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Wordings and Worldings—DALL-E wordplays to visualise alternative metaphors for complex systems

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World-ing, the act of imagining, shaping and visualising many worlds, is inextricably connected to the designer's ability to work with words and language. The workshop builds on our previous RSD papers on languaging futures and role of metaphors in exploring complex systems, and presents a playful experiment in using artificial intelligence programmes such as DALL-E and Midjourney. By using specific descriptive language, the participants will explore the relationship between words and visual representations, and how alternative metaphorical visualisations could be used as prompts for imagining multiple and pluriversal futures within design.

KEYWORDS: metaphors, systems, language, artificial intelligence, pluriversal

RSD TOPIC(S): Methods & Methodology, Society & Culture

Background: Language, design, metaphors and systems

There is a need for Design to rapidly and responsibly address ways to work with survivable, sustainable futures (Fry, 2009). Previously solution-centric notions of planning and prediction and design progress are inadequate for responding to a world that needs what we term 'urgent design' (Morrison 2019). For a systemic transition that's grounded in wellbeing, shaping shared-futures must be accessible to everyone,

such that these futures reflect the plurality of those shaping it. As designers and researchers, we must then look to understand the complex relations between systems, knowledge and action, and explore transforming those very relations for the better futures.

Figure1: In RSD9 workshop, we explored 'languaging' of futures and how it can support designers with imagining pluriversal futures with a systemic lens. (Dudani & Morrison, 2019)

Words and language are inextricably linked with a designer's ability to shape futures, both productively and analytically. We use language to shape visions of futures, which in turn shapes the words, terms and concepts within our wider design discourse. (Dudani & Morrison, 2020) The use of war-influenced terms like 'deadline' and 'targets' is all too familiar but they might also make one curious to the legacies of our own design terms and where they really come from. This connects to the larger conversation on who gets to influence the words and languages we use to express ourselves and our visions for our futures – and whose terms get adopted or foisted upon us. Everyday examples are of auto spell corrections, most recently in news by tech platform Grammerly which now auto-corrects 'fugitive slave' to 'freedom seeker. As technologies like AI become more and more ubiquitous, there is a re-exploration on which words can be used for

understanding, relating and sense-making, and what worlds they might make.

Figure 2: A narrative excerpt from stakeholder, Norwegian metaphor 'faller mellom to stoler' or 'falling between two stools', visualised to capture the specific and vivid lived experience of the complex system, in this case, the Norwegian housing system. (Dudani, 2021)

This brings us to metaphors – defined as not just 'novel or poetic linguistic expression' (Lakoff, 1992) but something that goes beyond language - a conceptual tool for structuring, restructuring and even creating reality (Lakoff & Johnson, 1980). There is a long history of metaphorical thinking in systems theory and cybernetics, establishing parallels between natural and artificial systems, and also in design, where strategic use of metaphors is often a way of introducing people to new things (types of product, modes of interaction) by giving a link to something they already understand. (Dudani & Lockton, 2021) In practice, metaphors can support us in accessing cultural knowledge where familiar concepts could be used as scaffolding to form and express unique understandings of a complex system that is otherwise challenging to comprehend.

Taking a soft systems view (Nold, 2021) where complex systems are dynamic and indeterminate, I've explored how metaphors can help designers question and dig deeper into underlying worldviews, mindsets and values held by stakeholders, but more importantly - also reveal the embedded assumptions that's at the root of it all. Capturing that essence into a metaphor also made it possible for me to ask – what if we flipped the metaphors of a complex system – what might an alternative system look like then? (Dudani, 2021)

Worlding with AI: What is this workshop about

In this workshop, we will take an experimental approach to playing with the narrative aspect of shaping a metaphor. We will look at what metaphors we use, the language we use to describe and visualise them, and how tweaking words could create sometimes starkly different ways of seeing the same metaphorical expression. As metaphors can also be generative, offering us novel ways to reinterpret and reimagine the systems we're part of - we will pay attention to the role of language in generating new metaphors, shaping certain visual aesthetics and how those in turn might be used as provocation for probing complex systems.

