Design and Business for Complexity

Why and how to engage with complexity

Contents

what do we see?

What I see

1. an environment that is completely **man-made** - the world is a human **construct** (designed)
2. an environment of products and services that showcase the **complexity** of the world we live in (rocklobster, Bahamas, 8000km, internet, connected, sustainability)

Takeaway's

- The world, and to that degree, our problems are increasingly *open*, *dynamic*, *complex* and *networked*. Design is more and more asked to work with this.

- The world is made: from every small object to large system, it invites the **possibility for change**.


Midjourney: A scene of inside a vintage 1960's Finnair airplane shot from a person sitting in a chair who is looking at his tray that is filled with delicious food like exotic lobster, desserts, banana, and other expensive and luxurious foods

- Design (from the latin designare) is creating an **intervention** that allows us to go from **A** (now) to **B** (the future) ~ *strategy*

- Designing in inherently optimistic: not just reacting to today's problems, but looking for opportunities in the future. (Simon, 1962)

- Problems of today are *open, networked*, *dynamic,* and *complex* (Dorst, 2015)

  - **Climate Change.** This "problem" is *open* because it is a global problem with ambiguous boundaries. *Complex* due to interdependent social, economic, and environmental factors. *Dynamic* as impacts continuously escalate. *Networked* since no single entity can address it alone.

Strategy and Design are in their most basic form just a simple relationship between the present, the future, and the means to go towards that
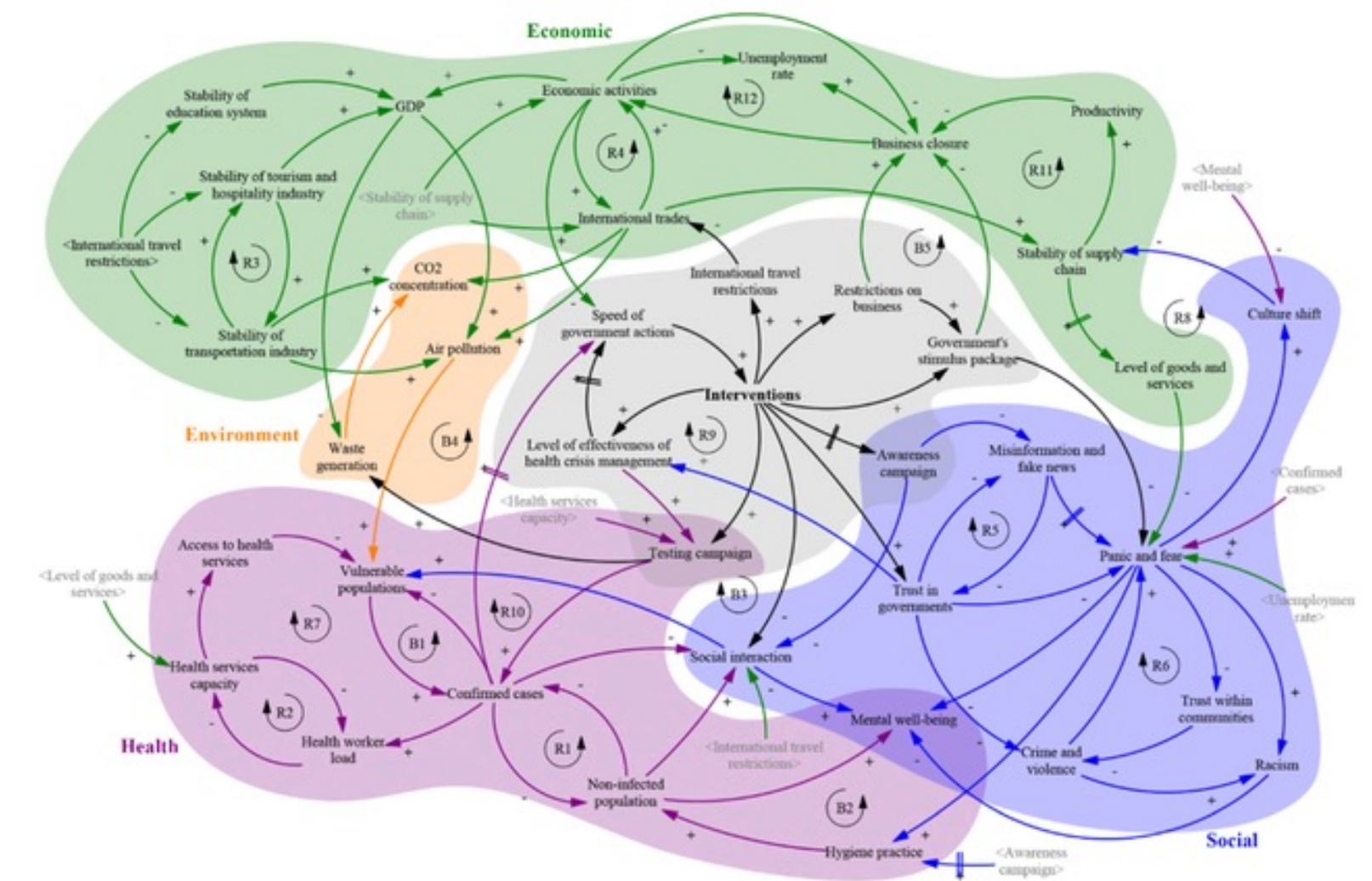

