

Transdisciplinary Education & Life-centred Design



5th Global Citizenship
Education Symposium

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Transdisciplinary School
University of Technology Sydney

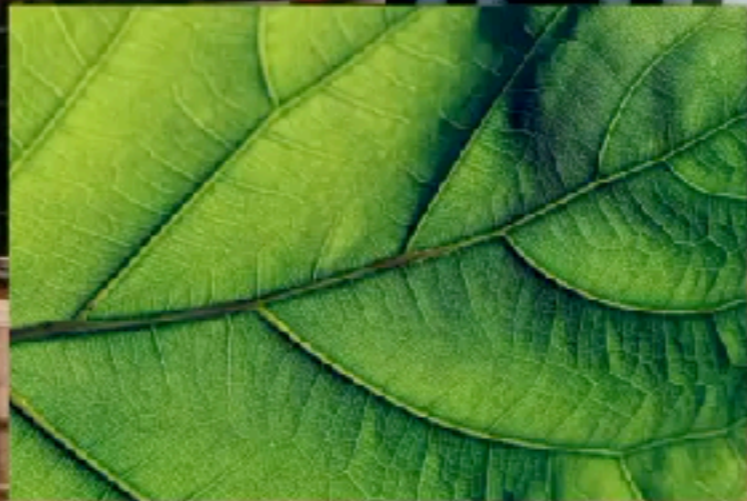


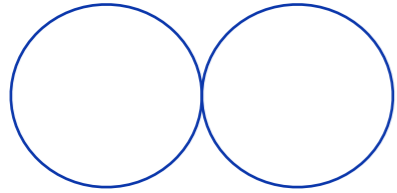
TD School





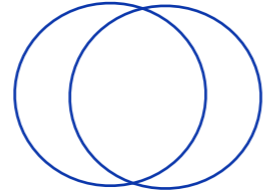
TD School





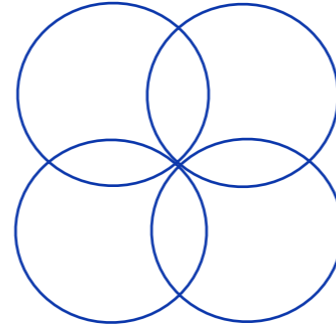
MULTI disciplinary

Refers to the obtaining of information from two or more disciplines, without either being altered by this interaction.



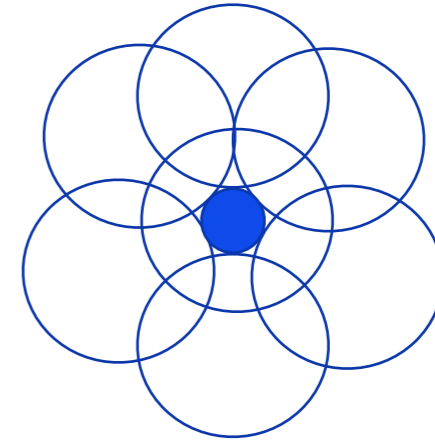
CROSS disciplinary

Is when aspects of one discipline are imposed on another discipline. Such as design thinking being applied to business, which might alter business but not alter design.



INTER disciplinary

Is where several sub disciplines within a broader disciplinary field co-operate, but with no permanent change to any of them.



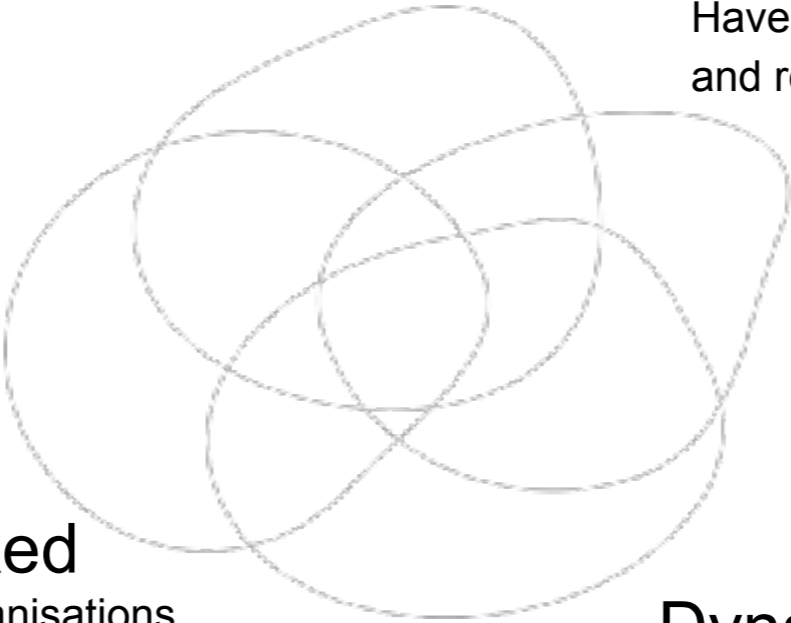
TRANS disciplinary

Is a holistic approach. It's not just about joining up of individual outcomes or the interaction between disciplines, but integrating these interactions into a new system of thinking which transcends the disciplines forming an entirely new framework of understanding.

Why TD

Open
Have no boundaries

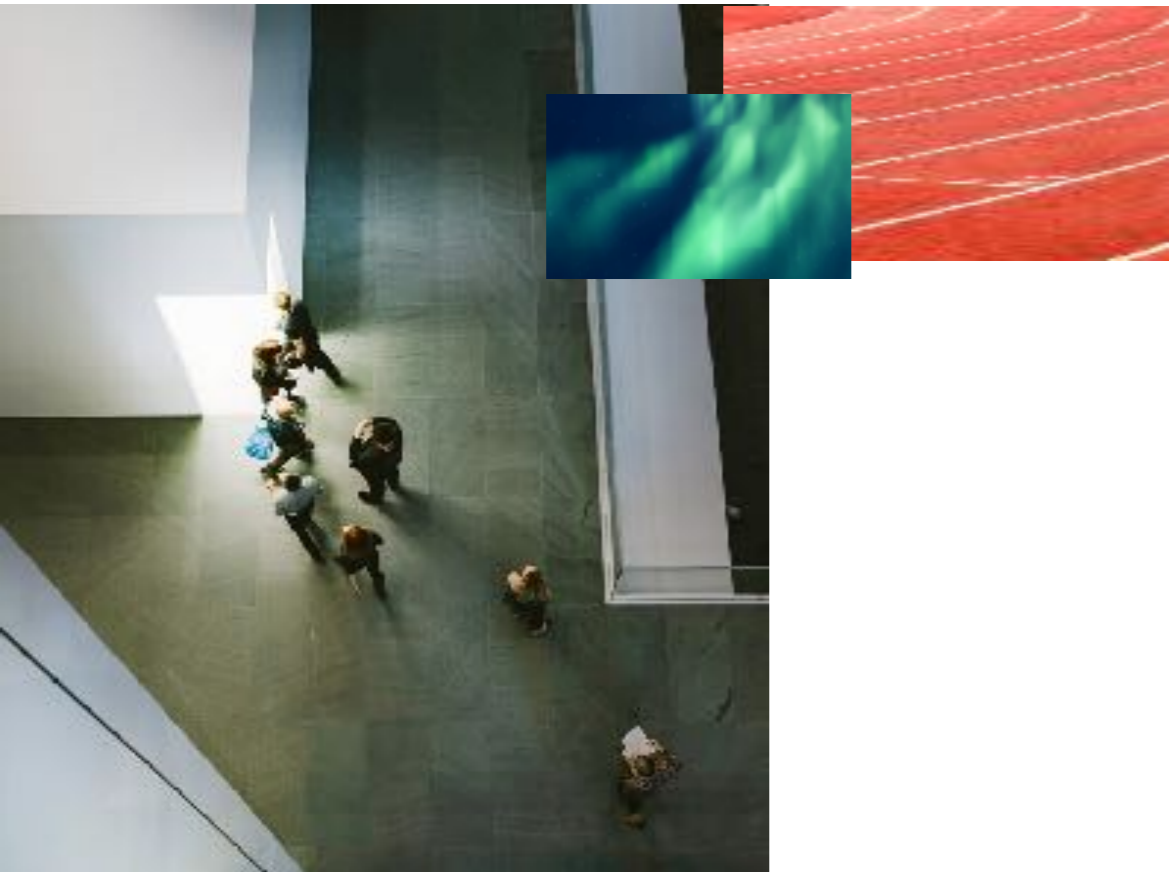
Complex
Have many elements
and relationships



