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How can I think like a fish if I am not a fish? Considerations on how journeying between self-centeredness and otherness is vital for design futuring

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Abstract

This article reflects on a series of experiments conducted within a Danish master's program geared towards design futuring. These experiments explored designerly ways to welcome otherness, i.e., diverse viewpoints, needs, and ways of being. Our findings suggest that our mind journeys between a habitual state of self-centeredness and a state that is more open to embracing otherness. Design futuring education should focus on cultivating mindsets that are passionate about otherness, as they hold the potential to challenge self-centeredness and accompanying notions of narrow-mindedness and short-termism.

Keywords: Futuring, design, embracing otherness, mindset

Introduction: Embracing otherness for sustainable futures

Flowing through the heart of New Zealand's North Island, the Whanganui River is one of the country's most significant natural and recreational resources. Beginning its journey on the snowy north-western side of the Mount Tongariro volcano, the river winds between green hills and mountains until it meets the Tasman Sea. For several decades, the Whanganui tribes, who revere the river and owe their name, spirit and power to it, fought to have the river recognized as an ancestor and living being rather than a resource to be owned and managed. In 2017, after 160 years of struggle, the Whanganui River became the first river in the world to be recognized as a legal entity, ending one of New Zealand's longest-running court cases. By granting legal rights, the river can now sue, and crimes against the river – pollution, for example – can be treated like crimes against the tribe (Evans, 2020). 'Ko au te awa. Ko te awa ko au' (I am the river. The river is me), the Māori in New Zealand say (Haunui-Thompson, 2017). 'Somos la continuidad de la tierra, miremos desde el corazón de la tierra' (we are the extension of the earth, let us think from the earth's heart), Nasa indigenous people from South Colombia stress, reminding us of humanity's deep entanglements with the earth and all forms of life that inhabit it (cited in Escobar, 2016, p.27).

With these entanglements in mind and heart, and in a quest for just and sustainable futures, people, and entire communities all over the world are pushing back against binary logics that consider some forms of being, thinking, and knowing as superior to others. These groups reject the boundaries that separate the human from the non-human, culture from nature, men from women, or white from black. According to many writers, the current interrelated crises – climate, food, energy, poverty, and meaning, to name a few – emerge from a particular world or set of world-making practices. At the heart of this world sits the self-centered individual actor, focused on personal interests, for whom the encounter with the other serves not to transform but to maximize one's own interests (Akama et al., 2020; Escobar, 2016, 2018; Forlano, 2017; Tsing, 2012).

A classic Zen story captures the tension between this sort of self-centeredness and the capacity to look at and appreciate otherness:

One day Chuang Tzu and a friend were walking by a river. “Look at the fish swimming about,” said Chuang Tzu, “They are really enjoying themselves.” “You are not a fish,” replied the friend, “So you can’t truly know that they are enjoying themselves.” “You are not me,” said Chuang Tzu. “So how do you know that I do not know that the fish are enjoying themselves?”

The story highlights two aspects of otherness. On the one hand, Chuang Tzu wonders whether, really, his friend can intimately know what he thinks and feels. On the other, the story suggests the question: How can I think like a fish if I am not a fish?

Research in futures studies hints at how similar tensions emerge when broadening perspectives (Baldwin & Inayatullah, 2021). Throughout different epochs, futuring, i.e., participatory practices that explore, envision, and shape futures (as in Nikolova, 2014; van der Duin, 2016), has been used in various forms and, lately, has expanded toward participatory futuring (Clarke et al., 2019; Nikolova, 2014; Ollenburg, 2019). Thinking about the world and its futures should entail expanding our routinary human-centered stance (Light et al., 2017) and embracing a plurality of life-centered perspectives, which not only consider the perspectives of other human beings but also the needs of multiple species and the functioning of wider natural ecosystems (Borthwick et al., 2022; Clarke et al., 2019). The word ‘embracing’ is here used to signal a sense of interconnectedness, a way of inhabiting our world that appreciates how bodies spring out of the earth and fall back into it and that celebrates the never-ending exchange of molecules and atoms across life forms. Yet, even though we welcome this view of a de-centered unfolding of bodies into worlds, our habitual cognitive tendencies – and cognitive biases – keep us grounded in our self-centeredness (Canevacci, 2013; Das & Teng, 1999; Liedtka, 2015). Like in a Renaissance painting, the world is seen as a stage, and we feel at the center of it. This sense of entitlement is paradoxically a cause and an effect of current unsustainable ways of living, which do not look at the effects of our actions in relation to the lifespan of multiple generations. However, how can we let go of our self-centeredness and learn to embrace otherness?

This article explores this question by reflecting on a series of design experiments carried out in Denmark in the past 24 months within the context of an educational program geared towards ‘design futuring’ – here understood as the integrated use of perspectives and

methods from the fields of design and futuring. These experiments were aimed at exploring practical ways of allowing students to welcome otherness. Welcoming otherness involves stretching, bending, and widening one's ways of thinking into spheres that could be labeled as inaccessible, unknown, unfamiliar, indeed 'other', and fostering a mindset centered on embracing and caring for this 'otherness'. Welcoming otherness is meant to refer to a union of inner and outer worlds – where the outer can refer to 'other' perspectives, beings, time horizons, or yet other dimensions – and to an awareness of their interrelation and interdependence. Unlike 'othering', which creates barriers by emphasizing difference and fostering a binary between 'us' versus 'them' (Brons, 2015), welcoming otherness focuses on breaking down barriers and embracing, valuing, and celebrating difference as opportunities for transformation (Keating, 2012). In this sense, welcoming otherness seeks to replace conventional notions of difference-as-opposition with a relational approach to difference.

The paper is organized as follows. The following section reviews the related literature, examining the importance of considering diverse perspectives in futuring and the recommendations raised for the future of (design) education. After this, the paper identifies the research gap. The subsequent section details the research context and method used in the study. Next, the paper presents the findings. Finally, the last section discusses the implications of the study's results and concludes the paper.

Related works

The gradual recognition of the importance of diverse perspectives in futuring

The rising concerns about systemic challenges (Rittel & Webber, 1973), such as the impact that industrialized societies have on natural and social environments and increasing inequalities (Bell, 2003; Schultz, 2015), call for futuring approaches that go beyond the sole consideration of rational expert knowledge. An increasing number of voices, therefore, demand to enrich traditional approaches by drawing from ways of thinking and being not routinely drawn from (e.g. Akama et al., 2020; Borthwick et al., 2022; Clarke et al., 2019, 2019; Roudavski, 2020).

In an attempt to promote more equitable and participatory futures, scholars are experimenting with new approaches and methods (Bourgeois et al., 2017; Kelliher & Byrne, 2015; Neuhoff et al., 2022). Examples include futuring projects that, rather than placing only experts at the center of the stage, 1) emphasize collaborative engagements of citizens as a way for inclusive, emancipatory, and liberatory empowerment (e.g. Noel, 2022); 2) take into account the needs and aspirations of future generations in decision-making to support intergenerational justice and sustainable strategic planning (e.g. Saijō, 2020); or 3) explore how we can communicate and co-create with more-than-human actors to promote interspecies justice (e.g. Romani et al., 2022), and symbiotic and care-driven ways of inhabiting the earth and its futures (Escobar, 2018).