Systems Mapping: an approach from engineering to create system representations of complex problems

dissect the ecosystem,
strategy, branding, design. ⟶ **?**
make it make sense

- Much like your assignment, our design responses to complex problems should also share the qualities of our problems: *open, networked, dynamic, complex*

- How do we shape "systemic design approaches"? There's no one-size-fits-all methodology. Service Design, Systemic Design, Strategic Design, Transition Design, implementation

- We can no longer just **design the product**. Need for **context**, how do we act in that future world?
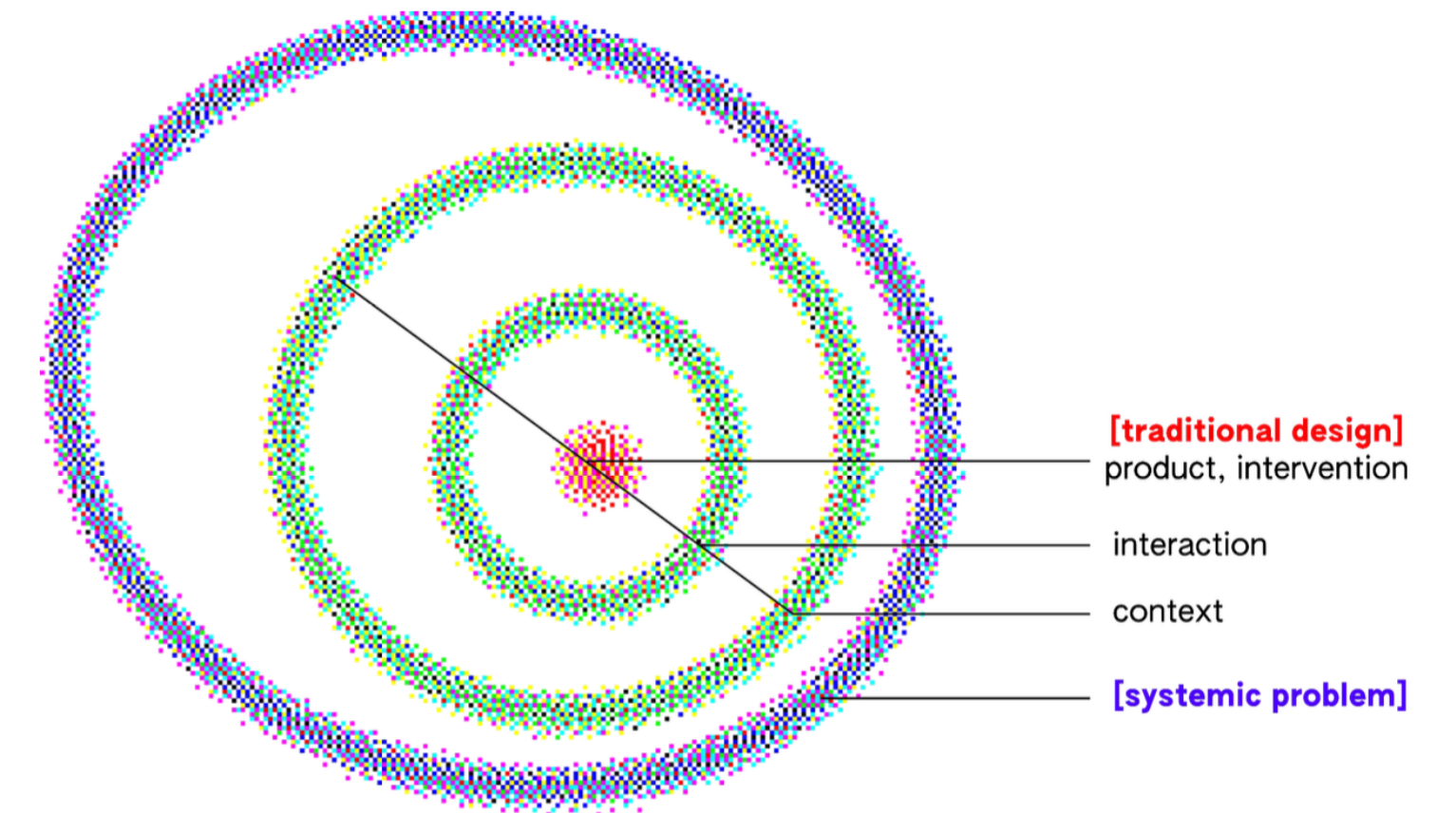
Principles to embrace complexity