Networked
Across organisations
and stakeholders

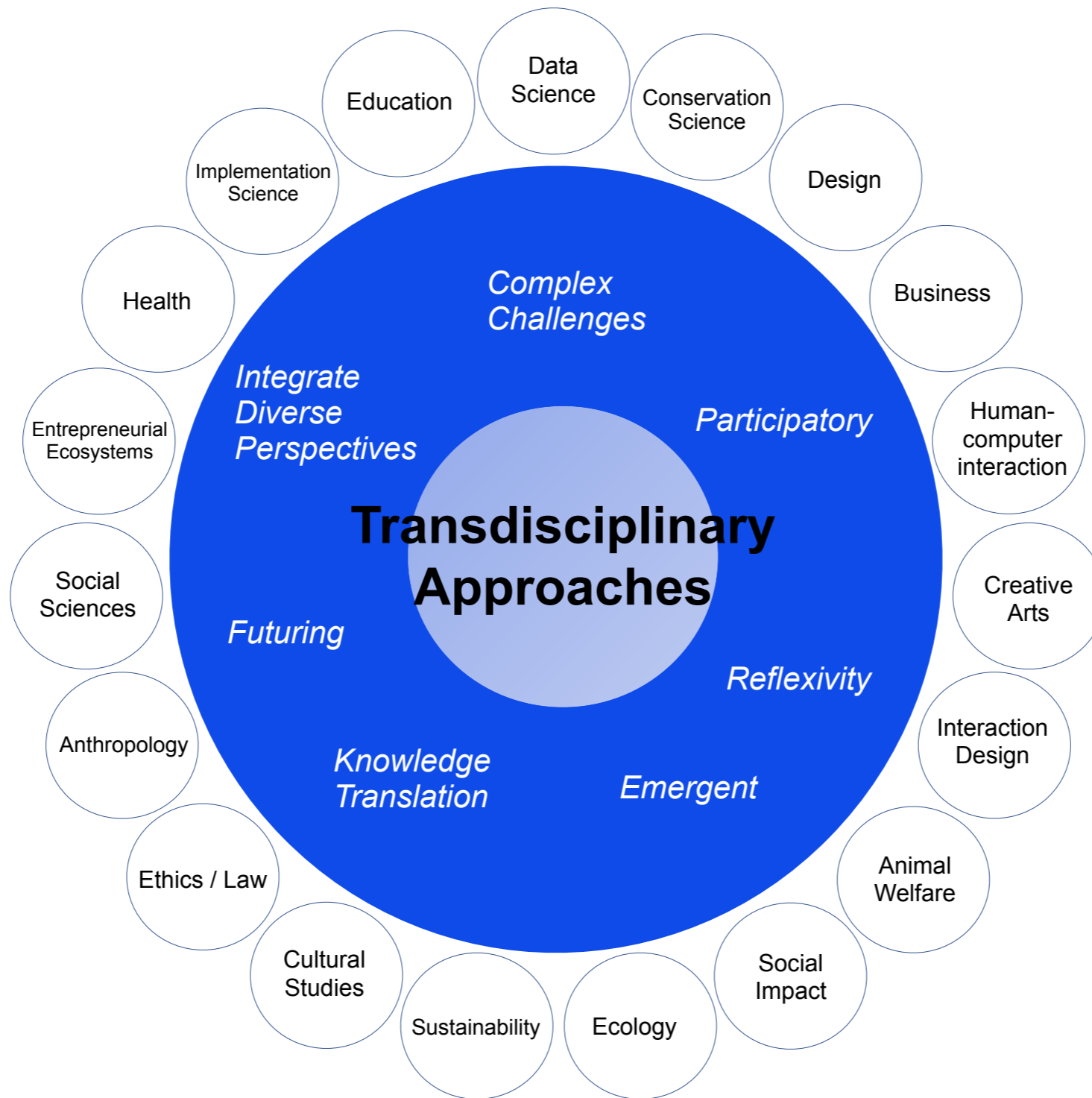
Dynamic
Are constantly
changing

Why TD



The major challenges of our age won't be solved within the boundaries of single disciplines.

Wicked problems will require new ways of thinking and collaboration to create new and novel conceptual, theoretical, methodological and translational innovations that integrate and move beyond traditional discipline-specific approaches.



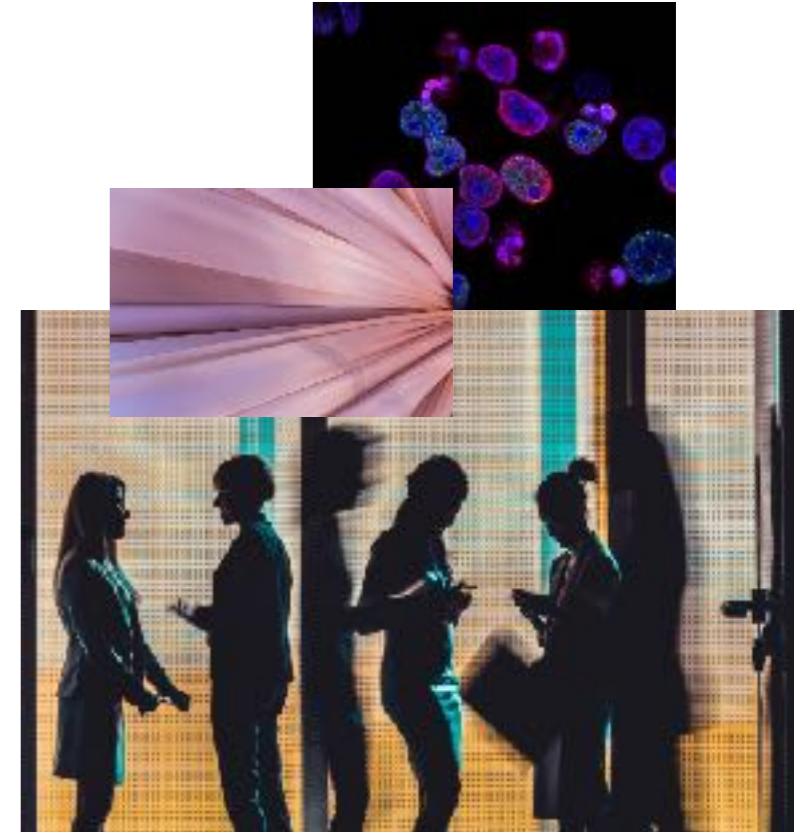
TD programs @ UTS

Bachelor of Creative
Intelligence & Innovation
(BCII)

Diploma in Innovation (DiplInn)

Master of Data Science &
Innovation (MDSI)

Master of Creative Intelligence
& Strategic Innovation (CISI)



WHAT IS



TD Electives

Building capacity to respond to complex problems and learn for a lifetime

Subjects:

TD: Technologies reimagined in a complex world

TD: Shaping technologies that shape us

TD: Reframing, remixing, reimagining society

TD: Sustainability in an interconnected world

TD: Envisioning futures worth wanting

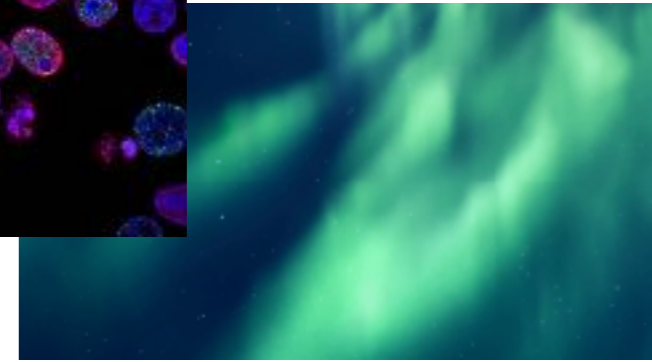
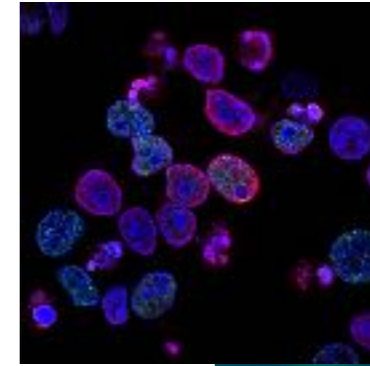
TD: Change-making for social impact

TD: Pathways to societal transitions

TD: Shaping better futures

External partners:

Australian Red Cross, City of Sydney,
Regen Studios, Stockland





Breville



Future Friendly



Transport for NSW



Stockland



HK>A



Customer Service



Black Dog Institute



MACQUARIE



investible



Nestle



Australian Government
Department of Foreign Affairs and Trade



unicef
for every child

RICHARD CROOKES
CONSTRUCTIONS



MISSION AUSTRALIA
together we stand

medibank



venues.
new south wales



TD graduate attributes

Holistic analysis

Transformative creativity

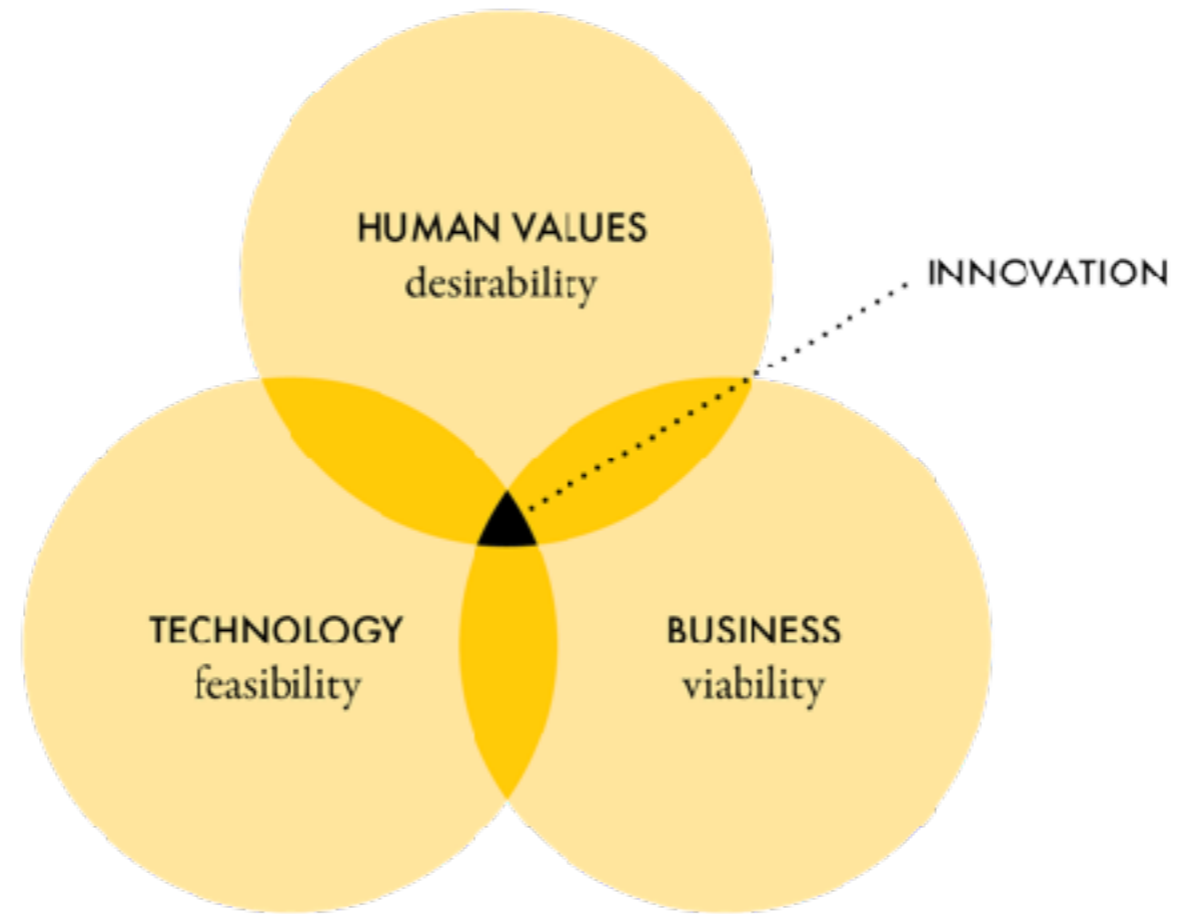
Action orientation and TD
experimentation

Contextual and self-awareness

Indigenous graduate attribute UTS graduates
will have knowledge of Indigenous Australian contexts to inform
their capability to work effectively for and with Indigenous
Australians within their profession