Also, critical design and provocative prototyping (Dunne & Raby, 2013), immersive future simulations (Candy & Dunagan, 2017), or fine-grained design fiction representations (Sterling, 2005) routinely and experimentally tinker with otherness. Other examples can be found in the radical works of xenofuturists and xenofeminist researchers (Hester, 2018; Schmeer, 2019), post-structuralist philosophers (Escobar, 2018; Haraway, 2016; Tsing, 2012) as well as posthumanism design theorists that suggest how embracing what lies beyond the self, i.e., embracing the ‘other’, might ultimately help in dealing with wicked societal challenges (e.g. Forlano, 2017). With a radical take on overturning human-centricity, these scholars address the need to consider how the future that some people wish for may not be the same for others, e.g., “may not be the future that the environment or your gut microbiome wants” (Schmeer, 2019, p. 5).

Figure 1 illustrates the gradual recognition of the importance of including diverse perspectives in futuring as well as the spectrum of futuring approaches and methods that exist today and that vary in their participatory degree, with approaches that consider only the viewpoint of a single expert on the one end, and approaches that promote superdiversity on the other end.

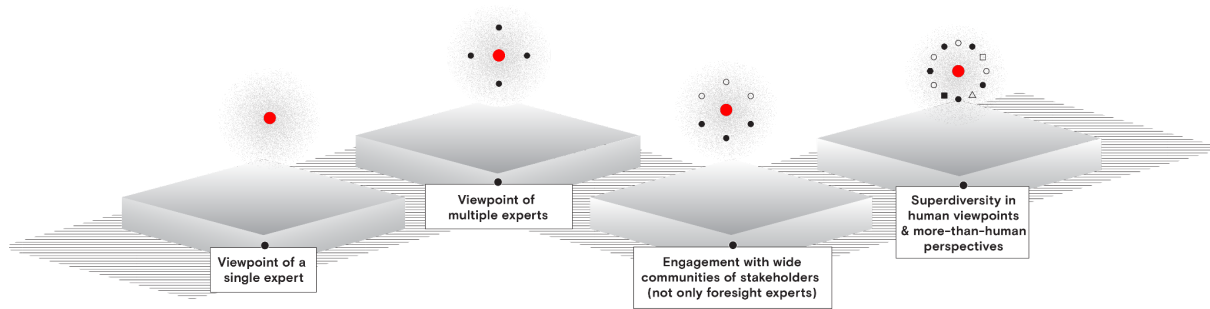


Figure 1. The methods used in futuring are articulated across a spectrum that conveys a certain degree of openness towards otherness.

The gradual embrace of otherness that we see in the development of futuring is something that the education sector is increasingly demanding, as the following section will illuminate.

Recommendations for the future of (design) education

In a recent document outlining recommendations for the future of education, a working group under the aegis of UNESCO highlighted the need to train individuals and communities 1) to move beyond their self-centered individualism towards caring for others, and not just for members of their own national, social or cultural group, 2) to appreciate the histories and current situations and plights of people in other parts of the world, and 3) to care for the planet and take action to promote biodiversity and reduce the danger of climate change (Arvanitis et al., 2021).

These general recommendations for education apply to and overlap with recommendations raised in the field of design. Designers, today, often focus less on designing artifacts but address complex sociotechnical systems and the many interrelated challenges that occur within these systems (Simeone et al., 2019). Therefore, scholars point out that design education needs to change in the face of 21st century challenges (Meyer & Norman, 2020) and should focus on educating designers to become advocates for social and environmental responsibility, and on equipping them with the skills and perspectives needed to shape more inclusive, sustainable, equitable and responsible futures (Norman & Vredenburg, n.d.).

Combining design and futuring and embedding practices of futuring in the design curriculum has become a strategy to respond to today's ever-changing world, to ensure more sustainable design, and to enable designers not only to become aware of but play a major role in how change unfolds (Barbara & Scupelli, 2021; Celi & Morrison, 2019; Evans & Sommerville, 2006; Scupelli et al., 2019). We would argue, however, that while the inclusion of multiple perspectives in thinking about futures has been highlighted as an important prerequisite for striving for sustainable futures, there is still a lack of practical approaches that help us embrace otherness. This is precisely the focus of this paper, which explores: *How can design futuring practices help embrace otherness? How can education in design and futuring make sure that students realize the importance of welcoming otherness?*

Research method: design futuring experiments

This paper is based on a series of design experiments (Bang & Eriksen, 2014), which combined methods from the fields of design and futuring. The experiments were conducted by the authors between spring 2021 and fall 2022 within a design education in Denmark, in which three of them teach. Experiments play a central role in Research-through-Design (RtD) both in theory building and in knowledge generation (Frayling, 1993). RtD is an umbrella term for a form of research that applies design *practice* grounded in a real-world qualitative situation as *the* method of inquiry. RtD does not suggest the existence of single, universal approaches or sets of techniques, but involves a commitment to experimental action, contextual attentiveness, and, often, materially anchored outcomes (Candy, 2006; Dixon, 2023). Design experiments employ design to formulate and/or address specific questions or hypotheses and give opportunities to derive new understandings about practice, such as theoretical frameworks, methods, and tools employed (Brandt & Binder, 2007; Koskinen et al., 2013). Experiments, when conducted and reflected upon, yield results that, in turn, help to guide and refine further questioning and experimentation (Dixon, 2023).

In our case, we experimented with various ways to enable participants to embrace otherness. The experiments were an occasion for us to examine closely the process and the specifics of these various ways and supported the exploratory nature of our research (Bang & Eriksen,

2014). The reflections that emerged from the design experiments enabled us to articulate some insights and a provisional theory (Gaver, 2012).

Within the last two years, the authors started to integrate futuring practices more into their teaching activities. On the one hand, the teaching offers theoretical perspectives, actionable methods, and exemplary cases from the field of futuring and the emerging field of design futuring. On the other, it provides opportunities for the students to tinker with and apply methods connected to design futuring, speculative design, design fiction, and experiential futures. Whilst some of these experiments were small interventions within participatory design workshops, others were stand-alone experiments.

At its core, each experiment explored ways to make people welcome otherness and was inspired by our readings of discourses that rethink relations, challenge modern hierarchies of domination, and extend understandings of singular worlds towards pluriversal worldliness and entanglements (Escobar, 2016, 2018; Haraway, 2016; Le Guin, 2019; Tsing, 2012), and by those who translate those readings into the design field (Akama et al., 2020; Borthwick et al., 2022; Clarke et al., 2019; Escobar, 2018; Forlano, 2016, 2017). Table 1 gives an overview of the design experiments and the various ways in which we tried to push people out of their routinary ways of thinking.

No. of conducted experiments	Design futuring methods employed	No. of participants	Date	Duration
2	Tweaked design futuring methods	32 – 40	Feb & Mar 2021; Feb & Mar 2022	3 hours
2	Time travel, tweaked design futuring methods, art-making	28	Sep 2021; Sep 2022	1 week, full time
1	Communion with other minds	45	Oct 2022	1,5 hours

Table 1. We conducted five experiments, each of which explored ways to welcome otherness.