#1 Think system, think contextual

"Always design a thing by considering it in its next larger context   a chair in a room, a room in a house, a house in an environment, an environment in a city plan." - Eliel Saarinen

#2: Make complexity tangible

I'm sorry, speculating about what needs to be designed is not yet a design activity. Tangible artefacts communicate, incentivises collaboration and change minds. Zoom between strategy and tactical.

#3 Embrace change, design multiple horizons

With system-level work, solutions are never "done." Consciously trace multiple paths, don't just anticipate, but react.

#4 Look at the Past to inform how we shape the future

Some elements will never change. Humans are inherently social creatures, whether they like it or not. Humans make sense of the world through stories, etc.
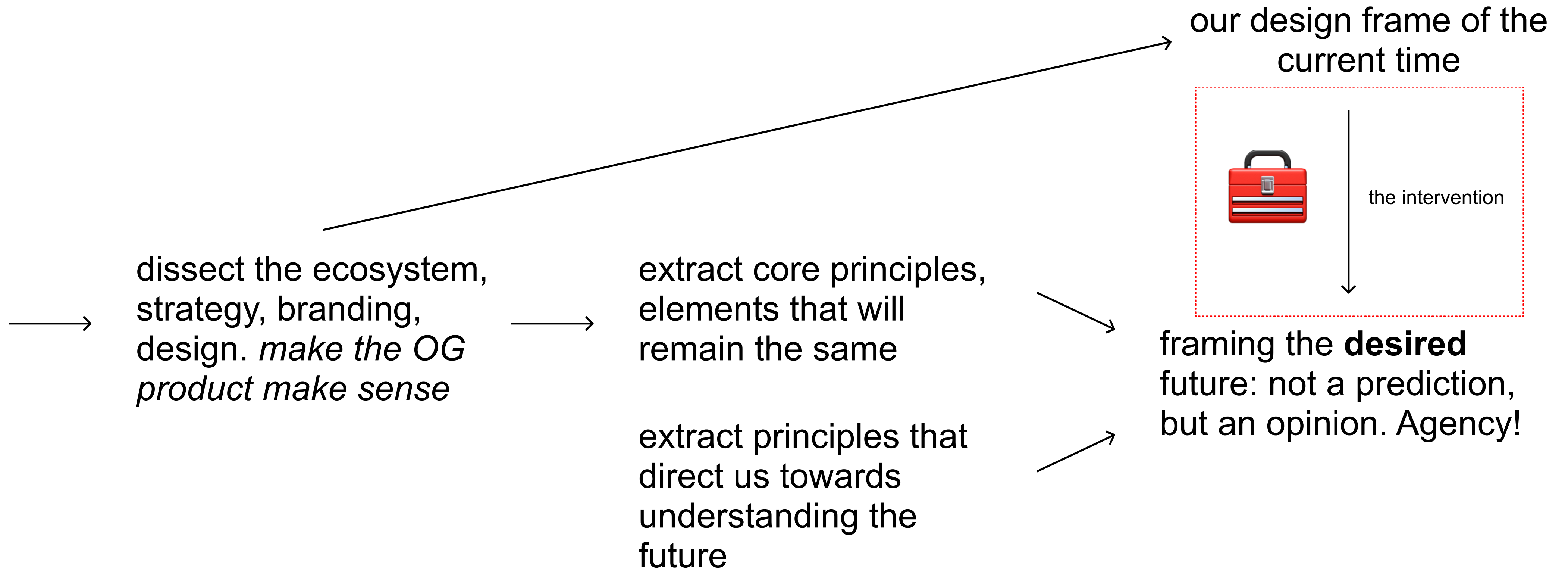
#5 Facilitate interdisciplinarity

a designer can no longer do everything to tackle systemic "problems". Need to embrace interdisciplinary integration, facilitate with our designer skills

#6 Zoom between tactical and strategic.

If you design a new product, zoom out to inquire about the implications. Have a system play in mind at all times.
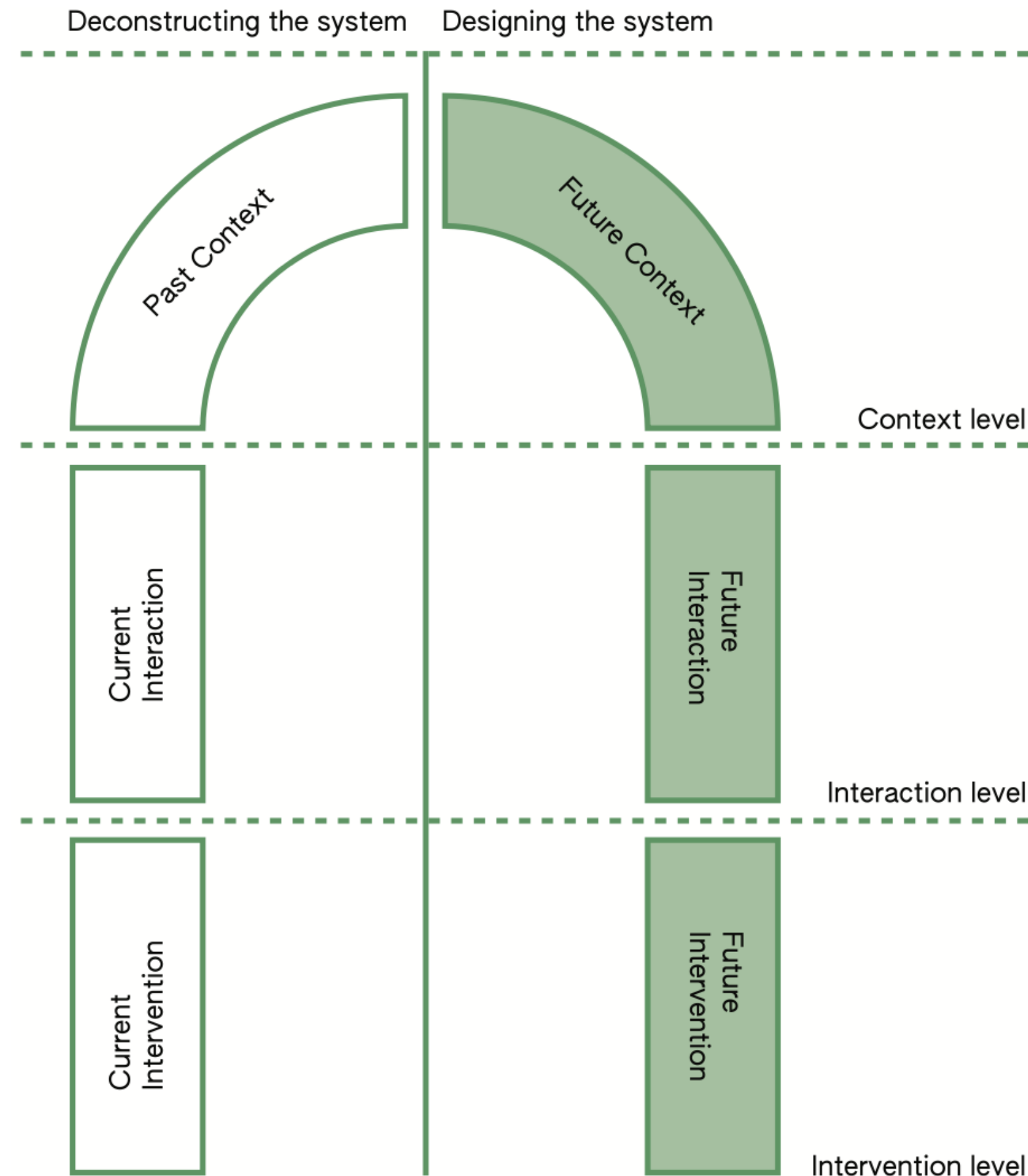
traditional design ⟶ product current context ⟶ product to solve problem ⟶ nowadays impossible to predict ...