Innovation

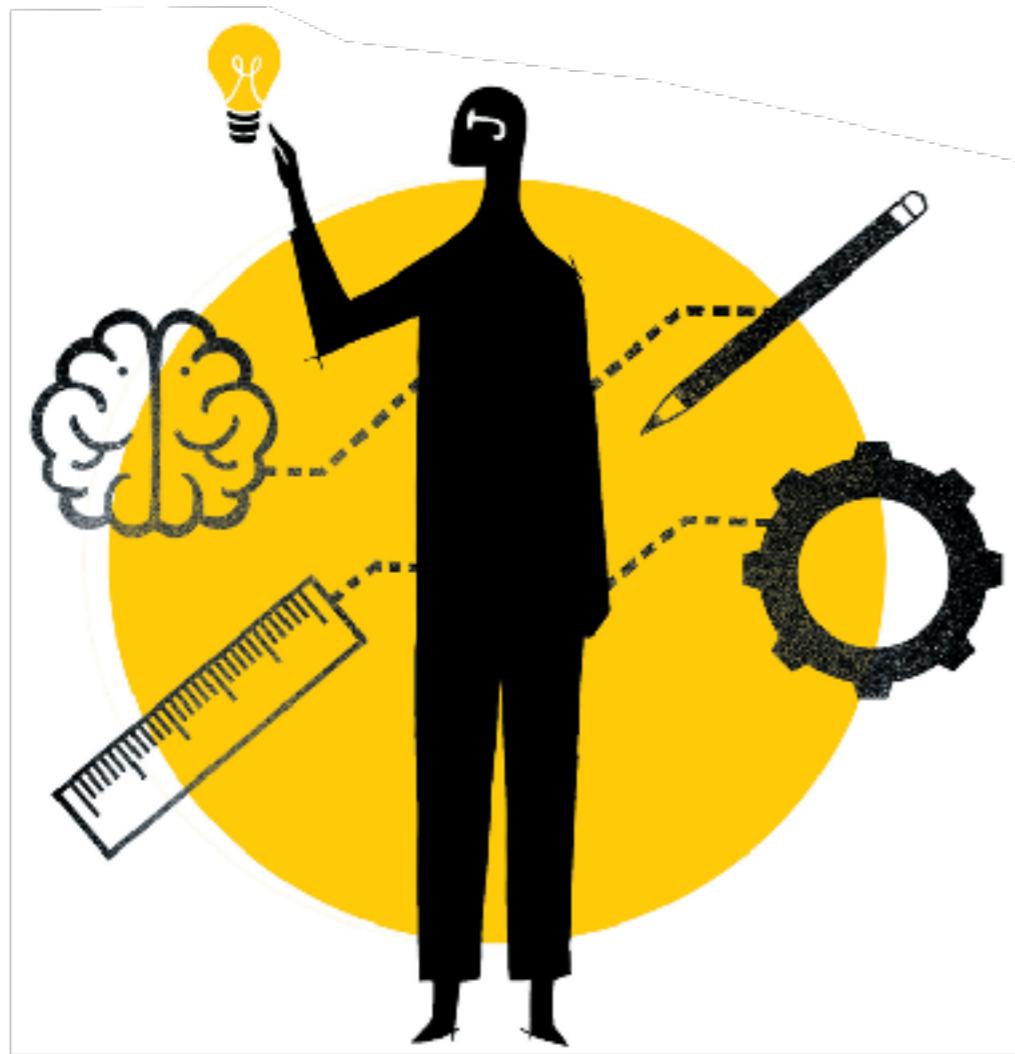


Human-centred

“ ... the world is working exactly as designed. And it's not working very well. Which means **We need to do a better job of designing it.**