The embedded positioning of the authors as teachers and facilitators of the experiments enabled the collection and analysis of rich qualitative data through a combination of methods (Lapan & Quartaroli, 2009), including structured and semi-structured interviews (Trochim et al., 2016), participant observation (Bryman, 2016), and an analysis of the artifacts created in some of the experiments (Muratovski, 2016). The research process followed iterative cycles of data collection and analysis (Corbin & Strauss, 2015). After each experiment or round of data collection, the data was analyzed. To reduce single-observation biases, the data was first analyzed individually, whereupon the authors brought their analysis together to discuss, cluster, challenge and integrate them. The insights emerging from this process then informed the next round of data collection (ibid.).

Findings: Ways to welcome otherness

Welcoming otherness through tinkering with tweaked design futuring methods

Our students and we find ourselves in a constant process of experimentation and reflection, aiming to rethink our methodologies and tools in a way that enables us to give voice to non-human stakeholders. For example, the students tweaked some well-known futuring and human-centered design methods, such as future scenarios (Schwartz, 1996), stakeholder maps (Giordano et al., 2018), personas (Nielsen, 2013), or Thinking Hats (Bono, 2017). Typically, these methods are people-centered. In their design processes, the students, however, used the stakeholder map to identify often disregarded stakeholders, including non-human stakeholders (Figure 2), the persona method to capture their (non-human) needs, the Thinking Hats method to think through these (non-human) perspectives (Figure 3), and the scenario method to narrate and illustrate possible futures from these point of views.

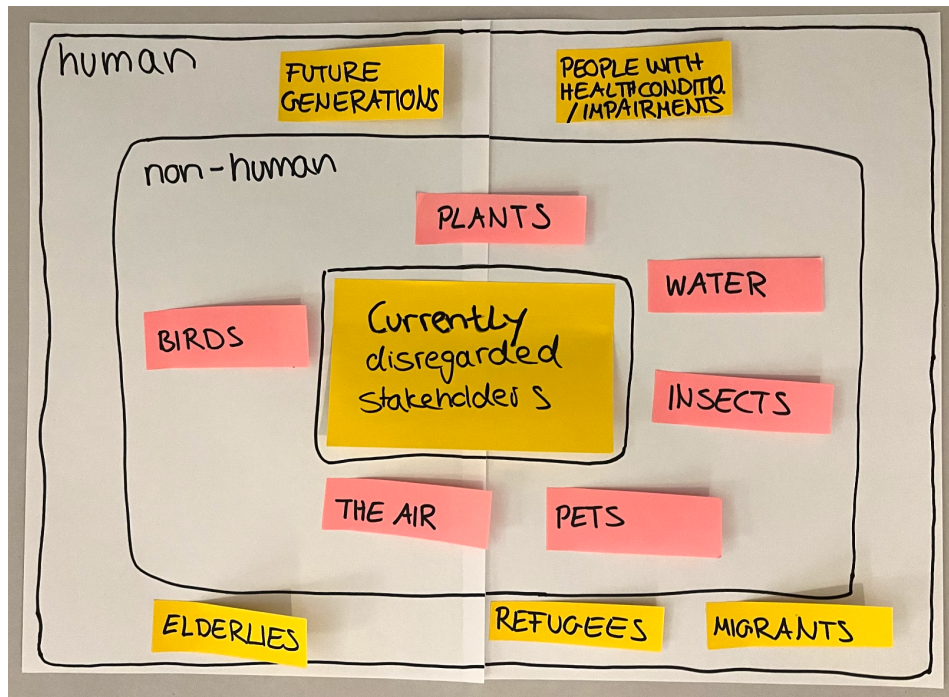


Figure 2. Map capturing human and non-human stakeholders currently excluded from the service.



Figure 3. Thinking Hats used to explore the perspectives, wishes, and needs of currently excluded stakeholders and ideate how to address them.

Students repeatedly emphasized a number of challenges that come with attempting to consider many different needs and realities alongside each other. A frequently mentioned uncertainty arises from the fact that while one can try to put oneself in the shoes of a non-human actor, one never knows with certainty what that actor really thinks and needs ("basically our design is based on assumptions"). Another challenge lies in the increasing complexity resulting from the inclusion of further aspects and needs. Students mentioned that in a "normal design process" (meaning human-centered design) one already has a lot of loose ends that have to be tied up somehow, and that with this approach the number of loose ends and thus the complexity only increases ("It's super complex. We try to find a sweet spot between our primary human user group and these non-human actors that we have identified as stakeholders. And we try to address their current needs, but without compromising the future. We try to not cause any harm, on the contrary ..."). It also became clear that this complexity can be difficult to bear and that there can be a risk of "running away" from it, for example, by ignoring some aspects or implicitly or explicitly declaring them as less important. On the other hand, the students often stressed that they feel it is important to think and design beyond human interests and that they want to learn to do so ("it's a more beautiful approach", "you feel like you are contributing to something important"). It was also mentioned several times that imaginatively feeling the needs and wishes of more-than-human beings and using this empathy as a pathway to identify points of connection (Keating, 2012) can fundamentally change one's way of thinking ("once you realize how intertwined everything is, you cannot ignore it anymore"). The latter also led some students to realize that, after all, human-centered design is, paradoxically, not so much human-centered: "human wellbeing seems to depend on the wellbeing of other beings. Doesn't that mean that we harm humans if we only design for them"?

Welcoming otherness through time traveling

Time traveling is another method in which we try to approach otherness. It is a deliberate attempt to counteract notions of despair in the face of the many dystopian prospects that are occupying the mind. As a method, time traveling is geared towards expanding the consciousness and guiding the imagination into rarely traveled territories through relaxation

breathing, and guided thought journeys (Cuhls, 2017; Markley, 1998, 2008). The relaxed body and the relaxed mind are harnessed as a mediator between the self and the ‘other’. A time travel is guided by a facilitator and music. The students are invited to take a comfortable seat or to lie down on the ground, to close their eyes and concentrate on what they can perceive within their bodies, on what is right now, what they feel, hear, smell, or taste, and how their breath flows in and out (Figure 4). Unlike usual, we are not asking the students to focus on a task, process information, or solve a complex problem. We simply are together, feeling each other's presence, connecting with the energy in the room, and slowly walking together through an unwinding journey into a space of wakeful dreaming. The music – trance-like melodies or classical music without lyrics – helps us to enter a calm and relaxed state of mind. In this state, we ask students to imagine a journey into the future. We invite them to allow their imagination to create a rich picture in their mind – of who they are, where they are, what they are doing. To create some vibrancy, we ask students to focus on their feelings and senses and on how they manifest in their body and soul. We ask them to look closely at what attracts them in this future. Then we invite them to shift their attention towards other beings around them and to try to become that being and feel the world from the presence of that being as if all this were true.