our design frame of the current time

the intervention

dissect the ecosystem, strategy, branding, design. *make the OG product make sense*

extract core principles, elements that will remain the same

framing the **desired** future: not a prediction, but an opinion. Agency!

extract principles that direct us towards understanding the future

BROADLY THE STEPS OF VIP

The Vision in Product Design losely consists of the following steps:

1. *Deconstruction*: Understand the "why" behind the world of current solutions and evaluate if they are still meaningful within today's context. In this step, you pick a domain to apply focus and scope the project.

2. *Future Context*: Explore the future context related to a specific domain through research and expert interviews, imagining multiple plausible futures.

3. *Positioning*: Set an ambitious vision for a desirable future, actively expressing your values as a designer and considering the context in which you are designing.

4. *Design*: Develop new products, services, systems, or environments that can facilitate the desired change, test, and scale new solutions.

5. *Transition*: Design a transformation path from the present towards the desireable future.

Deconstructing the system   Designing the system

Past Context   Future Context

Context level

Current Interaction   Future Interaction

Interaction level

Current Intervention   Future Intervention

Intervention level

what you need to remember

- explicitly state and design your future context, build down rather than build up.

More examples

Psychological

The more choice a person has, the less likely it is that he or she will make a decision (principle)

An important function of a stroller is to be able to restrict your child's movement (principle)

The notion of being responsible all of time is the core of parenting (principle)

It is impossible to take complete responsibility for a child (principle)

Every step in the development of a child follows four phases: 1) 'doing for', 2) 'doing with', 3) 'standing by to admire' and 4) 'doing for oneself' (principle)

You can't learn to drive a car solely by observing other people driving a car (principle)

Parenthood puts strong pressure on the ability to regulate emotions (principle)

The experience of holding and comforting, bathing and feeding, strengthens you in the idea that you are a good parent (principle)

Human beings have the ability to incorporate objects into their body image very quickly, body and object become one (principle)

To raise a child without any tension or struggle is impossible (principle)