—*Mike Monteiro*

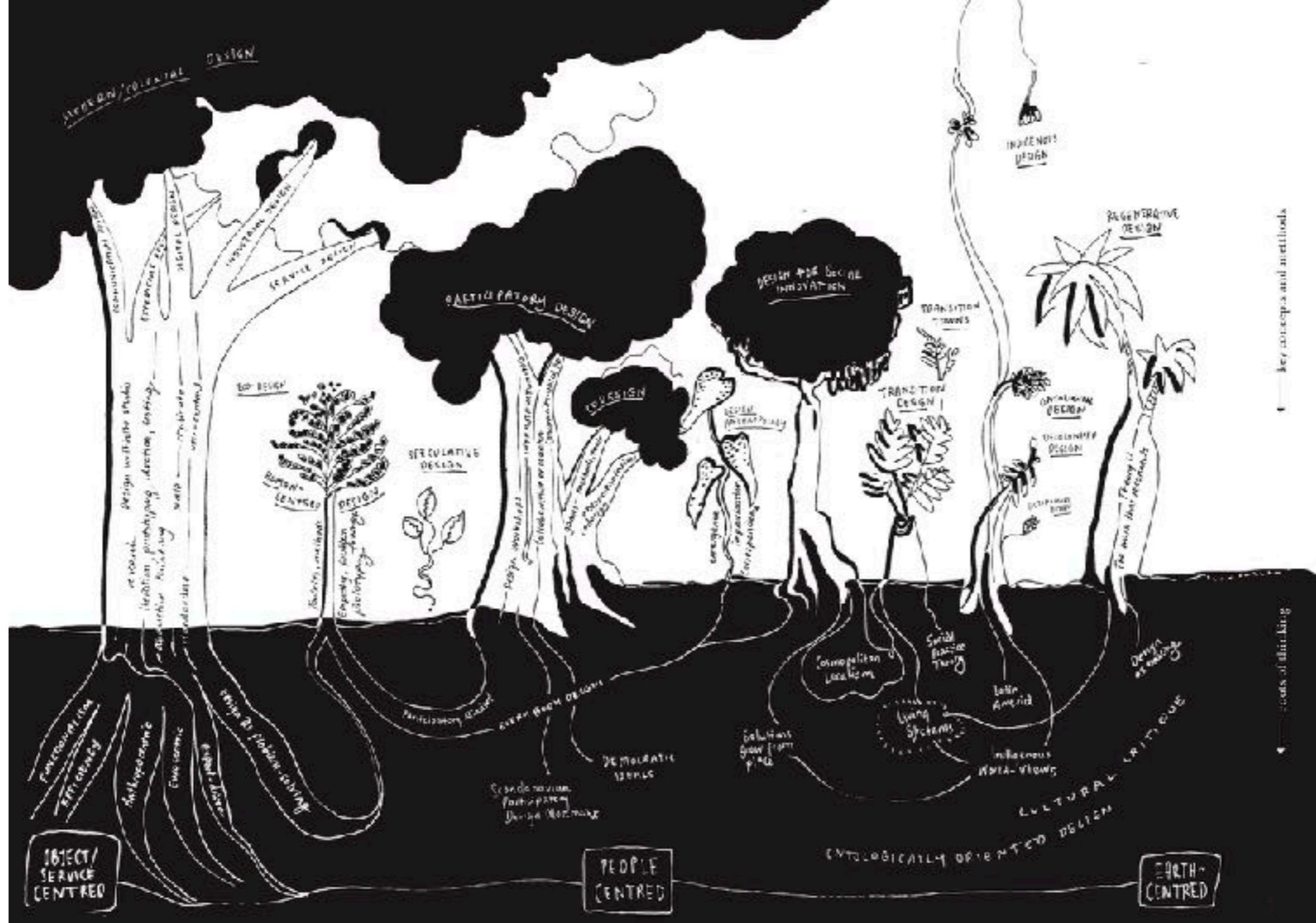




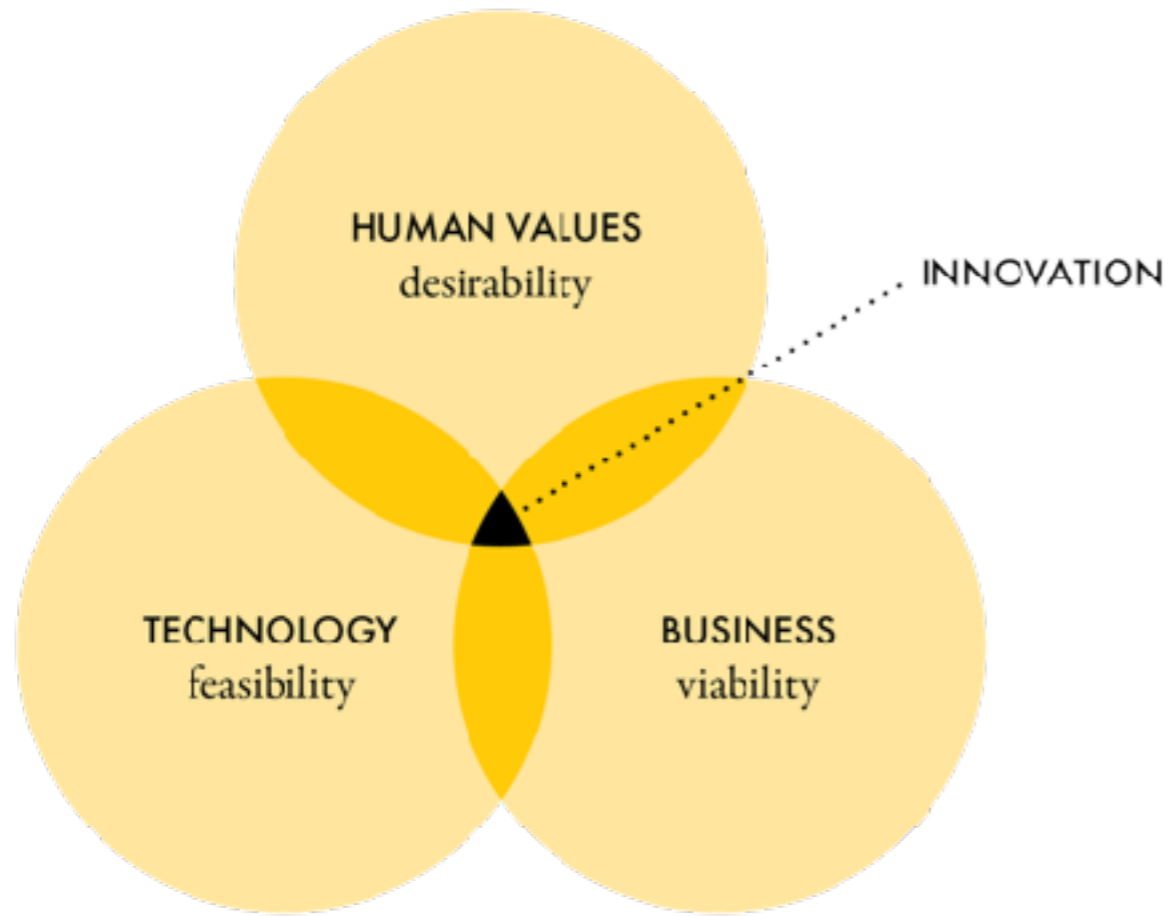
Human-centred



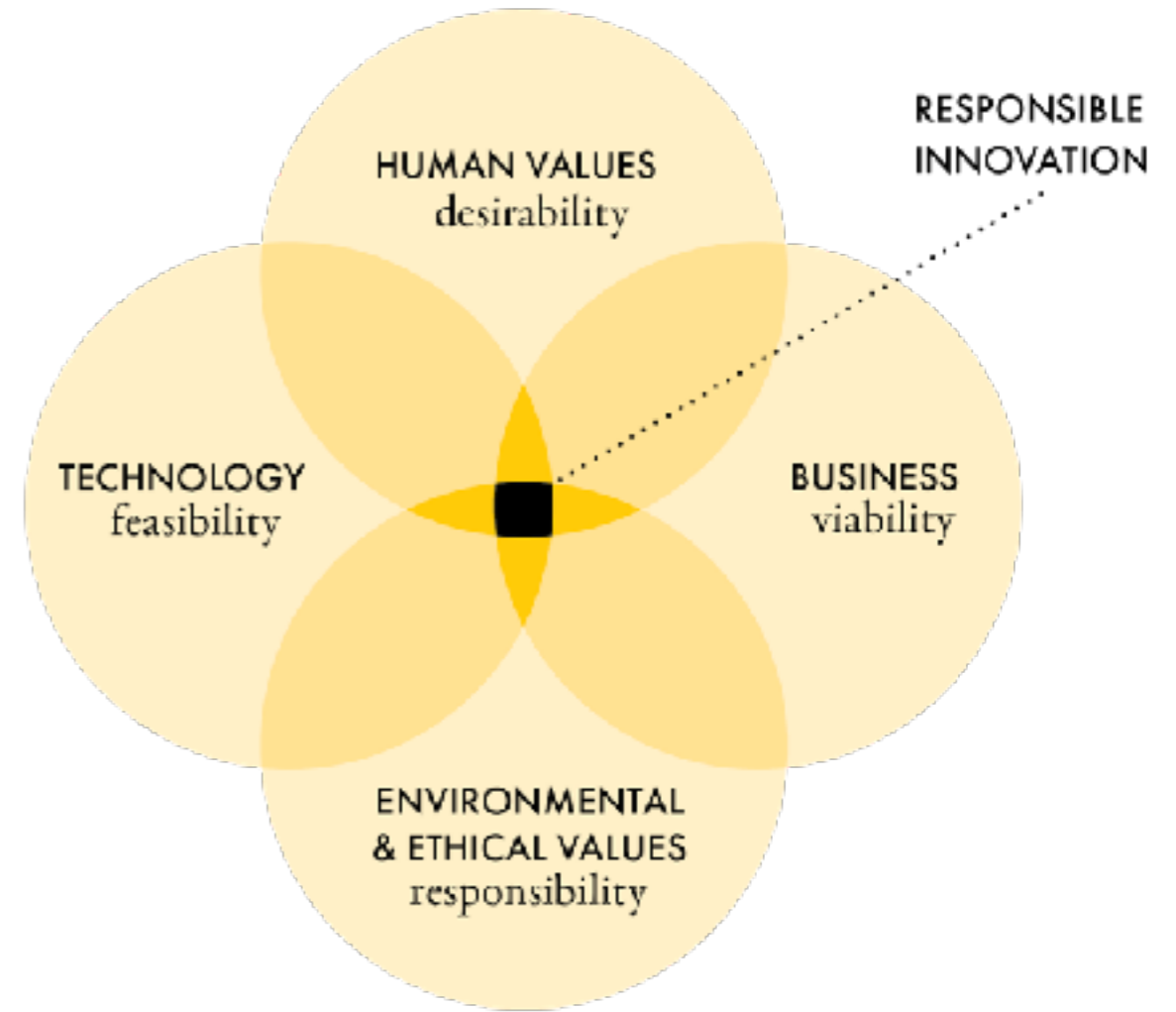
Life-centred



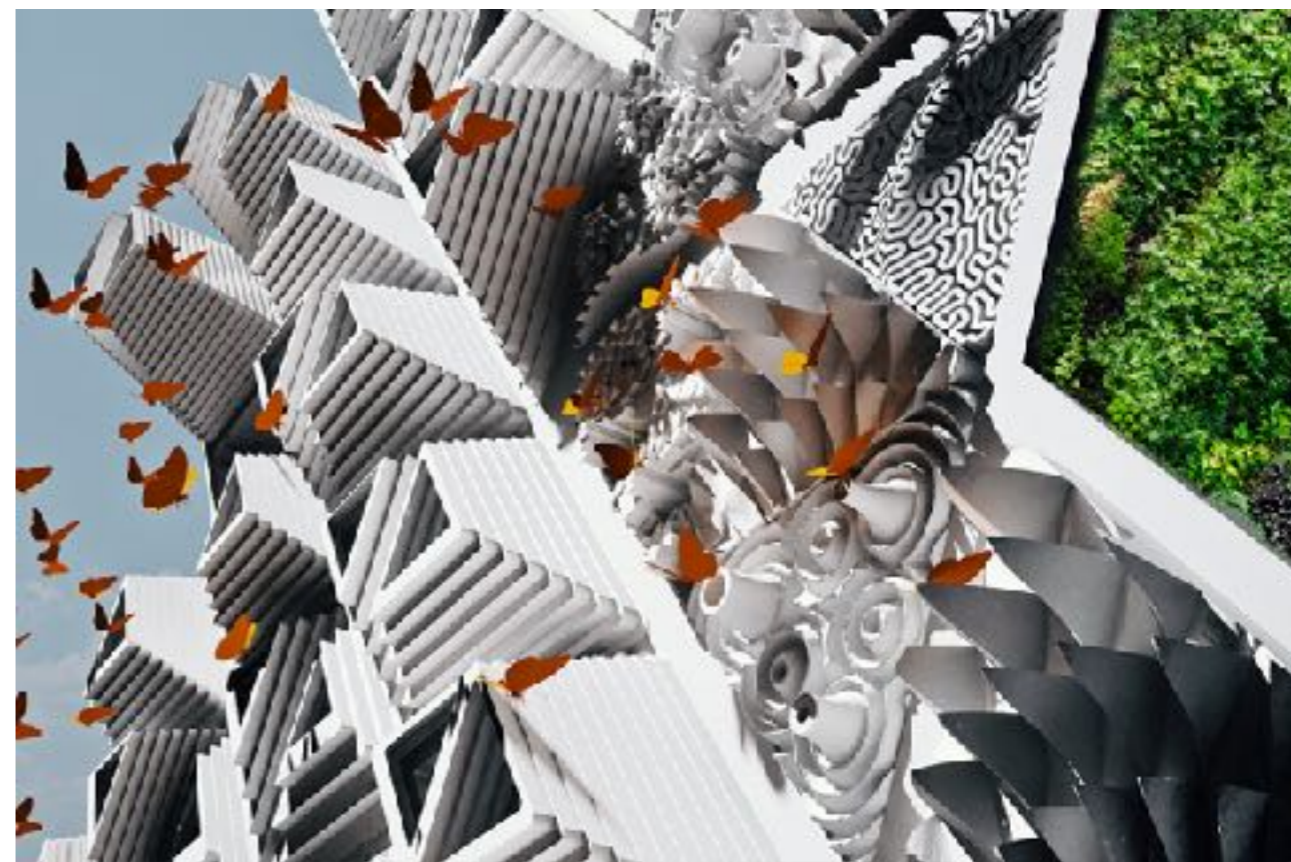
Source: Kirsten Moegerlein's PhD thesis 'Designing in Transition: Towards Intimacy in Ecological Uncertainty' (via Kimberley Crofts on Twitter)



Human-centred



Life-centred



Terreform ONE, New York



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Journal of Responsible Technology

journal homepage: www.sciencedirect.com/journal/journal-of-responsible-technology



From human-centred to life-centred design: Considering environmental and ethical concerns in the design of interactive products

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Interaction design
Interactive products
Life-centred design
More-than-human
Responsible innovation