Figure 4. Participants during a time travel

When students reflect on the approach, they are usually enthusiastic. What they appreciate is two-fold. On the one hand, they find the slowness, openness, and inward focus "healing". They often express that in processes that are so focused on collaboration, fast progress and achieving goals, there is literally little room for deep breathing, for observing one's own feelings and emotions, and for looking inwards. They usually find meditating together in the classroom "strange", but also express that this very strangeness is necessary to open doors in the mind and break free from the habitual way of feeling, being and thinking. Students described the approach as permission to escape – to slow down, be quiet, be emotional, and try to think the unthinkable – all the things that might not find much room in a modern classroom (Thompson, 2017). On the other hand, they describe how time traveling liquefies the imagination, in the sense that the imagination suddenly flows into remote places that could not be reached before. This remote place can manifest visually (“Usually I think of the future as a dark place, but this time everything was so colorful”), emotionally (“a safe place where nothing can happen to you, where everyone looks after each other, and takes care of each other”) and bodily (“I feel like I was hugging the earth”).

Welcoming otherness through art-making

In our curricula, we teach a business and strategy course for designers. In this course, the students are invited to develop a future-proof business idea that is financially viable and that has a positive environmental and social impact in the present and in the long term. The focus of the course, i.e., dealing with the long-term strategic and business dimension of design, and the format, i.e., a 4–5 day long sprint, imply notions of development, rapid progress, profit and instrumental rationality. Introducing otherness was here understood as an act of balancing these values, pushing against the silencing of some forms of knowledge, and blurring the boundaries between familiar binaries (e.g., that of rationality and intuition) in contexts like these. To introduce otherness, we experimented with various approaches, one of which was imagining futures through art-making. At the end of the second workshop day – after a full day of identifying future trends, defining value propositions, ideating business models, and calculating revenue streams – we gave the student a homework assignment. The initial unhappiness evoked by the word ‘homework’ turned to confused amazement when they learned that the assignment was to collect, in a maximum time of ten minutes, a number of

strange things, including: something that changes in time, something that changes shape, something that stretches, something that bends, something that smells good, something that feels good, something no one else will bring (“what?!”) (Newman, 2021).

The next morning, we interrupted the students’ business development process quite radically. We put on music and asked them to take out the strange things they brought, which included whips, raw eggs, flints, diapers, ribbons, feathers, toys, etc. (Figure 5). Then we challenged them to think of their business idea as a contribution to a better future. More specifically, we invited the students to think about what feelings and emotions they would want people to have or not to have in the future and how their business idea could awaken or avoid these. We routinely neglect consideration of feelings and emotions in relation to economic deliberations (Grettve, 2022). Therefore, we asked: How do you want people to feel in the future? And how can you awaken these feelings through your business? The students brainstormed for two minutes. For another two minutes, they sketched these feelings and emotions (Figure 6). For the following hour, the students developed two artworks expressing the feelings and emotions that their business would a) support and b) avoid among users (again “what?!”).



Figure 5. Some of the materials that the participants brought.

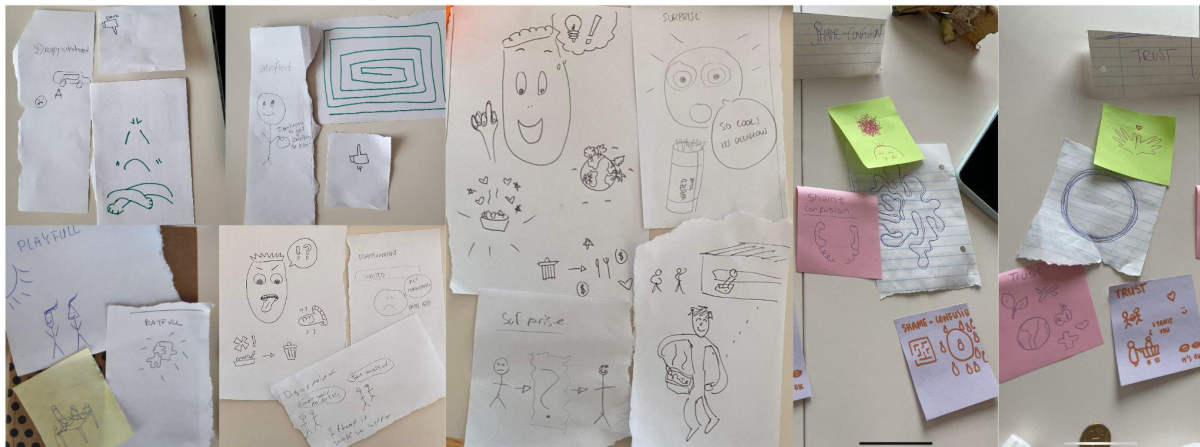


Figure 6. Sketches illustrating feelings and emotions.

Although one would assume that designers would naturally lean into, recognize, and leverage the value of the arts, tensions occurred on several levels and manifested in questions about the relevance and purpose of art-making in a business and strategy course, or in the stress caused by the unwanted ‘slowing down’ of the process and the perceived time pressure. These tensions were rooted in the uncertainty of not knowing whether this activity could be of use, whether one would finish on time in the face of this unwanted interruption, what one would find in the process, or what to look for in the first place. After some minutes, however, the initially hesitant, skeptical, and dismissive atmosphere faded out and a shift occurred. The room transformed into aesthetic chaos. The atmosphere became louder here and quieter there. One could hear laughter, see silliness, and listen to some profoundly critical conversations about modern reality (“this is the ‘Guardian of the Temple’ representing the stable construction of putting value to living beings which are securing the balance of life”). The students seemed to start welcoming the not-knowing and the open-endedness of the process (“this is refreshing!”). The art making process opened for another way of knowing – a non-intellectual way of knowing that blended the analytic modes of thinking of the previous days with intuitive, emotive, embodied, and indeterminate dimensions (Figure 7) (“we just go with the flow”).