40% of the contact between parent and child is about disobedience (principle)

Young parents can be very insecure in the first months of their first child (principle)

There are five basic behaviours of parents: 1) safety of the child, 2) care of the child, 3) keep sight of the child, 4) placing demands, 5) setting limits (principle)

Cultural

Having children will have less and less influence on one's freedom of movement (development)

Baby strollers are more and more an expression of identity (trend)

In recent decades the time parents spend with their children has increased (development)

The language and understanding of psychology have permeated our everyday lives ('therapy culture') (development)

The cultural norm is that when it comes to your children only the best is good enough (state)

The cultural norm, as advocated by developmental psychologists, is that 100% of a child's disobedience should be corrected. (state)

The cultural norm is that raising a child is something that should come naturally (state)

A child's behaviour is seen as a measure of parental competence (state)

Experts and celebrities play an important role in selling goods (principle)

Demographic

The age women have their first child is rising (development)

Grandparents are becoming older (development)

The number of children per family is decreasing (development)

The time span between the birth of the first and the second child is decreasing (development)

Technological

IVF is more widely used and increases the number of twins (development)

Baby strollers come equipped with an ever increasing number of add-ons, from cup holders to GPS navigation (trend)

Sociological

Parents enjoy exchanging experiences with other parents (state)

'Word-of-mouth' is mainly based on arguments that can be verbalized (principle)

Parents and grandparents enjoy their children being noticed by others (principle)

It takes a village to raise a child (principle)

Misbehaviour of one's child can cause a parent to feel self-conscious (state)

To raise children you need to be able to fall back on 1) a social society, 2) a good network, 3) reflective ability, 4) 'good parenting' experiences (principle)

Economic

Strollers are most often bought in the second half of the pregnancy (state)

A stroller is typically a product which parents buy together. This increases the tendency toward rationalising arguments (principle)

When people are in a decision-making process they tend to verbalise and rationalise their arguments. However, less easily articulated or more unconscious arguments can be just as relevant (principle)

With the growth of the knowledge based economy, work has become a mental activity and less a physical activity (development)

Anticipated regrets: people are afraid of making wrong decisions (principle)

The labour market demands a higher degree of geographical mobility, living close to family becomes less obvious (development)

Context Framing

- 50% of today's car owners will probably not be interested in owning a car by as early as 2025 (KPMG)

- In 35 years, new mobility technology is expected to drive a staggering 40% of the auto industry's profits (KPMG)

- About 36% of Americans have already used one of the many ride-hailing apps (KPMG)

- 50% of surveyed consumers spanning 19 countries don't prefer cars as their main form of transport (KPMG)

Lab1886's (InnovationLab by Daimler) first (and most successful) projects was Car2go, first developed in 2007 in Ulm, Germany. The concept was simple – to enable users to reserve and rent a car via a cost-free smartphone app, anytime and at a low cost.

- This is the product of **business model innovation (BMI)**

Car 2 Go by Daimler is the world's most succesful car-sharing platforms.
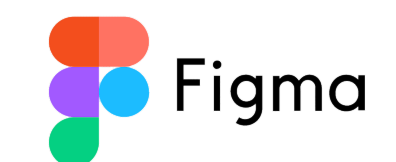
Basically an innovation tool to deal with complexity and dynamism!

- business model innovation (bmi) is the process of innovating on how a firm creates value by means of its business structure

- Normally a **business model** represents a framework of how a firm gradually refines their value proposition throughout the business journey to create better market fit. -> product innovation, fitting.