ABSTRACT

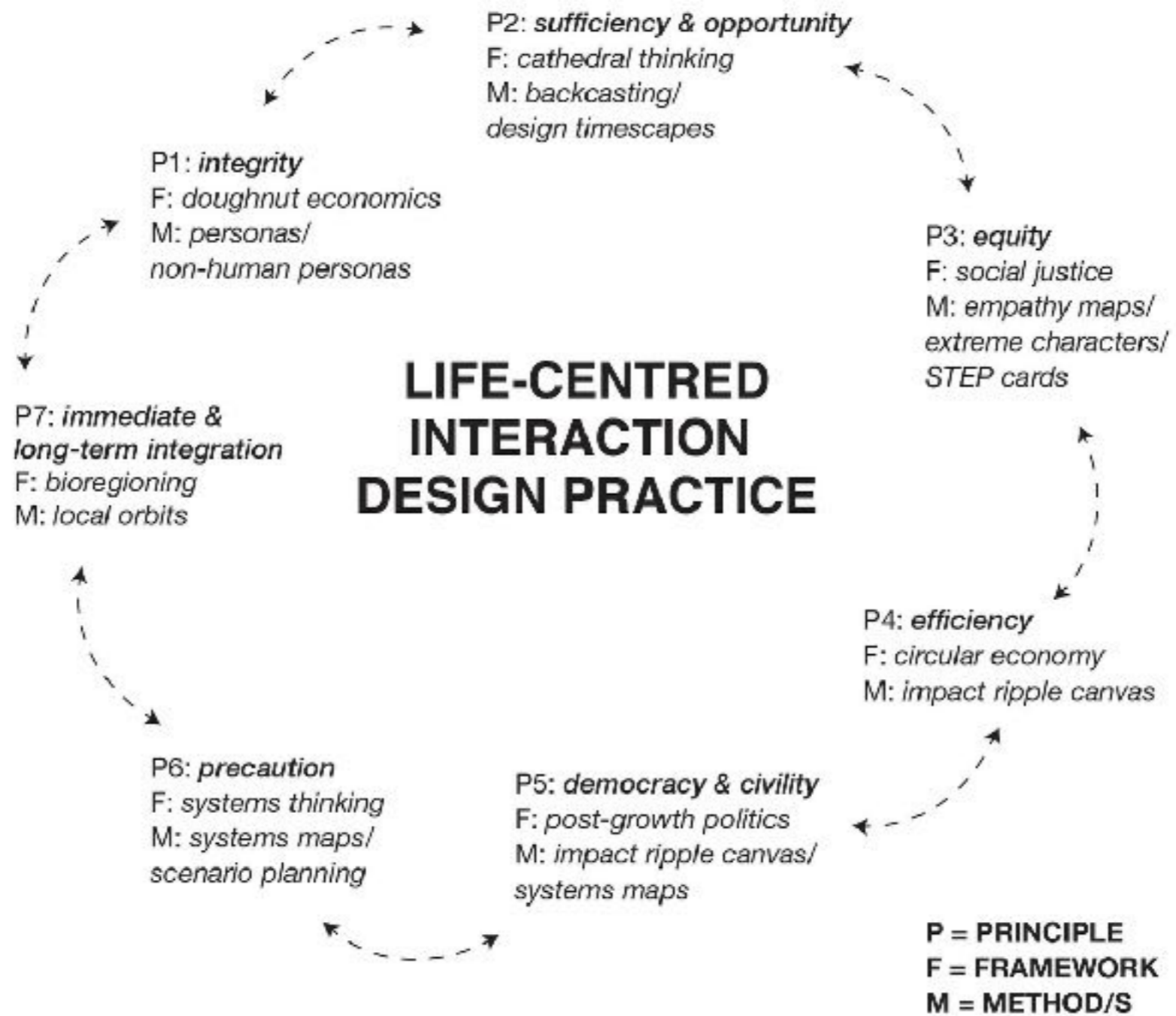
Over the past decades, the field of interaction design has shaped how people interact with digital technology, both through research and practice. Interaction designers adopted human-centred design to ensure that the interactive products they design meet the needs and desires of end consumers. However, there is surmounting evidence that placing the end consumer at the centre of the design process creates unintended consequences, damaging global systems that are essential to human well-being. This article reviews emerging paradigms that provide a more holistic perspective, such as value-sensitive design, more-than-human participation and life-centred design. Based on this review, the article introduces a practical framework for life-centred design consisting of principles, actionable methods and a model for responsible innovation. The article discusses how interaction designers can use the framework to balance human-centred considerations with environmental and ethical concerns when designing interactive products.

1. Introduction

Since the beginning of the industrial revolution, technology has significantly transformed the relationship between people and the environment. Technological innovations enabled people to travel longer

goals and the design of the tasks needed to achieve them (Kolko, 2011; Saffer, 2010). The success of design solutions was “judged based on the relevance to the individual who ultimately must use the creation” (Kolko, 2011).

In the past few years, the interaction design community has begun to



**Design.
Think.
Make.
Break.
Repeat.**

**A Handbook
of Methods**

Revised: 20 new methods
and an introduction to
life-centred design

BIS



Storyboarding

Using the power of comics to explain concepts

ACADEMIC RESOURCES

Storyboarding in design are used to visually explore the interactions between people and products or services. They can either represent an existing situation or communicate an envisioned situation. When depicting existing situations, the story should be based on real data, for example collected through contextual observation [p.X]. Storyboards of existing situations are effective for highlighting issues with current experiences. Storyboards of envisioned situations can be used for evaluating early concepts with other team members or prospective users and for communicating concepts to others.

Storyboards can be either hand-drawn or digitally composed illustrations that take techniques from film-making and comics. They consist of rectangular frames arranged horizontally or vertically in temporal order to narrate a story. Each frame represents a 'shot', similar to the use of storyboards in film. Speech and thought bubbles are used to represent dialogues and thought processes. To keep the story easily accessible, the number of panels should be between three and six. If more panels are needed, they can be included as an additional storyboard. Details in a panel are used to focus the viewer's attention on the important parts of the scenario such as one of the characters interacting with a product. Descriptions above or below each panel are used to explain the scene within the panel. Time can be indicated either explicitly using a clock or calendar, or through implicit indicators such as a rising sun or contextual dialogues.

EXERCISE

YOU WILL NEED Paper, pens, coloured pencil

In this exercise, you will create a storyboard documenting an existing situation or demonstrating a new design idea. Use the provided template (p.X) to get started.

- 1 Reflect on the user of the product or service you have in mind. If you need a topic, you can use a sample persona (URL) and focus on one of the following: E.g. Getting money out of an ATM E.g. Purchasing concert tickets E.g. Making a cup of coffee [5 minutes]
2 Write down three to five key steps that the user would go through when interacting with the product or service. Plan what 'shots' and techniques you could use to illustrate these steps. Shots can include: - Wide shot: showing the surrounding context - Long shot: showing a person with their body fully visible and his/her surrounds - Medium shot: showing a person's head and shoulders - Over-the-shoulder shot: looking at things 'over the shoulder' of a person - Point of view shot: showing things through a person's eyes - Close-up shot: showing a detailed view of a device or interface [5 minutes]
3 Draw your storyboard in the template. Try to begin with a 'wide shot' to establish an impression of where the story begins and to introduce the objects or people that are important. [5 minutes]
4 For each remaining step illustrate what the person would do. You can just use simple symbols and stick figures. Use a variety of shots to show relevant parts of the environment and the interactions between the person and the evaluated product or service. [15 minutes]
5 Add short captions to describe each step. Ideally, every panel should show a single action accompanied by a sentence explaining the action. To improve your storyboard try the following: - Use bold outlines or highlight colours to draw attention to important parts - Use arrows to indicate important directions of movement [5 minutes]

Cartographic Mapping

Generating rich depictions of settings and practices in a problem domain

ACADEMIC RESOURCES

Mapping and other methods involving making collages are frequently employed in participatory design workshops to capture and understand domain-specific user knowledge. Cartographic mapping is a mapping method with a particular focus on the mediating role of the mapping activity in mutual knowledge construction. In this method, the facilitator and participant are working together on creating a visualisation of the participant's daily routines, relationships and settings within a problem domain. A typical cartographic mapping process involves two stages taking place in a workshop setting: 1) making an initial map, and 2) enhancing the map through a participant-performed ethnographic study. In the first stage, workshop participants are asked to create a map of their relationships with other people, devices, and other material objects in their problem domain. A large blank paper, the various cut-out pictures, post-it notes, and colourful markers are provided for the

activity. The participants place a picture representing themselves on the paper and then start to map relations with other entities around it. During this process, the workshop facilitator asks questions about the participants' particular choices of images and the relationships being mapped. In the second stage, the participants are asked to take photographs of the setting relating to the problem domain to capture the details of their work or everyday routines. In a subsequent workshop, the participants add these photographs onto the maps they created in the first workshop to develop a better understanding of the problem domain.

In addition to the creation of thick and rich visual representations of people's daily routines, relationships and settings, the activity of map-making facilitates an informal conversation about the various problems and matters of concern supported by relevant visuals.

EXERCISE

YOU WILL NEED 1-3 people, A0 and A4 paper, coloured markers, pen, scissors, glue, sticky tape

In this exercise, you will employ cartographic mapping to understand the practices of one or more participants, and identify opportunities for design solutions. Choose your own design problem, or focus on the Supermarket of the Future brief (p.X) and use the resources on the companion website (URL).

- 1 Arrange a workshop with one or more participants. Every participant should have recent experience of the problem domain. e.g. shopping for groceries in the supermarket. [5 minutes]
2 Ask the participant(s) to take photographs of the environment, objects and technologies they encounter in the problem domain, in the area after the workshop. Print these photos. [1 week]
3 Get your participant(s) to take photographs of the environment, objects and technologies they encounter in the problem domain, in the area after the workshop. Print these photos. [1 week]
4 Conduct a second workshop where you ask the same participant(s) to augment their existing map with the photos they took. This will help to improve the representation and understanding of the problem domain. [20 minutes]
5 Your participant(s) can also use lines, annotations and sketches to accompany the pictures they have selected. E.g. A line connecting two pictures could represent a relationship. E.g. Annotations can be used to clarify the choice of a picture. [25 minutes]
6 Use the resulting map to interview your participant(s). Ask them questions about their activities, the people they interact with, the technologies they use, and the problems they face. Follow up any interesting points that you observed during the map-making. Take notes and/or record the conversation.

Contextual Observation

Observing how people act in the wild

ACADEMIC RESOURCES

Contextual observation can be used to study people's behaviour in different environments, such as workplaces, their homes, public spaces, and so on. Experiences in real life don't happen in a vacuum, and contextual observation takes into account the range of external factors that can influence people's behaviour, such as environmental, temporal and social factors. Data collected through contextual observation includes user's actions, physical posture, changes in facial expressions and gaze, and gestures in relation to a specific task, component or aspect of a product or service. Analysing these data can then reveal aspects of behaviours, workflows, and existing products or services. In contextual observation, data is mainly limited to people's behaviour that is visually accessible, such as their reactions to input from the surrounding built or ambient environment, social interactions, and so on. These factors and the natural relationship between the user and the context would not be accounted for in observation carried out in the controlled environment of a lab. Contextual observation can be used for developing a better understanding of a design problem or context, as well as for gathering feedback about a prototype design. In this latter case, it provides a more natural alternative to usability testing (p.X) which is typically conducted in a structured lab environment. To ensure that the observation reveals useful data, some preparation is required. Most importantly, the objective of the observation has to be defined before the observation takes place. Other aspects to plan and consider include audience, location, time of the day, and day of the week.

Co-design Workshops

Designing with your participants

ACADEMIC RESOURCES

Co-design workshops bring users, customers, stakeholders and designers together to rapidly critique and iterate on design concepts, ensuring that their needs remain at the centre of the design process. Co-design and similar methodologies, such as participatory design, involve the users and other stakeholders participating actively, building on concepts they are presented with (be it a current user experience or a new design concept) and informing the future direction of the design. The principle of co-design is to 'design with' rather than 'designing for' people. Users and other stakeholders are in an active role, contributing to the design, rather than passively responding to design decisions. Co-design workshops build on this principle and include a preparation phase, recruitment phase, the workshop itself, interpretation and action. The first phase, preparation, is used to determine the overall direction for the workshop. This can involve the development of an initial concept that users can respond to, for example, in the form of a low-fidelity prototype (p.X) or storyboard (p.X). During the workshop, participants are taken through the stages of immersion, talking about current experiences, ideal experiences, and finally, evaluating and iterating the initial concept. Comments from participants along with any artefacts that were co-designed during the workshop are then analysed and fed back into the design process. Co-design workshops can be employed at any stage of the design process. During the research phase, they can be used to inform a complete view of people's circumstances and situations. For projects that focus on the re-design of an existing product or service, this includes developing an understanding of how people currently make use of the product or service. During the prototyping phase, co-design workshops can be used to rapidly iterate concepts.