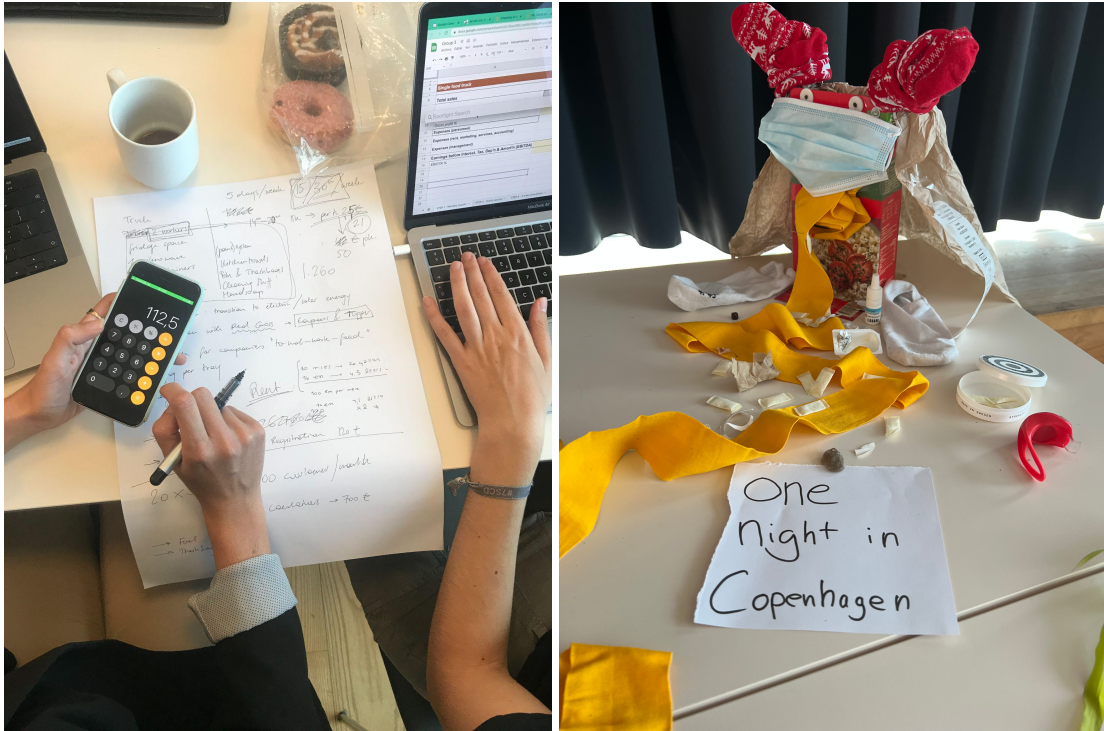


Figure 7. Two moments in our workshop: left: students calculating costs and revenue streams; right: an artwork created.

Welcoming otherness through communions with other minds

In our education, we regularly invite speakers to give talks rooted in work, ideas, or perspectives that hold the potential to challenge our habitual point of view, make us see things differently, and question what we believe. Ursula Le Guin (Le Guin, 2004) refers to this act of listening attentively to people (Figure 8) who are able to ignite our imagination a “communion with another mind”. Usually, these talks are 1–2 hour long interactive moments where the speaker introduces some ideas in a presentation format, after which questions can be asked, and discussions emerge. Recently, we invited a designer from a prominent design studio, who was radically honest about her personal conviction that humanity is doomed in the face of the many increasingly urgent crises. Yet, paradoxically, she dared to take the audience on a journey into a radically different kind of world, a world based on ‘love ethics’ (Grettve, 2022) ... Imagine a world, whose structures are entirely opposite to the patriarchal, logical, and hierarchical structures of today’s world. A future where maintaining and caring is higher valued than innovating and producing, where deliberations are allowed to be

intangible and soft, where room is given to slowness, emotions, and female experimentation...

The speaker did not attempt to resolve the paradox she had just created, which conveyed the transversal feeling of hope in the midst of current adversity. After the talk, one participant said that at first, she did not want to attend the talk (“my head was full”) but that she spontaneously changed her mind, which she does not regret because she found the talk an “unexpected shock”. When asked to elaborate, she explained that though she initially felt not in the mood, suddenly and unexpectedly, it all “resonated” with her.



Figure 8. Participants listening attentively to a presentation about possible futures

The talk seemed to captivate people’s heads and hearts in the manner of a beautiful poem or an irresistible melody (“I even teared up a little, because it moved me so much”). The articulated future vision moved the audience and bent their minds in unconventional but, potentially, not that foreign directions: unconventional in the sense that the underlying idea of the proposed future diverged from the conventional, i.e., dominant world or set of world-making practices (“this story was so far away from the dominant narratives about what we should strive for and pursue”); and not that foreign in the sense that the underlying idea of the proposed future seemed quite closely related to female self-conception (“made me realize that I’m not alone with my wishes, but that they are shared female wishes, and that they are valid and reasonable”). The sense of connection with the ‘otherness’, the feeling of resonance, and the realization that otherness, after all, is not opposite to the self but, in this case, a previously inaccessible part of the self that has been made accessible, presupposed that the otherness was given a mouthpiece by the speaker. The speaker conceptualized the

otherness in such a way that it could almost speak with its own voice and function as a source of strong values, making this otherness present, sizable, and available. By making it experienceable, even if only partially, the audience could recognize that otherness was not so much opposed to the self, but that this otherness carried a part of the self within it, just as the self-carried a part of otherness within it. The longing for otherness was also expressed (“I wish I could hear these warm stories every day. Because every time I hear them, they give me so much”), emphasizing its complementary nature to the self. Embracing otherness appeared as something that unfolds across a spectrum, along which the self moves (“You need to hear stories like these more often. Otherwise, and that often happens to me, the inspiration and this feeling of connection fade out again [...]” This quote also highlights that embracing otherness is an act that can be temporarily successful, but that one can be drawn back into one’s self-centeredness again.

Discussion

This article explores 1) how design futuring practices can help embrace otherness, and 2) how education in design and futuring can make sure that students realize the importance of welcoming otherness. It is based on a series of design experiments conducted within the context of a master’s program geared towards design futuring.

As illustrated in Figure 9, our findings evidenced that being self-centered and embracing otherness are two contradictory but at the same time complementary poles of a spectrum along which one’s mindset moves. In line with previous research (Das & Teng, 1999; Liedtka, 2015), our study showed that self-centeredness is often the default. Embracing otherness arises from the continuous shifts between the seemingly opposite poles of habitual self-centeredness and otherness. Embracing otherness is thus not static, but active, dynamic, moving, and temporary. The mind constantly oscillates between approaching, embracing, and abandoning otherness, coming close and going far. Welcoming otherness is temporary and requires deliberate effort and openness. Therefore, we understand the engagement with otherness as a journey of the mind between self-centeredness and otherness.

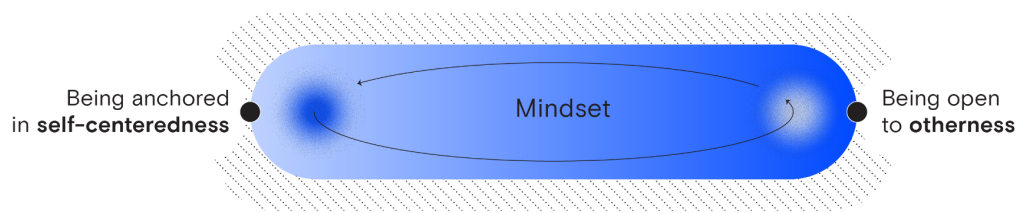


Figure 9: Being self-centered and open to otherness are two poles of a spectrum along which the mind journeys.

As outlined in the ‘Related work’ section, in recent decades, futuring has become increasingly participatory to adequately address the systemic challenges of contemporary life (Nikolova, 2014). The wider inclusion of agents, which have traditionally been external to the field, e.g., diverse humans, non-humans, and non-living or not-yet-living beings (Borthwick et al., 2022; Clarke et al., 2019; Nikolova, 2014), has been emphasized as crucial for expanding the traditional “one-world-world” (Law, 2015) and its human-centered stance (Light et al., 2017). Today, there is a spectrum of futuring approaches that differ in their participatory degree, with single expert viewpoints at one end of the spectrum, and superdiversity in viewpoints at the other (Figure 1).

