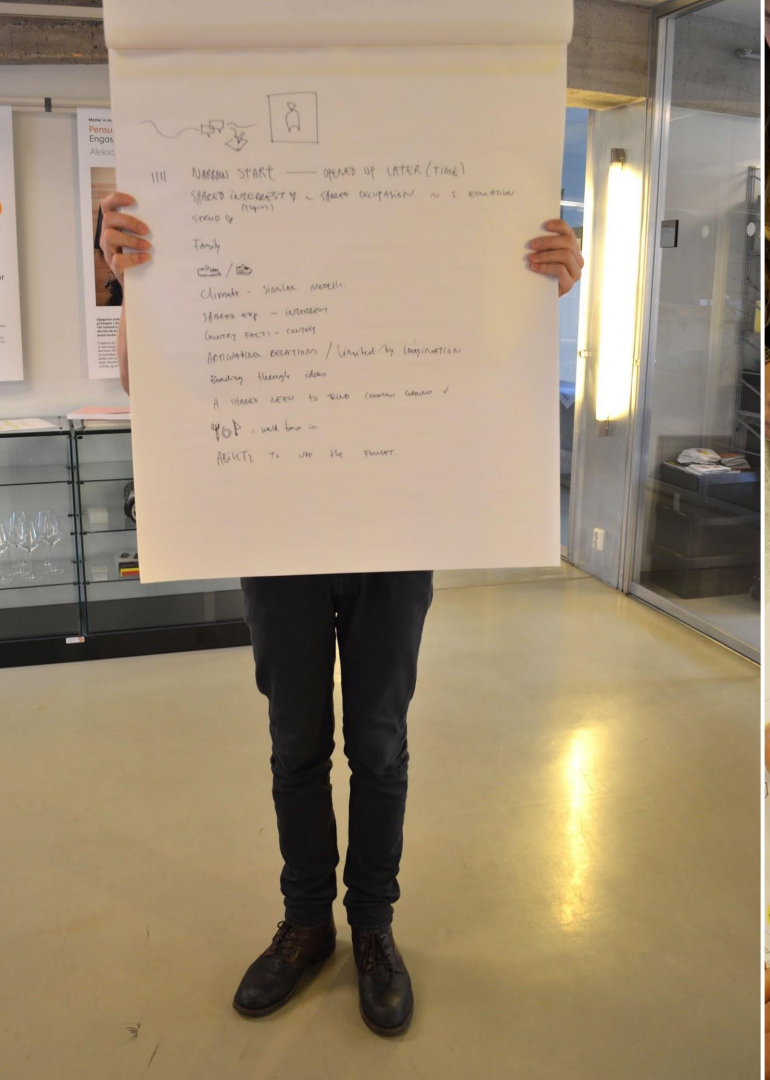
or… “people just not liking each other”


introducing the materials


dry colorful stiff temporary
malleable tangled cheap artificial
flexible, yet you can't stretch, paper quality, holidays feeling
stiff, interlaced, weak & strong, 2 dimensions, special for gift
contrast, warm & fuzzy but also on danger
nice to hold, squishy, multipurpose, glowing, SOBERLY, GRANDPARENT
simple, thick, stable, neutral, round
stretchy, nice structure, it ≠ threads, engineered
flexible, cheap, high-speed, multi-purpose, grippy, adhesive, preserve,
wea tree (natural)
strongest one we have, made of many small ones,
conductive, practical, warm, decorative
heavy, stable, thick, no flex-back functional, bendable, no flex
colder, curly,
festive, loud, rough, malleable, shiny, decorative (non functional), holidays
prayer, jewelry, winning

paper/pen relation

exploring their relations (& forming groups)



evaluating this approach

Key findings: narrow start - limited vocabulary - skill based

time to create!

How to strengthen the relations between different actors that want to support citizens as they get older?

Within the context you are working in, what type of *relation* could these materials represent?

* Relational shifts.