EXERCISE

YOU WILL NEED 3+ people, pens, paper, an initial concept

In this exercise, you will learn how to design and conduct a co-design workshop. You will decide what the purpose of the workshop is, who the participants are, and which methods to use. Focus on your own design problem or the Supermarket of the Future brief (p.X).

- 1 Decide what you want to achieve from the co-design workshop and write it down. E.g. A better way of buying fresh produce [5 minutes]
2 Consider the logistics of your co-design workshop: - What kind of people should be there? E.g. frequent shoppers, avid cooks - How will you record it? E.g. notes, written feedback, observations, video - What is the order of activities and their duration? E.g. immersion, talking about current experiences, describing ideal experiences, evaluating initial concepts. Prepare a script. [20 minutes]
3 Prepare the workshop materials. Use printed images to immerse participants in the problem space. Leverage existing sketches or prototypes of initial concepts or select examples from the resources (URL) for Supermarket of the Future. Identify methods to complete during the workshop such as: - Low-fidelity prototyping Storyboarding [20 minutes]
4 Prepare key questions for participants to use throughout the workshop. E.g. "What do you currently enjoy / not enjoy about shopping?" E.g. "What would an ideal shopping experience look like for you?" E.g. "What are some features of this design that you like?" E.g. "What would you change?" [10 minutes]
5 Run the workshop. Be sure to communicate the purpose and intended outcomes. Explain the purpose of the design, but without being too detailed, as this can limit the creativity of the participants. Introduce each activity as it starts. Allow participants to design concepts and augment existing ideas with their suggestions. Offer templates and frameworks to assist participants with completing the chosen methods. [1-4 hours]
6 After the workshop you can interpret the collected data using affinity diagramming (p.X) or thematic analysis (p.X). Gather the feedback and concepts from co-designers. How does this influence the design concept?

Science Fiction Prototyping

Using the future to improve the now

ACADEMIC RESOURCES

Science fiction prototypes are stories placed in the distant future. They allow the fictional exploration of scenarios, in which people interact with envisioned products or services. The narrative of the story is based on real scientific principles and technologies but explores their use in an environment that is free of constraints. The story follows a set structure, which includes identifying the characters, the scientific principle or technology, and so on. Critically, the narrative should include an inflection point, possibly leading to a disaster, as well as an exploration of the implications and how the characters can recover or overcome this disaster. Once a story narrative is developed, it is turned into either a prototype representation of how an envisioned product or service would be used in the future. This is often an essay, comic or movie. However, even the skeleton of the narrative can be a useful artefact in a design process.

EXERCISE

YOU WILL NEED Pen, paper

In this exercise, you will use the 'five steps' template (p.X) to develop a narrative science fiction prototype. Focus on your design problem, or choose the Autonomous Vehicles brief (p.X).

- 1 Based on your chosen brief, pick a scientific principle or technology and build a fictional world around it. Include an explanation of what it is and how it fits in the world you are creating. Develop the characters in your story and the locations where the action will take place. Record your ideas in the template using notes or bullet points. [10 minutes]
2 Introduce the science or technology into the narrative of your story. This step is called the scientific inflection point. Again, use notes or bullet point form to explore this. [10 minutes]
3 Explore what implications and ramifications your science or technology has on the world you created. Does it affect people's lives for better or worse? Is there a risk that it might lead to a disaster or even the end of the world as we know it? This step is referred to as the ramifications of the science or technology on people. [10 minutes]
4 With the science or technology now being part of the future scenario, describe what happens next. If there was a disaster, how could it be fixed to save the world? Does the science or technology need to be modified? This step is referred to as the human inflection point. [10 minutes]
5 Develop your outline into a full science fiction story, if you have time to do so. Otherwise use the outline for ideation purposes, in step 6.
6 Reflect on what you learned from creating the outline of your science fiction story. What are possible implications, solutions or lessons learned? What are aspects that could be taken into the current reality and integrated into an envisioned solution that addresses your chosen brief? [10 minutes]

Design by Metaphor

The power of seeing something as something else

ACADEMIC RESOURCES

In linguistics, metaphors are 'A figure of speech in which a word or phrase is applied to an object or action to which it is not literally applicable' (Oxford Dictionary). In design, metaphors are used to refer to familiar precedents from the world around us. The metaphor assists the transfer of what we know in one domain (the source) into another different domain (the target). The desktop metaphor used in the graphical user interface of personal computers is a classic example of using a metaphor to aid conceptual understanding of interactions. Applying metaphors from an office environment allows people to easily learn how to perform interactions within a graphical user interface. Like on a physical desk, files are located inside folders. Unwanted files are dragged into a rubbish bin. Applying different metaphors during the conceptual design phase can reveal a variety of design solutions. For example, the metaphor of 'computers as humans' leads to dialogue-based forms of interaction, whereas the metaphor of 'computers as tools' leads to direct manipulation-based forms of interaction. Designs that are modelled on nature are also referred to as biomimicry. Far-fetched analogies can be used to spark ideas. Metaphors can also be used to generate new perspectives on a problem by seeing something as something else (Schön, 1979). Metaphors can be applied in design to explore the problem domain from unusual and competing perspectives, and to reveal the hidden dimensions of a problem to be solved (Madsen, 1994). By applying a series of strategic questions, it is possible to unpack the metaphor and discover new understandings of and potential solutions to the problem at hand.

Video Prototyping

Communicating design concepts

EXERCISE

YOU WILL NEED Smartphone with camera, paper, cardboard, masking tape, post-it notes, pens, optionally, video editing software

In this exercise, you will create a 30-second video prototype to convey an idea for a product or service. You will learn how to use techniques to represent the interactions between people and a product or service through video.

User Journey Mapping

Understanding complex user

EXERCISE

YOU WILL NEED A pen

In this exercise, you will create a user journey map using the template provided (p.X). Before you start, you will need a good understanding of the current user experience based on prior research. You can follow the Supermarket of the Future brief (p.X) for this exercise.

Empathic Modelling

Putting yourself in someone

Non-human Personas

Giving a voice to living things and ecosystems

ACADEMIC RESOURCES:

DiSalvo, C., & Lukens, J. (2012). Nonanthropocentrism and the Nonhuman in Design: Possibilities for Designing New Forms of Engagement with and through Technology. In M. Foth, L. Forlano, C. Satchell, & M. Gibbs (Eds.) *From Social Butterfly to Engaged Citizen* (pp.421-435). Cambridge, MA: MIT Press.

Frawley, J. K., & Dyson, L. E. (2014). Animal personas: acknowledging non-human stakeholders in designing for sustainable food systems. In *Proceedings of the 26th Australian Computer-Human Interaction Conference on Designing Futures: the Future of Design* (pp. 21-30).

Mancini, C. (2011). *Animal-Computer Interaction (ACI): a manifesto*. *Interactions*, 18(4), pp. 69-73.

When designing products, services and systems, we tend to turn to methods that put humans at the centre of our design process. This is important to ensure that our design interventions address the needs of the end users, customers and other stakeholders. However, there is an increasing awareness that focusing solely on human needs and values may be detrimental to the planet and humanity's continued existence. Non-human personas address this limitation of human-centred methods, by adapting the personas (p.122) method to give non-human stakeholders a voice in the design process.

Non-human stakeholders that should be considered in a design process may incorporate representatives from flora, fauna and habitats. Whether at home with companion animals or at work in services such as disability support, law enforcement, customs or special forces, human life has always been entangled with the lives of other species and nature. Sectors such as agriculture, veterinary

science and conservation are particularly focused on this. But even outside these spheres, our own habitat of cities intersects with a complex wider ecology of land, soil, water systems, plants, insects and animals.

Like personas, non-human personas are based on research data – collected from secondary sources, such as contextual observations (p.50) or interviews (p.92) with experts. Just like conventional personas, non-human personas represent the character, attributes and needs of others within all stages of the design process. They expose and challenge assumptions and provide a means for the design team to represent or speak on behalf of another species or biosystem. Evaluating designs from alternate perspectives may reveal both symbiosis and conflict (e.g. prey/predator, farmer/farmed). Even if conflict is not resolvable, these insights can feed into each stage of the design process and ideally lead to a more environmentally considerate solution.

EXERCISE

YOU WILL NEED

Pen, paper, 3-4 people,
sticky notes, internet
access



In this exercise, you will create and use non-human personas to critique existing designs. Focus on your own design problem, or follow the 'Environmentally Resilient Communities' brief (p.205) and use the photo resources from the companion website.