We would argue, however, that a participatory approach to futuring in itself does not inevitably ensure an embracement of otherness. Instead, we contend that the *mindset* with which an approach is pursued determines whether otherness is embraced (Figure 10). For example, someone may work in absolute solitude, i.e., in a non-participatory way, and yet this work can embrace otherness if her mindset does so. On the other hand, someone may work in a participatory way, but if her mindset does not genuinely embrace otherness, her work runs the risk of not truly embracing otherness either. We know, for example, that participatory projects, also in the realms of futuring, can have consequences that drastically deviate from the initial intentions by creating an illusion of empowering the public, while actually only devolving power holders’ responsibilities downwards (Nikolova, 2014).

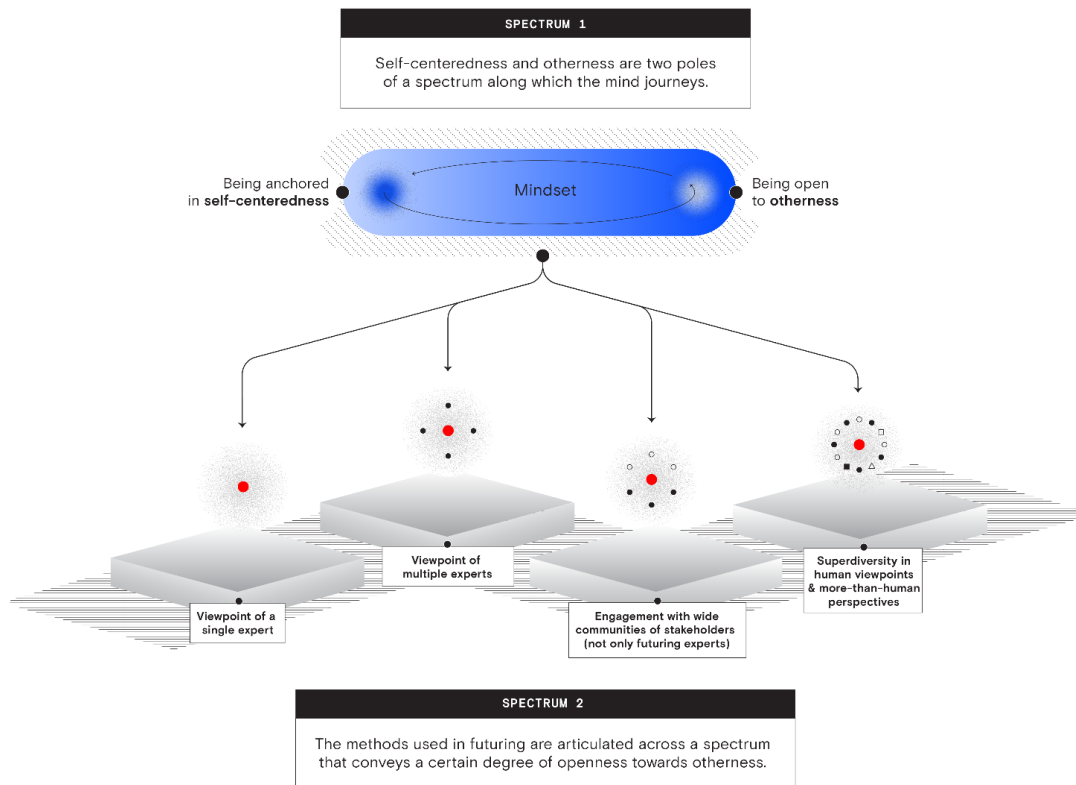


Figure 10. Two intersecting spectrums: 1) the spectrum across which the mindset journeys, ranging from being anchored to self-centeredness to being open to otherness; and 2) the spectrum of approaches and methods used in futuring that convey varying degrees of openness towards otherness. Ultimately, we contend that the mindset with which an approach is pursued determines whether otherness is embraced.

Our study reveals a general appreciation and longing for otherness. This urge for otherness, however, appears like a soft voice that can only be heard loud and clear through deliberate nurturing and real encounters. For otherness to manifest, form and inform one’s thinking and practice, and complement the self, it must somehow be made available and experienceable, or must be given a voice. This is precisely the role design futuring can play. Design futuring practices can foster encounters with otherness, for example, through deliberately turning familiar situations into unfamiliar ones, or through playing and tinkering with perspectives to find out if they allow seeing things differently. We also experienced that encounters with otherness are particularly powerful when situated in opposition to the habitual

self-centeredness of our times. Engaging with otherness is always also an engagement and confrontation with one's own self and beliefs. The contrast and tension that exist between these poles can be enriching, moving and eye-opening, and probably most importantly, they can foster hope; hope that a different future may be possible.

As the responsibilities of designers expand towards contributing to long-term social and environmental sustainability, design education has a responsibility to train students on how to shape a more sustainable, inclusive, and equitable future (Meyer & Norman, 2020; Norman & Vredenburg, n.d.). To keep up with the new demands of the 21st century and to align short-term design action with long-term sustainability, futuring has started to play a larger role in design curricula (Barbara & Scupelli, 2021; Evans & Sommerville, 2006; Neuhoff et al., 2022; Scupelli et al., 2019). Based on our research, we think that while education should continue to teach approaches to consider the future and augment design activity (e.g., Evans & Sommerville, 2006), our goal as educators must also be on cultivating mindsets that are passionate about otherness. Our research has shown that embracing otherness holds the potential to challenge self-centeredness and its accompanying notions, such as short-sightedness, narrow-mindedness, or the pursuit of immediate outputs. Our research also suggests that cultivating such a mindset requires enriching the current human-centered design approaches, which remain to be the approach primarily taught (Meyer & Norman, 2020), with more-than-human approaches. This is consistent with calls by other scholars, who have argued that we must extend power to forms of being that do not routinely hold power (e.g., Akama et al., 2020; Borthwick et al., 2022; Clarke et al., 2019, 2019; Roudavski, 2020). Cultivating a mindset that is passionate for otherness also requires practice. Ideally, we assume, this practice starts early, lasts a lifetime, and extends across all levels of the social sphere (Le Guin, 2019). Finally, we contend that design education should aim at fostering hope. This may sound obvious but fostering hope and enabling people to stay hopeful is a difficult task in times of despair. However, what we hope for today may one day be the new norm. And hope, we assume, is the driving force that bridges the gap between today and a better future.

Let us now conclude by revisiting the question posed in the title. How can I think like a fish if I am not a fish? This question highlights, on one hand, the significant difference between our human perspective and that of a fish and, on the other, the inherent difficulty of

fully adopting a perspective that is significantly different to one's own. However, as we hope to have shown in this text, it is precisely by not denying these differences and not claiming that they are too great to be bridged, indeed by engaging with difference in an open-minded, genuine, and curious way, that a fertile ground for self-discovery and transformation is created (Keating, 2012). In other words, it is not otherness that creates opposition but rather the inability or refusal to open ourselves to otherness. It is through exploring and inhabiting otherness in an imaginary way that we can uncover relationalities and commonalities that bind together the seemingly opposite. By acknowledging the co-existence of differences and relationalities, coupled with open-mindedness and a willingness to allow (self-) transformation (Keating, 2012), we may be able to challenge dominant worlds and practices, and expands our routinary stance.