For our language experiments, we will use DALL-E and Midjourney which are artificial intelligence programmes that use natural language descriptions to create images. The programmes use natural language processing (NLP) and are based on one of the largest language models GPT-3. While there are other text-to-image programmes, we will use DALL-E as it produces more realistic images at higher resolutions that 'can combine concepts, attributes, and styles' (OpenAI, 2021) which is particularly useful for experimenting with metaphors and their descriptions. We will discuss how aesthetics, coded bias (Bender et al, 2021) and composition contributes to narrative and storytelling, and conclude with how AI programmes like DALL-E and Midjourney could be used as an empowering device for engaging citizen-participants in imagination and world-building.
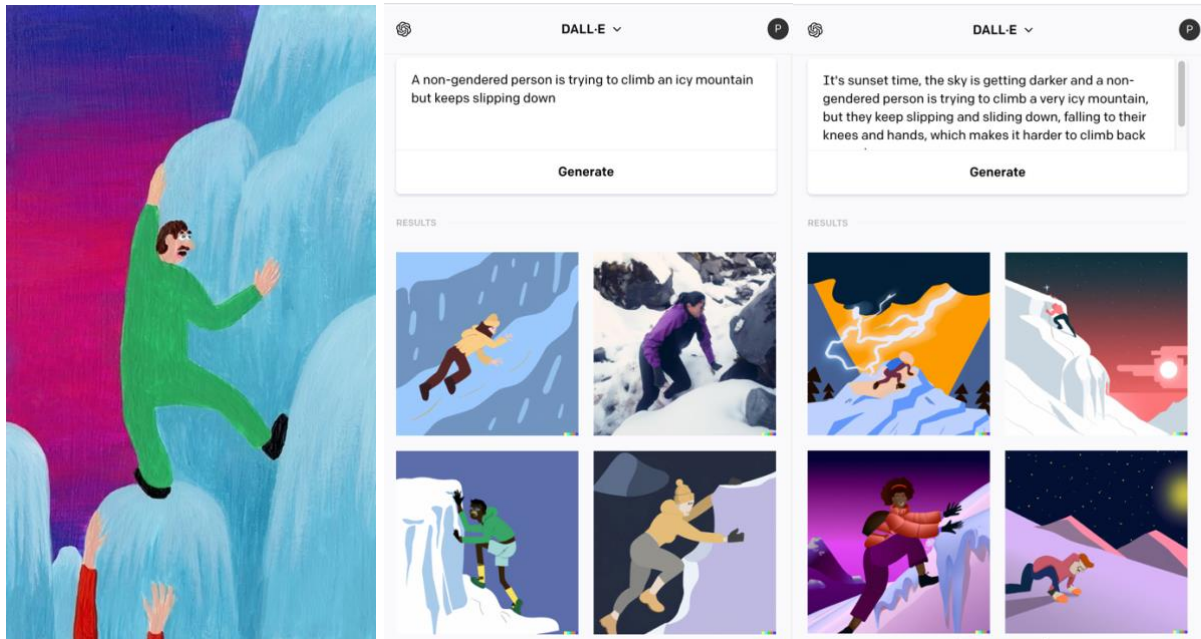
Figure 3: The metaphor card by author (left), compared with the visual representation generated by DALL-E (middle and right).

Workshop Agenda

0:00 – 0:10 Welcome and Icebreaker
Participants will be welcomed into a Miro board where they will engage in a short exercise on acknowledging the use of metaphors in their daily life and work.

0:15 – 0:30 Plenary Introduction: Case study examples
How situated lived experiences can be coded and visualised into metaphors
How metaphors can help designers work with complex systems and imagine alternatives
How language influences shaping and visualisation of 'metaphors'

0:30 – 0:45 The Metaphor exercise (main room)
5mins: The participants will be introduced to the metaphor card deck. Each participant will select upto two cards each.

10mins: For each metaphor card, the participant will relate it to their own project work/experience and write 1-2 sentences describing visualisation as per their interpretation.

0:45 – 1:00 Wordplay with DALLE-2 and Midjourney (breakout rooms)

The participants will be introduced to DALLE-2 and Midjourney. Each participant will input their descriptive text to generate alternate visualisations of the same metaphor card. Participants will tweak their descriptions to see how the visualisations change and how they compare with the original (facilitator's) metaphor card.

1:00 – 1:25 Reflection and Dialogue (plenary)

The participants will add their new visualisations to the miro board and discuss how visualisations of the same metaphor influences interpretation and how language plays a role in shaping that. The participants will leave with a sharper understanding of how our use of language carries weight, and how it influences our ability to imagine possible alternatives.

1:25 – 1:30 Wrap up and Check out

The participants will leave with an accesible Miro link and will receive invitation for collaborating and further developing this work into paper for RSD12.

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