SERVICE • SYSTEM


white cotton elastic

bring people closer


white elastic lace

Pressure


black cotton elastic

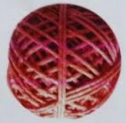
break
tension, harmful
bad influence


rubber elastic

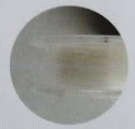
flexible, stretchy to a point


natural hemp

based on history


died hemp

real
superficial


transparent nylon

make transparent
strong
invisible


interlaced

equal/equality
complicated
occasional


yarn

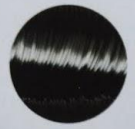
more personal
caring $
close


stainless steel

↑ Efectiveness
institutional,
cold
rigid


copper

↑ communication
influencial
+ close


normal metal

functional
transactional
impersonal
stronger

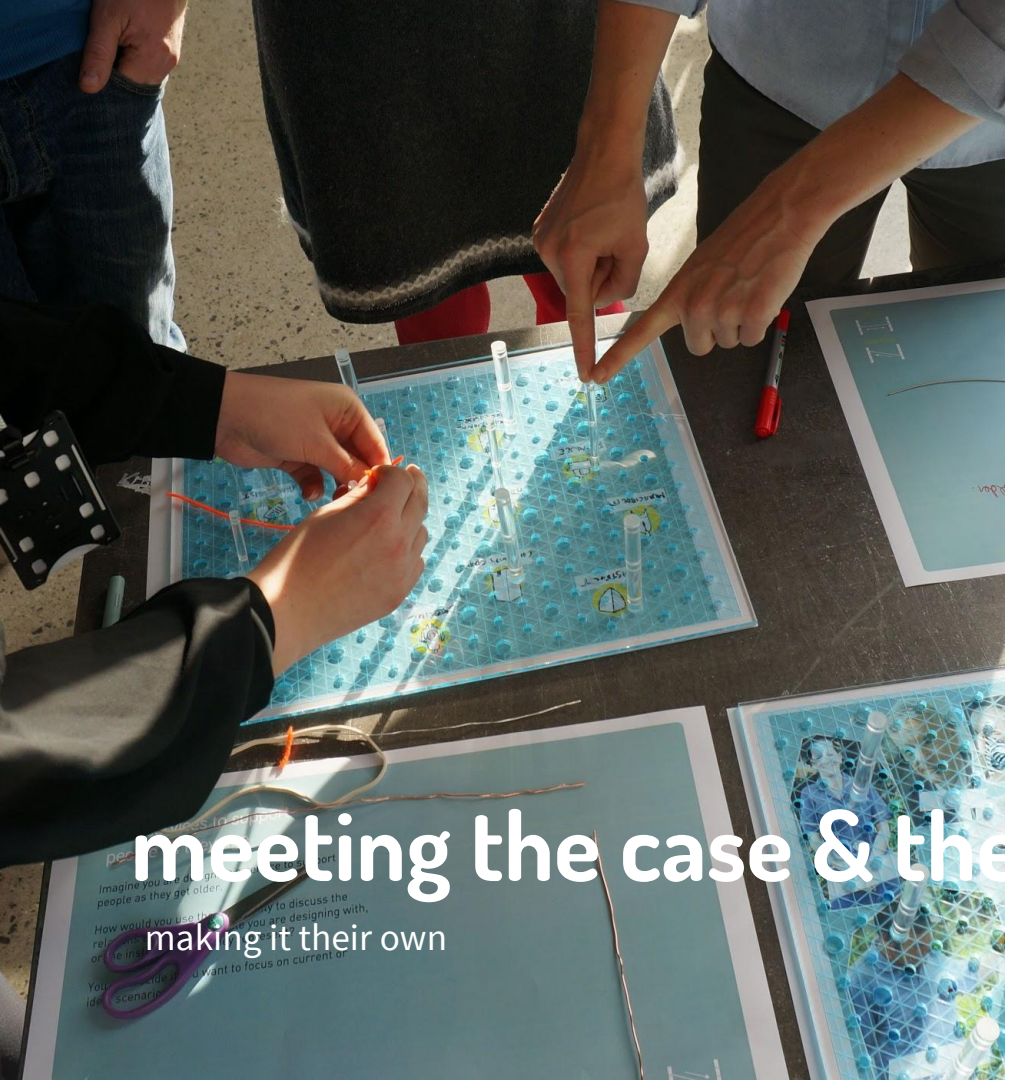

gold

sequencial,
episodic
expensive

precious,
afraid to
lose

owning the materials

through discussion and testing

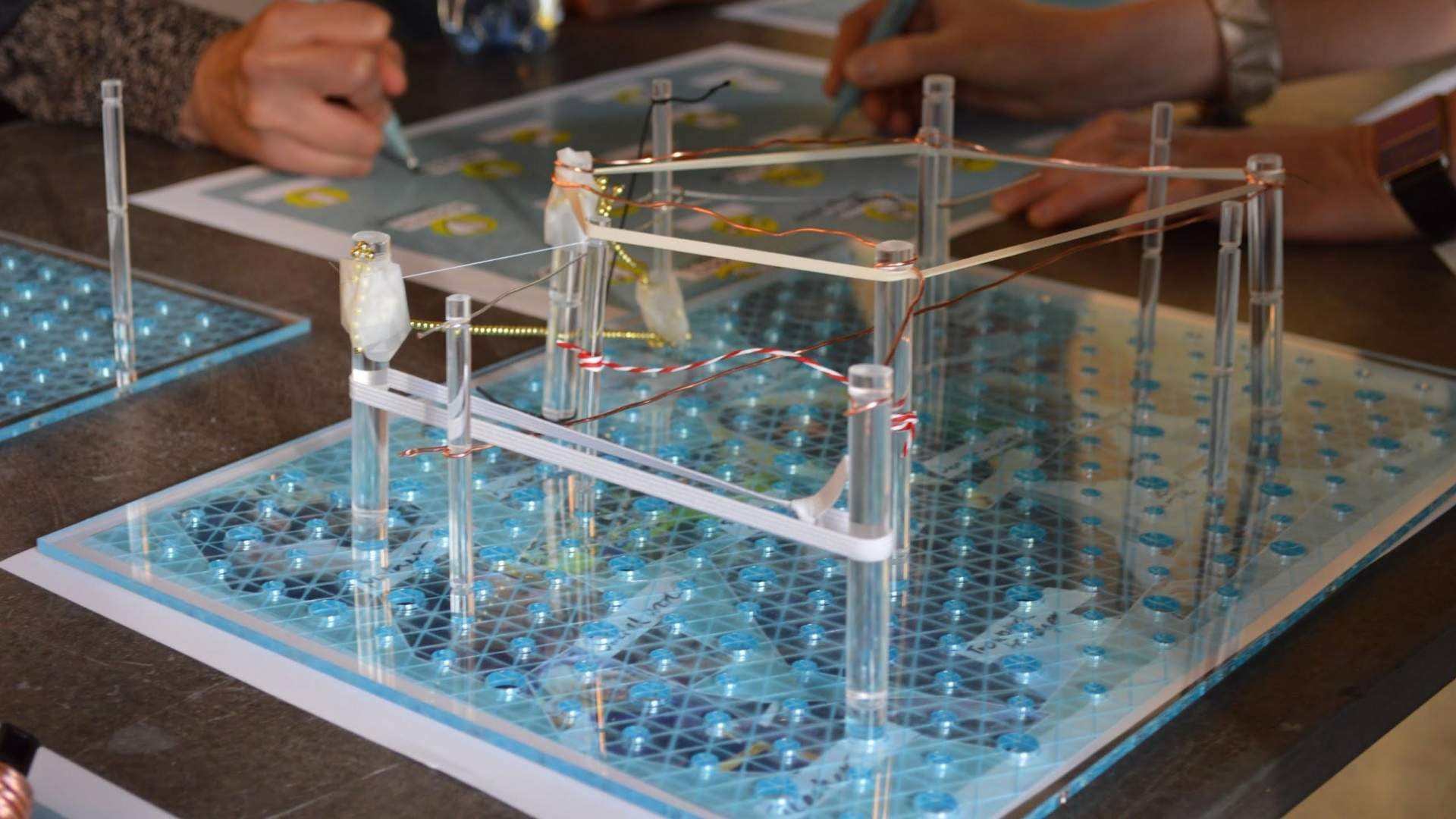


meeting the case & the kit

making it their own

meeting the case & the kit

group dynamics



timeout sharing session

sharing challenges & smart fixes

How to

that wa

Imagine yo
together w
~~mental hea~~

How would


IMMIGRANT
POLICY
ACADEMIA

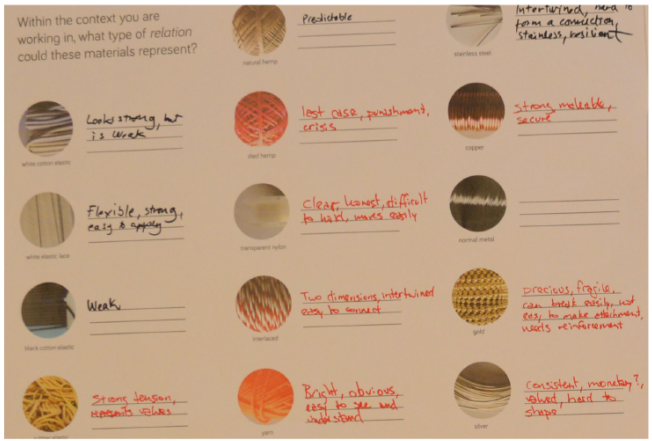