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References

- Akama, Y., Light, A., & Kamihira, T. (2020). Expanding Participation to Design with More-Than-Human Concerns. *Proceedings of the 16th Participatory Design Conference 2020 - Participation(s) Otherwise - Volume 1*, 1–11.
<https://doi.org/10.1145/3385010.3385016>
- Arvanitis, E., Bauer, M., Covarrubias Venegas, B., Cramer, A., D'Amato, G., Davoine, E., Farrar, J., Glăveanu, V. P., Grünenfelder, R., Hassi, A., Lambelet, A.-C., Lezou Koffi, A.-D., Ogay, T., Pechr, J., Saudelli, M., Schaerli, S., Shaules, J., Spencer-Oatey, H., Stalder, P., & Zittoun, T. (2021). *Futures of Education: Learning to Become How should what we learn, how we learn, and where we learn change in the future?* UNESCO; SIETAR SWITZERLAND.
- Baldwin, B. P., & Inayatullah, S. (2021). Communicating the Future: Foresight as Mindfulness – An Interview with Sohail Inayatullah. *Journal of Futures Studies*, 26(1), 91–100.
- Bang, A. L., & Eriksen, M. A. (2014). Experiments all the way—Diagrams of dialectics between a design research program and experiments. *Artifact*, 3(2), 4.
<https://doi.org/10.14434/artifact.v3i2.3976>
- Barbara, A., & Scupelli, P. (2021). Teaching to design futures in cities. *TECHNE-JOURNAL OF TECHNOLOGY FOR ARCHITECTURE AND ENVIRONMENT*, 112–116.
<https://doi.org/10.13128/techne-10693>
- Bell, W. (2003). *Foundations of Futures Studies: History, Purposes, and Knowledge* (Vol. 1). Routledge.

- Bono, E. de. (2017). *Six Thinking Hats: The multi-million bestselling guide to running better meetings and making faster decisions*. Penguin UK.
- Borthwick, M., Tomitsch, M., & Gaughwin, M. (2022). From human-centred to life-centred design: Considering environmental and ethical concerns in the design of interactive products. *Journal of Responsible Technology*, *10*, 100032.
<https://doi.org/10.1016/j.jrt.2022.100032>
- Bourgeois, R., Penunia, E., Bisht, S., & Boruk, D. (2017). Foresight for all: Co-elaborative scenario building and empowerment. *Technological Forecasting and Social Change*, *124*, 178–188. <https://doi.org/10.1016/j.techfore.2017.04.018>
- Brandt, E., & Binder, T. (2007). Experimental design research: Genealogy, intervention, argument. *Emerging Trends in Design*. International association of societies of design research, Hong Kong, China.
<https://adk.elsevierpure.com/en/publications/experimental-design-research-genealogy-intervention-argument>
- Brons, Lajos L. (2015). Othering, an analysis. *Transcience, a Journal of Global Studies* *6* (1):69-90.
- Bryman, A. (2016). *Social research methods* (Fifth Edition). Oxford University Press.
- Candy, L., 2006. *Practice-Based Research: A Guide*. A report from Creativity and Cognition Studios. Sydney: Sydney University of Technology.
- Candy, S., & Dunagan, J. (2017). Designing an experiential scenario: The People Who Vanished. *Futures*, *86*, 136–153. <https://doi.org/10.1016/j.futures.2016.05.006>
- Canevacci, M. (2013). *The line of dust: Bororo culture between tradition, mutation and self-representation* (First English edition). Sean Kingston Publishing.

- Celi, M., & Morrison, A. (2019). Anticipation and Design Inquiry. In R. Poli (Ed.), *Handbook of Anticipation: Theoretical and Applied Aspects of the Use of Future in Decision Making* (pp. 795–819). Springer International Publishing.
https://doi.org/10.1007/978-3-319-91554-8_49
- Clarke, R., Heitlinger, S., Light, A., Forlano, L., Foth, M., & DiSalvo, C. (2019). More-than-human participation: Design for sustainable smart city futures. *Interactions*, 26(3), 60–63. <https://doi.org/10.1145/3319075>
- Corbin, J., & Strauss, A. (2015). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (4th Edition. Revised). SAGE Publications, Inc.
- Cruikshank, L., & Trivedi, N. (2017). Beyond Human-Centred Design: Supporting a New Materiality in the Internet of Things, or How to Design When a Toaster is One of Your Users. *The Design Journal*, 20(5), 561–576.
<https://doi.org/10.1080/14606925.2017.1349381>
- Cuhls, K. E. (2017). Mental time travel in foresight processes—Cases and applications. *Futures*, 86, 118–135. <https://doi.org/10.1016/j.futures.2016.05.008>
- Das, T. K., & Teng, B.-S. (1999). COGNITIVE BIASES AND STRATEGIC DECISION PROCESSES: AN INTEGRATIVE PERSPECTIVE. *Journal of Management Studies*, 36(6), 757–778.
- Dixon, B. (2023). *Design, Philosophy and Making Things Happen* (1st ed.). Taylor & Francis Ltd.
- Dunne, A., & Raby, F. (2013). *Speculative everything: Design, fiction, and social dreaming*. The MIT Press.

- Escobar, A. (2016). Thinking-feeling with the Earth: Territorial Struggles and the Ontological Dimension of the Epistemologies of the South. *AIBR, Revista de Antropología Iberoamericana*, 11(1), 11–32. <https://doi.org/10.11156/aibr.110102e>
- Escobar, A. (2018). *Designs for the pluriverse: Radical interdependence, autonomy, and the making of worlds*. Duke University Press.
- Evans, K. (2020, March 20). *The New Zealand river that became a legal person*. BBC. <https://www.bbc.com/travel/article/20200319-the-new-zealand-river-that-became-a-legal-person>
- Evans, M., & Sommerville, S. (2006, September 7). Educating the Future: Embedding Futures Thinking in the Design Curriculum. *Proceedings of E&DPE 2006*. the 8th International Conference on Engineering and Product Design Education, Salzburg, Austria.
- Forlano, L. (2016). Decentering the Human in the Design of Collaborative Cities. *Design Issues*, 32(3), 42–54. https://doi.org/10.1162/DESI_a_00398
- Forlano, L. (2017). Posthumanism and Design. *She Ji: The Journal of Design, Economics, and Innovation*, 3(1), 16–29. <https://doi.org/10.1016/j.sheji.2017.08.001>
- Frayling, C., 1993. 'Research in art and design'. Royal College of Art Research Papers, 1(1), pp. 1–5.
- Gaver, W. (2012). What should we expect from research through design? *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 937–946. <https://doi.org/10.1145/2207676.2208538>

