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## AI and the Conditions of Design: Towards A New Set of Design Ideals

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## Editorial: AI and the Conditions of Design: Towards A New Set of Design Ideals

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**Abstract:** The five papers in the DRS 2022 track “AI and the Conditions of Design: Towards A New Set of Design Ideals” offer radical lenses to change the narrative around AI and open pathways towards pluralist digital futures, signaling redirections for experimenting with more inclusive and imaginative design practices.

**Keywords:** artificial intelligence; explainability; queerness; imaginaries; currencies.

### 1. The call to design

How can design, as an interdisciplinary field of research and practice, anticipate the digital transformation of society powered by data, machine learning, and artificial intelligence?

How can we form an understanding of the different agencies involved—human and artificial—and create the conditions for sustainable human-machine relations and co-performances?

Inclusive and responsible digital futures call for fundamentally new design ideals and professional practices. This requires combining advances in engineering, the social sciences, and the humanities to provide the necessary connection in design between human experience (one-to-one relations) and the societal system (end-to-end relations). The crafting of agency must be positioned as foundational to design today just like function was critical to industrial design.



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The papers in this track offer radical lenses to change the narrative and futures of AI that are so often owned by the tech community, signaling directions and redirections for experimenting with novel practices that contribute to the call to design set forth by this track. The first two papers offer questions that help us set out the call and expand our critical and cultural lens towards AI and data science. The papers that follow engage in ethical, imaginative, and socio-economic redirections that suggest pathways for future design practices that aim to uphold anticipatory and responsible approaches.

## 2. Radical lenses

### 2.1 Shared understandings

The paper by Nicenboim, Giaccardi and Redström “*From Explanations to Shared Understandings of AI*” starts strong in clarifying what we are talking about when we position AI in everyday life, that is, within fluid contexts of use, changing values, and evolving relationships between people and artificial agents. According to the authors, a key challenge in designing inclusive and sustainable interactions with AI systems is how to support people in understanding them and relating to them contextually. To address this challenge, it is critical to consider both people and artificial agents as active participants in constructing and sharing understandings that are situated and dynamic. This requires a review of the assumptions underpinning the explainable AI agenda in the tech community, and the pursuit of design strategies that can help us look ‘across’ the complexity of AI systems (as suggested by Ananny and Crawford, 2018) and work ‘through’ their failures and breakdowns.

By positioning AI in everyday life, the authors look at ‘understanding something’ as a dynamic process rather than a static, factual explanation. As argued by political philosopher Hannah Arendt, “understanding, as distinguished from having correct information and scientific knowledge, is a complicated process which never produces unequivocal results” (Arendt, 1994, p.307). Designing interactions that invite users to look ‘across’ the AI system instead of looking ‘inside’ is to support people in encountering and experimenting with both the capabilities and limitations of artificial agents, in the context of their own lives.

### 2.2 Queer becomings

The paper by Grace Turtle “*Mutant in the Mirror: Queer Becomings with Artificial Intelligence*” uses queerness as a theoretical grounding to explore potentialities for design to interface with and imagine artificial intelligence (AI) differently. The paper describes an auto-theoretical experiment with a Generative Adversarial Network (GAN) to inquire into as a kind of mutant, in a constant state of becoming. The work provides a glimpse into forms of design refusal against cultural computability and towards self-determination. Although the experiment described in the paper provides only a glimpse into designing interventions for refusal or at best an aspirational deterritorialization of AI, it does signal towards critical and playful explorations in designing for queer becomings with AI.



*Figure 1 Selected image results from the StyleGAN experiment by Grace Turtle “Mutant in the Mirror” suggestive of queer becoming with AI.*

Calling for new postures, or rather “queer turnings” (Ahmed, 2006) towards AI, may help shift how we relate to, and “move with AI differently”. Mutations arising through queerness offer designers a borderland perspective to ‘deterritorialise’ (Deleuze & Guattari, 2005, p. 69) the binary, fixed historical understandings encoded in AI systems, and how these are deployed within everyday life. As reported by Turtle: “The classification [...] with a high probability that I am hairspray and a low probability that I am lipstick, suggests that the mutable self is reducible to a set of categorical signifiers when in reality data is textural and culturally rich. By playing with AI systems that at once negotiate deterministic and probabilistic outcomes—while neatly classifying and categorising people—one could quickly grasp that this is an area that requires critical design review.”