presentation session

“collective vocabulary re: relationships”

supporting people as they age

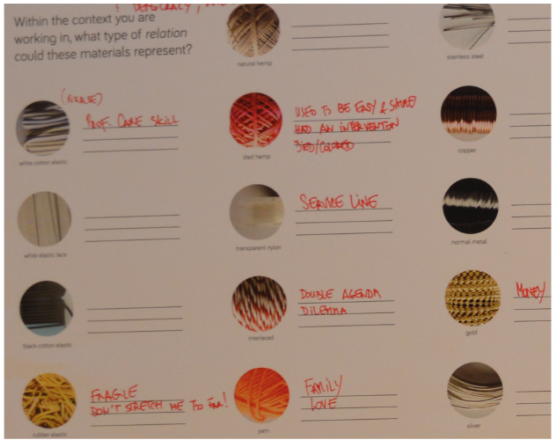
nylon:
transparent,
strong &
invisible

mental health challenges in young people



nylon:
clear, honest,
difficult to hold,
but moves easily

formally strenthening caregivers



nylon:
use it to represent
a supporting, but non
invasive service line

“bringing people together, like an elastic”

“its interesting that when we don't have tools like this, our instincts are to create solutions that are not about relationships, but about things.

And here, we don't even need a product. Its all about **transforming these relationships**.”


Any participants in
the room?

thanks to all the enthusiasm and creativity of the participants!

adrian & manuela

get in touch!

@Adrian_Paulsen

@ManuelaAguirreU

write your questions/
thoughts/pictures
here

how to design a feedback platform?

1) Maybe there´s a google function? / online questionnaire?
2) All the printable materials are done on our platform, that way we will see what types of challenges they use the tool for?
3) We also want to know what material library they create, and what relational vocabulary they design.