- Giordano, F., Morelli, N., Götzen, A. D., & Hunziker, J. (2018). The stakeholder map: A conversation tool for designing people-led public services. *Service Design Proof of Concept*, 16.
- Grettve, J. (2022, July 10). ECONOMIC SPACES. *Medium*.
<https://medium.com/@JennyGrettve/economic-spaces-ded93d0872c5>
- Haraway, D. J. (2016). *Staying with the trouble: Making kin in the Chthulucene*. Duke University Press.
- Haunui-Thompson, S. (2017, March 16). *Whanganui River to gain legal personhood*. RNZ.
<https://www.rnz.co.nz/news/te-manu-korihi/326689/whanganui-river-to-gain-legal-personhood>
- Hester, H. (2018). *Xenofeminism*. Polity Press.
- Jin, Z. (2021). Thought of the Post-modern Anti-subjectivity in the Others View. *Scientific and Social Research*, 3(4), 204–208. <https://doi.org/10.36922/ssr.v3i4.1252>
- Keating, A. (2012). *Transformation Now!: Toward a Post-Operational Politics of Change* (1st Edition). University of Illinois Press.
- Kelliher, A., & Byrne, D. (2015). Design futures in action: Documenting experiential futures for participatory audiences. *Futures*, 70, 36–47.
<https://doi.org/10.1016/j.futures.2014.12.004>
- Koskinen, I., Zimmerman, J., Binder, T., Redstrom, J., & Wensveen, S. (2013). Design Research Through Practice: From the Lab, Field, and Showroom. *IEEE Transactions on Professional Communication*, 56(3), 262–263.
<https://doi.org/10.1109/TPC.2013.2274109>

- Lapan, S. D., & Quartaroli, M. T. (2009). *Research essentials: An introduction to designs and practices*. Jossey-Bass.
- Law, J. (2015). What's wrong with a one-world world? *Distinktion: Journal of Social Theory*, 16(1), 126–139. <https://doi.org/10.1080/1600910X.2015.1020066>
- Le Guin, U. K. (2004). *The Wave in the Mind: Talks and Essays on the Writer, the Reader, and the Imagination* (1st ed.). Shambhala.
- Le Guin, U. K. (2019). *The carrier bag theory of fiction*. Ignota.
- Liedtka, J. (2015). Perspective: Linking Design Thinking with Innovation Outcomes through Cognitive Bias Reduction. *Journal of Product Innovation Management*, 32(6), 925–938. <https://doi.org/10.1111/jpim.12163>
- Light, A., Powell, A., & Shklovski, I. (2017). Design for Existential Crisis in the Anthropocene Age. *Proceedings of the 8th International Conference on Communities and Technologies*, 270–279. <https://doi.org/10.1145/3083671.3083688>
- Markley, O. W. (2008). Mental time travel: A practical business and personal research tool for looking ahead. *Futures*, 40(1), 17–24. <https://doi.org/10.1016/j.futures.2007.06.006>
- Markley, O. W. (1998). Visionary Futures: Guided Cognitive Imagery in Teaching and Learning About the Future. *American Behavioral Scientist*, 42(3), 522–530. <https://doi.org/10.1177/0002764298042003024>
- Meyer, M., & Norman, D. (2020). Changing Design Education for the 21st Century. *She Ji: The Journal of Design, Economics, and Innovation*, 6, 13–49. <https://doi.org/10.1016/j.sheji.2019.12.002>

- Muratovski, G. (2016). *Research for designers: A guide to methods and practice*. Sage Publications.
- Neuhoff, R., Simeone, L., & Holst Laursen, L. (2022). The potential of design-driven futuring to support strategising for sustainable futures. *The Design Journal*, 1–21. <https://doi.org/10.1080/14606925.2022.2121057>
- Nielsen, L. (2013). *Personas: User focused design*. Springer.
- Nikolova, B. (2014). The rise and promise of participatory foresight. *European Journal of Futures Research*, 2(1), 33. <https://doi.org/10.1007/s40309-013-0033-2>
- Noel, L.-A. (2022). *Dreaming Outside the Boxes that Hold Me In: Speculation and Design Thinking as Tools for Hope and Liberation against Oppression*. 26(3), 71–82. [https://doi.org/10.6531/JFS.202203_26\(3\).0006](https://doi.org/10.6531/JFS.202203_26(3).0006)
- Norman, D., & Vredenburg, K. (n.d.). *Future of Design Education*. Future of Design Education. Retrieved 2 January 2023, from <https://www.futureofdesigneducation.org/>
- Ollenburg, S. A. (2019). A Futures-Design-Process Model for Participatory Futures. *Journal of Futures Studies*, 23(4). [https://doi.org/10.6531/JFS.201906_23\(4\).0006](https://doi.org/10.6531/JFS.201906_23(4).0006)
- Rittel, H. W. J., & Webber, M. M. (1973). Dilemmas in a General Theory of Planning. *Policy Sciences*, 4(2), 155–169.
- Romani, A., Casnati, F., & Ianniello, A. (2022). Codesign with more-than-humans: Toward a meta co-design tool for human-non-human collaborations. *European Journal of Futures Research*, 10(1), 17. <https://doi.org/10.1186/s40309-022-00205-7>
- Roudavski, S. (2020). Multispecies Cohabitation and Future Design. In S. Boess, M. Cheung, & R. Cain (Eds.), *Synergy*. <https://doi.org/10.21606/drs.2020.402>

- Saijō, T. (Ed.). (2020). *Future design: Incorporating preferences of future generations for sustainability*. Springer.
- Sarah Newman (Director). (2021, March 15). *Inspiring Creativity and Curiosity when Teaching Online*. <https://www.youtube.com/watch?v=4W2u5X11hO0>
- Schmeer, J. (2019). Xenodesignerly Ways of Knowing. *Journal of Design and Science*.
<https://jods.mitpress.mit.edu/pub/6qb7ohpt/release/3>
- Schultz, W. L. (2015). A Brief History of Futures. *World Futures Review*, 7(4), 324–331.
<https://doi.org/10.1177/1946756715627646>
- Schwartz, P. (1996). *Art of the Long View: Planning for the Future in an Uncertain World*. Currency.
<https://www.wiley.com/en-gb/Art+of+the+Long+View%3A+Planning+for+the+Future+in+an+Uncertain+World-p-9780471977858>
- Scupelli, P., Fu, Z., Zheng, Y., Brooks, J., & Pixel. (2019). *Teaching to Ddesign Futures in China: A Vision for a Blended Learning Pedagogy to be Deployed at Scale* (WOS:000494943300074). 431–435.
- Simeone, L., Drabble, D., Iacopini, G., Van Dam, K., Morelli, N., De Götzen, A., & Cullen, J. (2019). Articulating a strategic approach to face complexity in design projects: The role of Theory of Change. *Academy for Design Innovation Management 2019 London International Research Conference*, 938–948.
- Sterling, B. (2005). *Shaping Things* (Illustrated edition). The MIT Press.
- Thompson, B. (2017). *Teaching with Tenderness: Toward an Embodied Practice* (Illustrated Edition). University of Illinois Press.

Trochim, W. M., Donnelly, J. P., & Arora, K. (2016). *Research Methods: The Essential Knowledge Base* (2nd ed.). Cengage Learning.

Tsing, A. (2012). Unruly Edges: Mushrooms as Companion Species. *Environmental Humanities*, 1(1), 141–154. <https://doi.org/10.1215/22011919-3610012>

van der Duin, P. (2016). *Foresight in Organizations: Methods and Tools* (1.). Routledge.