1

Identify flora, fauna and habitats potentially impacted within your design problem area. If the scope is too large, narrow it down to a single context and/or a limited number of species of interest. *E.g. an urban farm with butterflies, chickens, possum and crops*
[30 minutes]

2

Write a set of non-human personas using the provided template (on the companion website), by following steps 2-5 of the personas method (p.122). Undertake interviews (p.92) with owners or experts to generate a data pool for these personas, or use trustworthy internet sources. The persona should be as specific as possible. *E.g. an ISA Brown chicken in a flock kept in the backyard of a suburban home*
E.g. a recently-hatched monarch butterfly
Alternatively, use the non-human personas from the companion website.
[30 minutes]

3

Speak on behalf of your chosen species. Members of the design team introduce their non-human persona/s as they would a person. *E.g. this is Betsy, she is an ISA Brown chicken who lives in an urban backyard.* After each introduction, other team members make notes on sticky notes about the needs of that non-human persona as relevant to the design project.
[10 minutes]

4

Each team member silently reviews the design concepts from the perspective of their chosen persona/s and adds comments using a different coloured sticky note (one colour per persona). Critique is written in the first person. If you don't have your own design concepts, use the photo resources from the companion website. *E.g. the team member representing the possum might write 'I am nocturnal, the lights on this farm will disrupt how I live.'*
[10 minutes per design concept]

5

Review and discuss your findings as a team. What problems or conflicts has this activity unearthed? Look for sticky notes where the needs of different personas contradict one another or are in conflict with the intention behind the design.
[10 minutes]

6

Brainstorm ideas that help address the needs of the different personas, focusing particularly on finding compromises for each of the conflicts. As you progress with your design process, revisit your designs and evaluate them using persona-based walkthroughs (p.120) with your non-human personas.
[10 minutes]

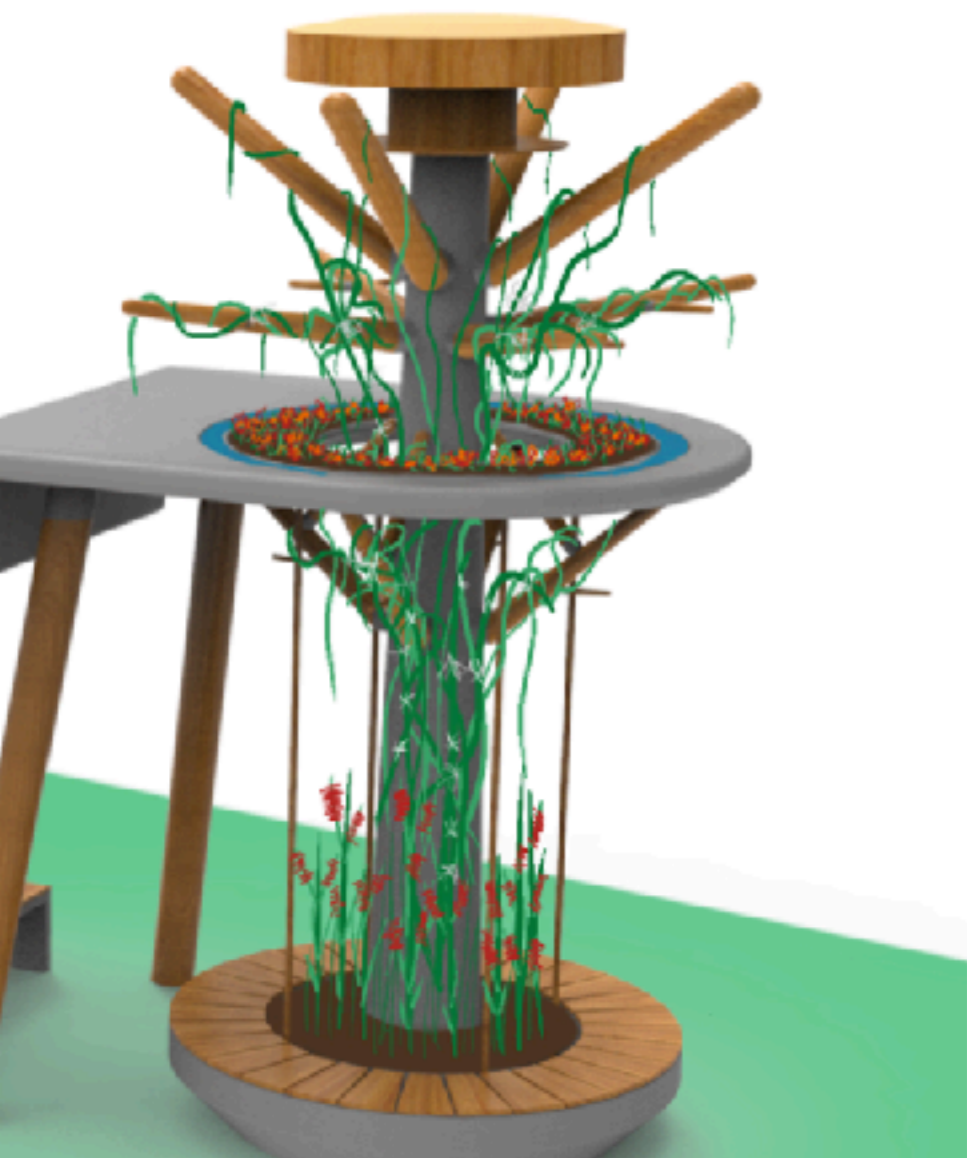


LOX STOCK & BARREL

BONDI RUMBA

TV & PHONE

128



Human Stakeholders



Emma the Office Worker



Adrian the Proud Homeowner

Non-Human Stakeholders



Beans the Possum



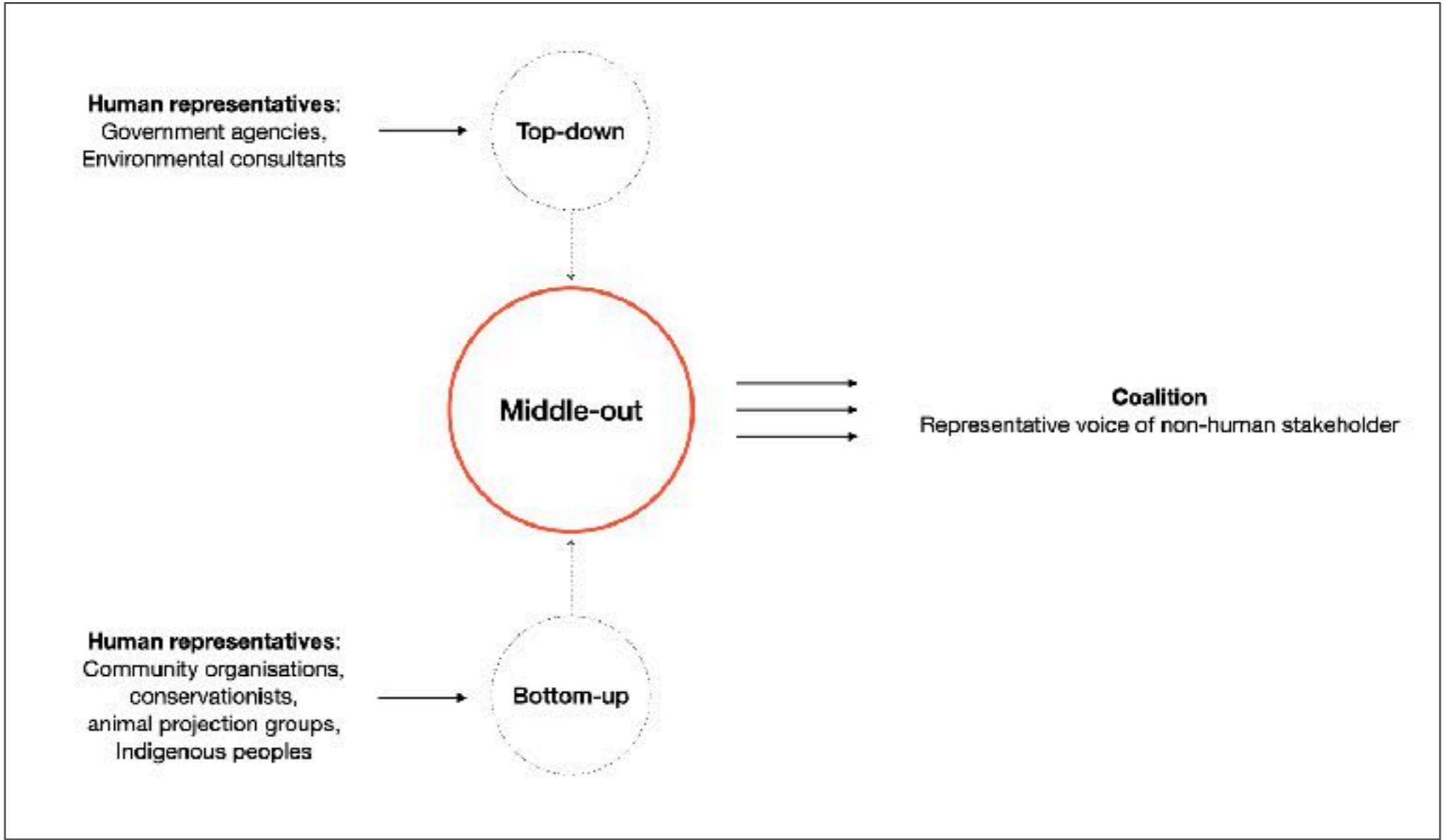
Lorraine the Lorikeet



Florence the Native Flora



Buzzy the Bee



The New Zealand river that became a legal person



(Image credit: rambosila/Getty Images)



By Kate Evans 21st March 2020

In 2017, New Zealand granted legal personhood to the Whanganui River. Since then, other nations have followed suit in an effort to protect the environment.

For your convenience

Non-human Personas: Including Nature in the Participatory Design of Smart Cities

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Abstract. For the past decades humans have been placed at the centre of designing information and communication technologies (ICT), leading to the rise in prominence of human-centred design. The field of smart cities has equally adopted notions of citizen participation as a way to ensure that technological solutions improve people's livelihoods. However, these kinds of processes treat the urban environment as separate from nature, promoting human comfort and convenience over planetary health and wellbeing. Motivated by these growing concerns that highlight the urgency to reconsider how we define and practice participation in smart cities and in human-centred ICT solutions more broadly, this article explores how the personas method can be adapted to include more

PRINCIPLES FOR CULTIVATING A LIFE-CENTRED DESIGN MINDSET



01

PURPOSE OVER PROFIT

Choosing purpose as a driver for decision-making over profit, to serve the many



02

INSPIRED BY NATURE

Applying biomimicry and taking inspiration from natural systems and nature as a whole



03

INTER- CONNECTED

Applying systems thinking and upholding the balance of the ecosystem



04

LIFE CYCLE AWARE

Choosing a holistic approach and regarding the entire life cycle of a product, service, or initiative



05

LONG-TERM THINKING & DOING

Applying long-term thinking and aiming for sustainable and regenerative solutions



06

SUFFICIENCY

Focusing on what is important and leaving out unnecessary complexity if it does not add value



07

EQUAL & THRIVING

Aiming for services, systems, and products that are socially just and ethical throughout their whole life cycle



08

DE-CENTRING & REIMAGINING

Questioning the status quo and current solutions, aiming to change the world to improve all life



09

ACKNOWLEDGING OF ALL LIFE FORMS

Considering all peoples, species, and environments while designing products, systems, and services



DESIGNING FOR THE NOW

- short-term thinking
- business-driven
- shareholder focus
- colonised
- single worldview
- human-centred