### 3. Redirections

#### 3.1 Reconfiguring spaces/places

The paper by Maaike Harbers and Anja Overdiek “*Towards A Living Lab for Responsible Applied AI*” argues that AI ethics research has mainly focused on high-level principles and guidelines and technical issues, and that instead more attention should go to the practical and contextual aspects of designing AI applications. In line with this redirection, the paper explores how living labs might contribute to the ethical design, development and deployment of AI. The paper brings together literature from Open Innovation and Human Computer Interaction to examine the suitability of different types of living labs (Alavi et al., 2019) for developing ‘Responsible Applied AI’ or RAAI. It concludes that Innovation Spaces (online and physical) combined with temporary and ethically governed Instrumented Places and People could be a fruitful environment for bringing RAAI to life.

A living lab for RAAI represents a physical and social environment that can help create social relations, and support co-creation, experimentation, and mutual learning in real-life use contexts. In the initial phases, personal values can be addressed, and a broader deliberation about public values can be organized. Also, rules of informed partnership and horizontal co-creation can be established. Temporary labs at the site of the participating partners or ‘in the wild’ can then be implemented to allow for real-life experimentation and contextual testing of AI systems, and later online reflection and sharing of results – bridging the divide between what we ‘need’ to do and what we are ‘able’ to.

#### 3.2 Reconfiguring currencies

The paper by Chris Speed, Jonathan Rankin, Chris Elsden, and John Vines “*The Future of Money as a Design Material*” makes some head way by reconfiguring the materiality of economic data for design. The paper explores the implications for design of a series of technological and regulatory shifts that are taking place today and that are changing the representation of money into data. The paper anticipates that it won’t be long before personal bank accounts will be better understood to be personal data stores, connected to data-driven systems and automatically set up to ‘pay’ for services, driving the business models of internet and social media platforms (Zuboff 2019). By charting the changes that are taking place and introducing a series of design case studies that make tangible the design opportunities, the paper suggests an emerging design space in which designers should anticipate new forms of money as an entirely new design material. This is a space where money changes its form from being ‘dumb’ numbers that decrease as we spend our monthly salaries to becoming an ‘agent’ that can be programmed with particular values.

As visualized by the authors: “Entangled in the daily use of social media apps such as Instagram, Facebook and Twitter, it is simply not the case that we are passing handfuls of disconnected numbers or strings of characters in exchange for access to a platform as though it was cash in a supermarket.” If money is to move into a condition in which it can be associated with multiple values, then is it possible that those values begin to drive transactions

and services? But money as a cultural imaginary has still a long way to go to move away from the coins, notes and simple credit/debit accounts that we mostly use to represent value.

### *3.2 Reconfiguring imaginaries*

The paper by Dave Murray-Rust, Iohanna Nicenboim, and Dan Lockton “*Metaphors for Designers Working with AI*” completes the theme track with addressing issues of language, images, and representations. Metaphors both illuminate and hide, simplifying and connecting to existing knowledge, promoting certain ideas while marginalising others, and shaping fields of practice (Lakoff & Johnson, 1980). In the paper, the authors acknowledge that the practices of machine learning and artificial intelligence draw heavily on metaphors, whether black boxes, or the idea of learning and training as a shorthand for the operation of a back-propagation algorithm. But at the edges of the field, they argue, “as design engages with computational practices, it is not always apparent which terms are used metaphorically, and which associations can be safely drawn on”. The authors look at some of the ways metaphors are deployed around machine learning and ask about where they might lead us astray. They then identify some qualities of useful metaphors and explore a small collection of metaphors and practices that illuminate different aspects of machine learning in a way that can support design thinking.



*Figure 2 Unreal Engine imaginaries created with hotpot.ai, in Murray-Rust et al. (this volume).*

Some metaphors are “interesting for their invisibility – in general use, they are unnoticed, seen as descriptions of the phenomenon rather than metaphorical descriptions. Some are interesting for their leakiness, where they break down and mislead – where rather than making machine learning more accessible, they make it more difficult for designers to engage, or the different interpretations of the metaphor exacerbate the gap between different fields hindering multidisciplinary collaborations. Some are interesting for the ways that they

implicitly define the roles and responsibilities of humans engaging with the systems, attitudes toward failure and the space that people have to imagine and act.”

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