- If you see a business model as flexible, it has far-reaching consequences: it's not just a description of the business, but a means to innovate on .. (Zott & Amit, 2015)

- **Take away:** enable experimentation by turning the firm into a "business creation engine": a firm that is able to test new ideas and new business models in pilots, under new names, and in exploration with stakeholders or competitors. Robustness and Resilience!
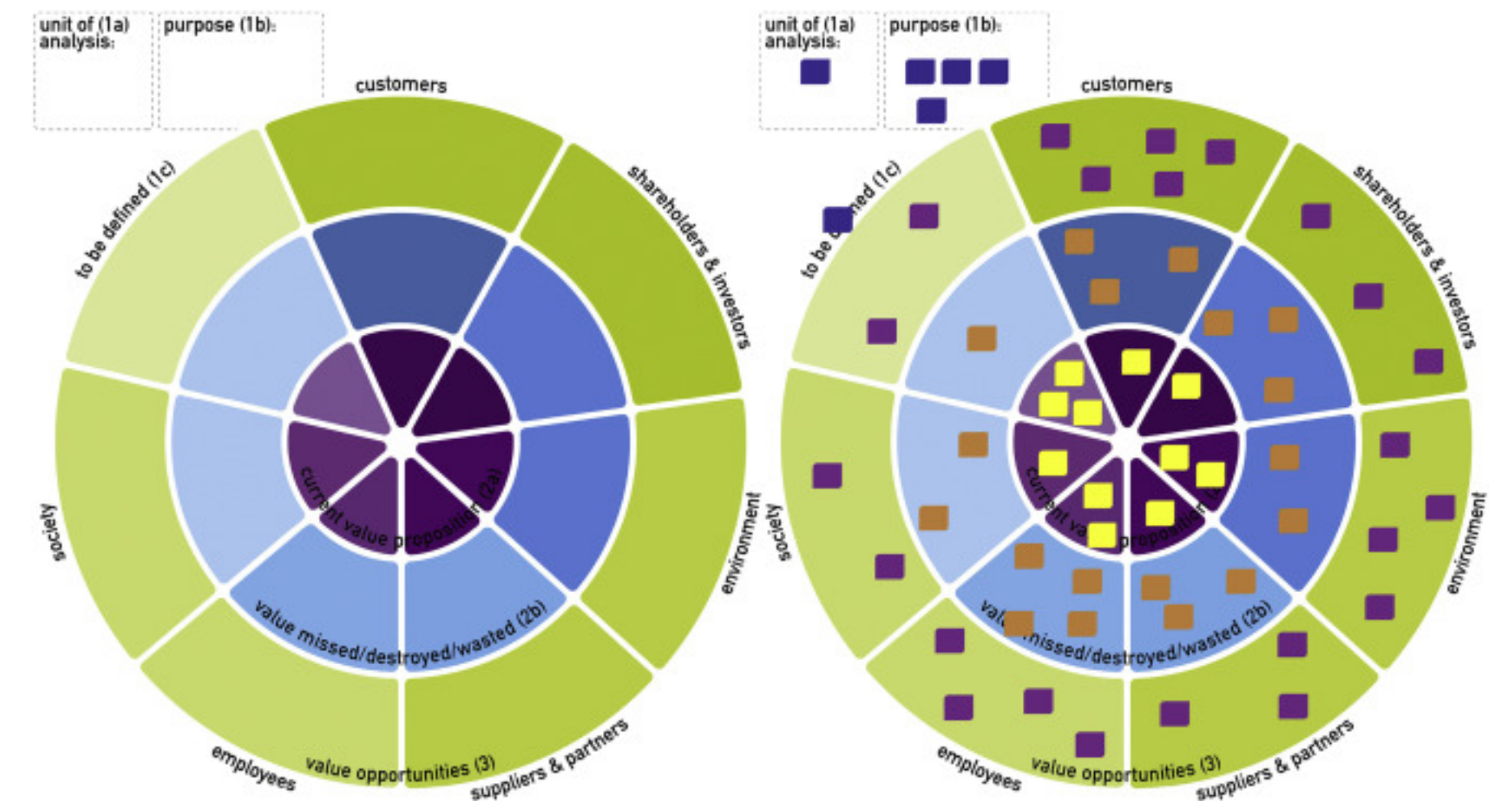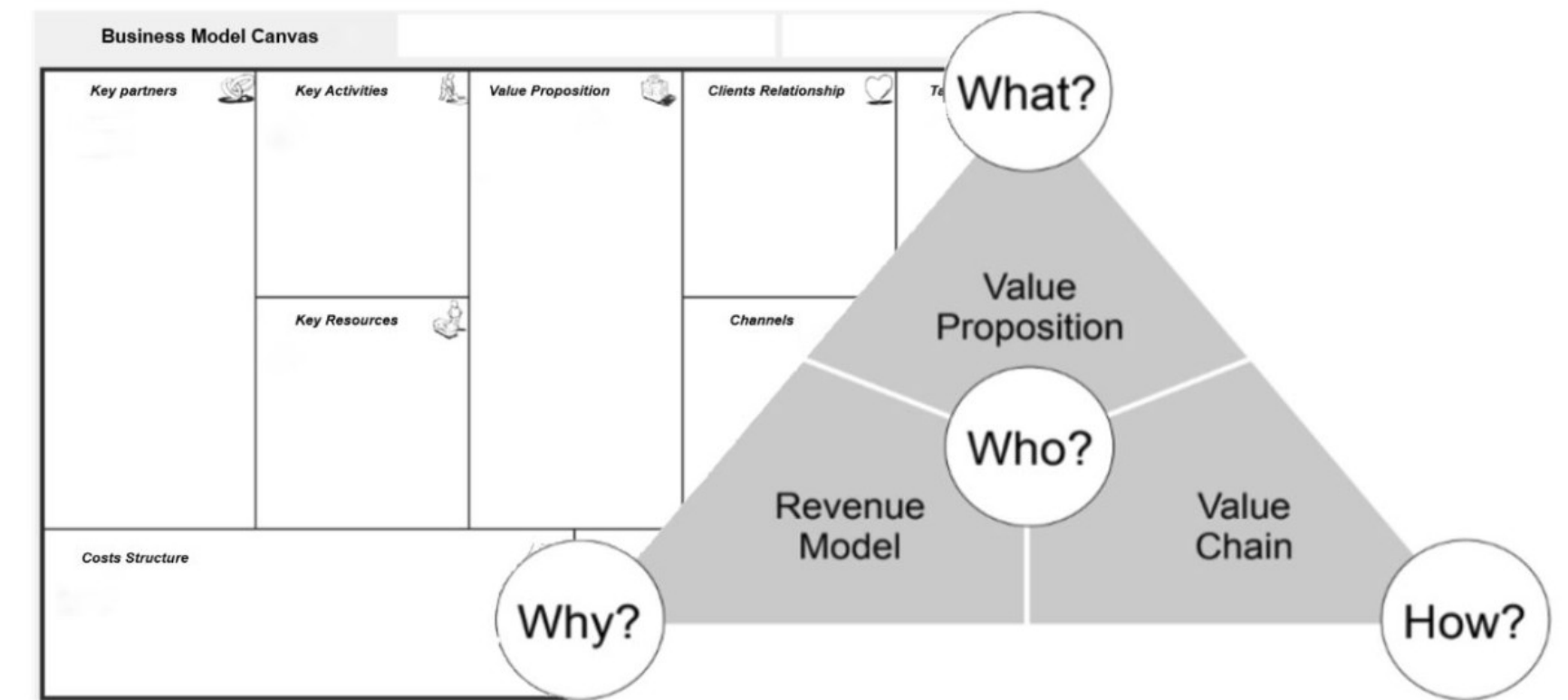
Nancy Bocken's Value Mapping (2019) for sustainable business modelling

- Embracing complexity takes time: iterate, try, experiment

- Remember: as designer, entrepreneur, even business developer, you have agency

- *Future of Design is making highly controlled systems that enable the loss of control* - Neri Oxman

- **Let's link on Linkedin (Hidde Griek) and collaborate in the future!**

Vision in Product Design, Matthijs van Dijk and Paul Hekkert

Business Model Innovation, Nancy Bocken, Geissdoerfer, Taija Turunen