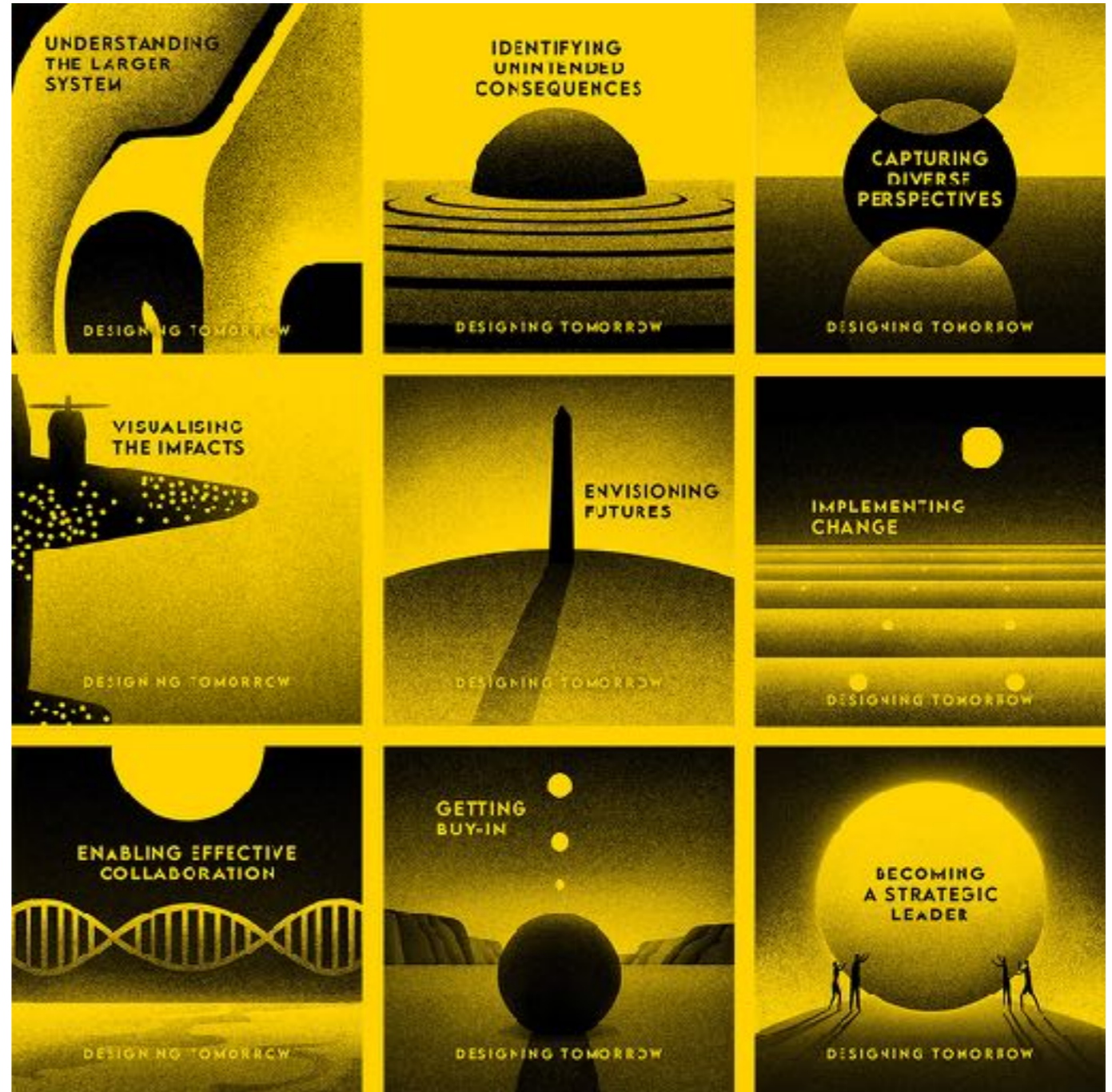
DESIGNING FOR THE LONG NOW

- long-term thinking
- value-driven
- future generation focus
- decolonised
- pluriversal view
- life-centred

NETWORKS

INTERVENTIONS

PARTNERSHIPS





NETWORKS

TACTICS



Understanding the larger system



Identifying unintended consequences



Capturing diverse perspectives

TOOLS

Feedback loops;
systems maps

Iceberg visuals; impact
ripple canvas

Actors mapping; non-human
personas; participatory
systems maps

STRATEGIES

Systems thinking

Spotlighting boomerang
effects

Capturing diverse
perspectives



INTERVENTIONS

TACTICS



Visualising the impacts



Envisioning futures






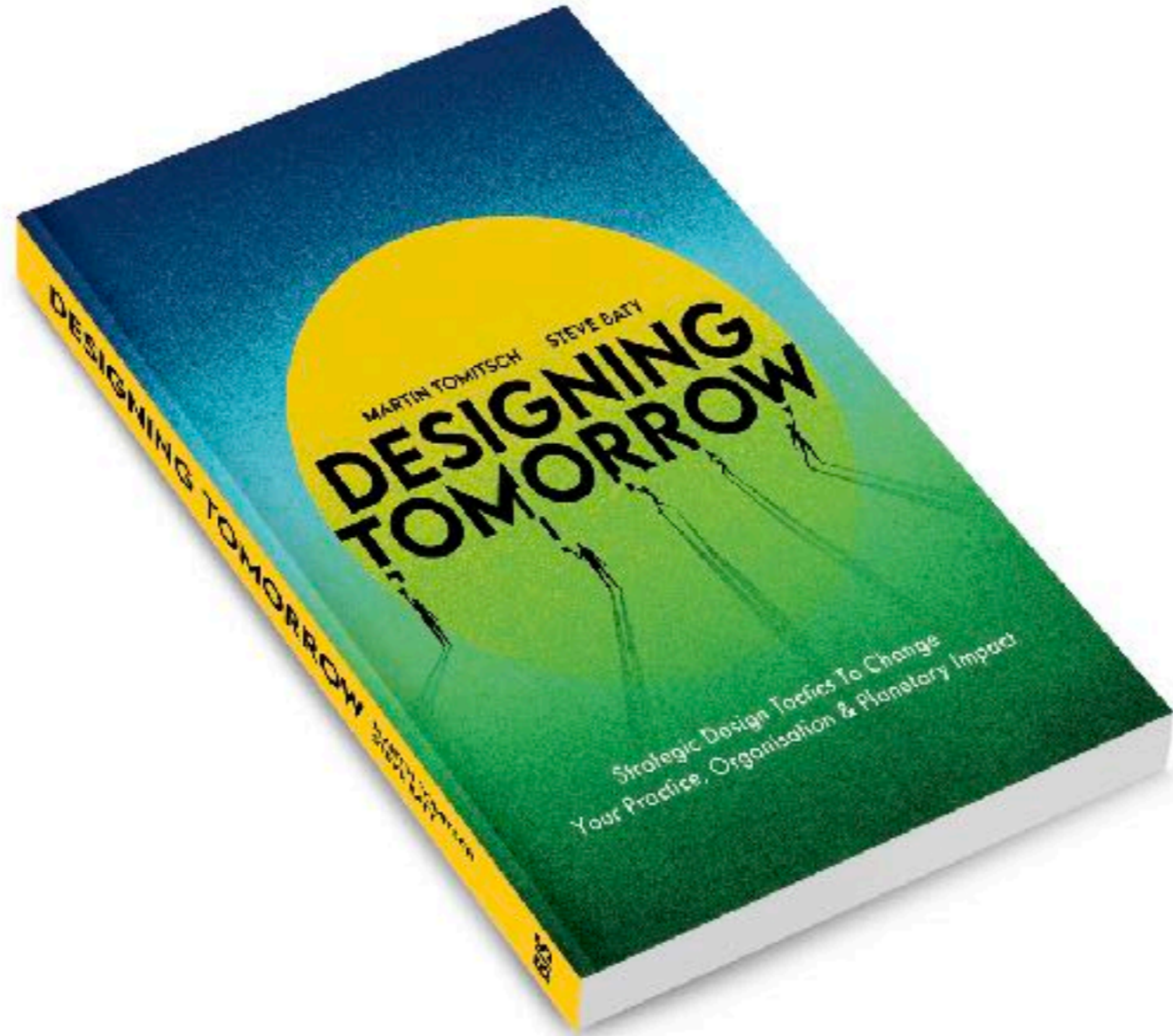
Implementing change

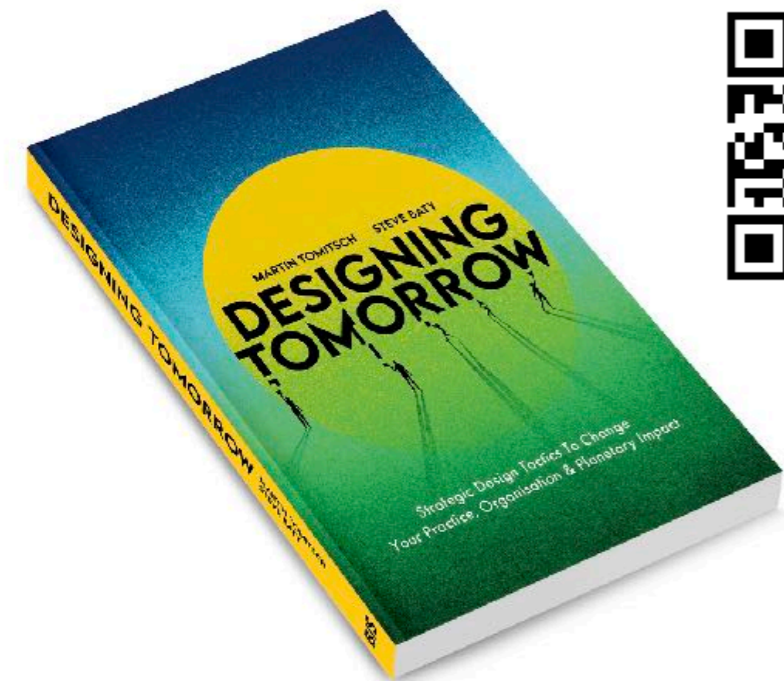
TOOLS	Behaviour-over-time diagrams; stock and flow diagrams	Backcasting; scenario-based thinking	Future press releases; one-pagers; provocation prototypes; shifts; speculative prototypes
	Rating schemes and rankings	Cathedral thinking; seventh generation principle; three horizons	Change metrics; synthesising over cherry-picking



PARTNERSHIPS

TACTICS	 Enabling effective collaboration	 Getting buy-in	 Becoming a strategic leader
	Collective impact framework; participatory systems maps	Future funnel; triple layered business model canvas	
STRATEGIES	Creative collaboration; middle-out change; understanding the DNA	Alliances	Strategic mindset





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