The Future of More-Than-Human Design: A Computing Practice in Crisis?

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Abstract

Given the current ecological crisis, the HCI and design community is showing a growing interest in the adoption of more-than-human perspectives, challenging human-centric approaches. While this has sparked numerous research initiatives, many of them are still a far cry from providing practical solutions or transforming the industry. This also presents a hurdle for teaching more-than-human perspectives to design students, as they may feel powerless to practice those teachings in real-life industrial settings. To bring forth concrete examples of how more-than-human design practice can matter, we believe that it is now time to move beyond theorising about and advocating for the adoption of such perspectives and start a more-than-human design practice that transforms the industry. This workshop therefore aims to bring together educators, researchers, and designers to discuss and co-develop strategies for transitioning more-than-human perspectives from niche/speculation to mainstream/practice in HCI and design. The workshop also aims to develop ways to empower students to work with these perspectives to bring about this transformation of the industry.

CCS Concepts

• **Human-centered computing → HCI theory, concepts and models**.

Keywords

HCI, More-than-human, Design

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1 Background

This workshop aims to explore the conceptual scope of different disciplines like science and technology studies (STS), computer science, anthropology or urban studies concerning their conceptualisations of more-than-human (design) in human-computer interaction (HCI). In an attempt to bridge different knowledge traditions on which HCI and design draw, we ask:

> *- Going forward, what inspiration can we take from different disciplines, concepts and theories? What are the contributions to science and practice that more-than-human design can make? How do we approach the territoriality that comes with research narratives centred on names that act almost like brands? And how can our notions of the more-than-human shape a lasting impact?*

The current ecological crisis facing our planet has led to attempts within the HCI and design research community to change course. While the first initiatives, dating roughly a dozen years ago, mainly focused on helping individuals change their behaviours [1, 5, 28], the Sustainable HCI movement [7, 22, 27] advocates for total system change. This has sparked an interest in more-than-human perspectives that aim to challenge and move beyond human-centrism in design [8, 12, 14–16, 29–31]. However, many more-than-human design-oriented activities are still of a theoretical or speculative nature. We also see some recent work advocating for more practice in more-than-human e.g. [19, 20, 23], although there remains a lack of clarity on how these ideas should be enacted in concrete design practices, and thereby become widespread and manifest as staples in professional design practice [19].

As Bardzell et al. state "reading theory in search of alternatives is one thing; actually transforming industrial production, distribution, and consumption is altogether different. Such a transformation will likely require years if not decades of experimentation with new models—all while still maintaining economies and quality of life" [1, p. 2]. Our first key question is thus:

> *– What challenges do we face when going from theorising and speculating within more-than-human design to having a significant impact on industrial production, distribution and consumption? And how can we deal with those barriers?*

Tied to this question is the role that design education plays in this transformation. As Servant-Miklos [24, p. 67] states "[i]n response to the increasing visibility of environmental problems in the public sphere, education has instead been retooled to encourage bargaining and belief in technological salvation, because both psychological processes are required for capitalism to push beyond its physical limits. The main reason adults with full cognitive capacity passively watch the screws come off the machine without taking any steps to protect themselves from the coming implosion is because they were conditioned from the youngest age to believe that science and technology will come to the rescue". In her work with students, Servant-Miklos indeed meets students who are so shocked after attending her classes about the planet's state that they are unable to speak in class for weeks. However, we expect those same students to participate in shaping the future of the design industry through more-than-human perspectives as part of the necessary years-long transformation. Without proper ways to address their feelings of despair and without being able to give them inspiring examples from the industry itself, it is no wonder that we as teachers [18] are confronted with questions like: "How can I make use of the methods when I go out in the industry, which is at a completely different place?", "Why should I learn these methods when they are not applicable in the 'real world'?", "Who am I to propose new approaches and challenge the current state when I'm a newcomer at a company?". Our second key question is thus:

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> *– How can teachers, on the one hand, express the urgency of the situation and, on the other hand, provide students with the courage, knowledge, and tools to play a role in the industry's transformation?*

In addressing these questions, the workshop will explore what we can bring to the table to decentre the humanist conception of the human that is prevalent in computing and instead create space for more-than-human stories, actors and entanglements. We emphasise that the workshop is meant as a safe space for open discussions on the impact, challenges and chances of more-than-human perspectives for HCI and design. We also aspire to find a common motivation, means, and strategy to inspire the coming generations of designers and technologists to incorporate more-than-human approaches into their professional practices.

We invite researchers and practitioners from HCI, design research and other fields in which more-than-human entanglements are embedded in theory, concepts or practice (e.g., STS, urban studies, anthropology, participatory design) to reflect together on: i) how more-than-human looks like from their academic background (and has unfolded in projects or case studies in which they have been involved), ii) what academic input from which disciplines has connected participants to which notions of more-than-human, iii) how to bridge the gap of more-than-human theory and practice and map a more-than-human landscape. iv) make it actionable for a lasting positive impact of MTH in shaping the ways in which HCI and design is moving from an extractive to a more *wholesome* practice.

2 Workshop aims and themes

The aims of the workshop are as follows:

- to bring together educators, researchers and designers with an interest in more-than-human perspectives in HCI and design research, education and practice,
- to share what our more-than-human notion looks like; what can we each learn from each other's engagement and experiments in the more-than-human space; how can the world at large benefit from our collective more-than-human efforts,
- to debate and co-develop ideas for how we can create conditions for more-than-human perspectives to really transform the industry and for how we can prepare our students to effectively play a role in this transformation.

The themes and underlying questions addressed in the workshop are as follows:

- What does "Designing-with" mean in the context of computing (considering our different practices and points of departure), and what is unique about it when comparing it to designing-with in other contexts (multispecies)?
- How could we articulate more-than-human design as an affirmative reorientation to human-centered design? What alignments and alliances can be achieved, and what shifts need to be made?
- How can we go from speculation to more-than-human practice in HCI?
- What can we learn from the previous paradigm shift towards human-centred design?
- What are current barriers in the industry for adopting more-than-human perspectives?
- How can economic factors be brought into more-than-human design approaches?
- What role do we see AI playing in this process of maturation?
- What broader movements, such as degrowth/post-growth [17, 25], circular economy and rebound effects [3, 4], climate justice [2, 9, 10], and decolonisation [13, 26] should we adopt?
- What other research and design fields, such as regenerative agriculture [11] and regenerative design [6], could we engage with to have a bigger impact?
- How to teach HCI and design students about more-than-human design?

3 Pre-Workshop Plans

A workshop call will be distributed through relevant networks. Before the workshop, participants will be asked to submit a 500-word motivation to join the workshop through a link provided by the organisers.

4 Workshop Structure

The workshop will consist of an introduction and two collaborative activities addressing the workshop themes. The participants will be divided into smaller groups and guided through a series of explorations based on the questions posed under each theme. These explorations will be facilitated by the workshop organisers. A first draft of the workshop timeline is developed, which will be further developed and adjusted to fit the context and the registered participants.

5 Post-Workshop Plans

The outcome of the workshop will be documented and shared with the participants. The participants will also be invited to a network of researchers, educators and practitioners to keep working towards the integration of more-than-human perspectives in both industry and education.

6 Organisers

The organisers have previously collaborated as organisers and/or participants in various related initiatives, such as a special interest group (SIG) at CHI'23 on "More-Than-Human Perspectives and Values in Human-Computer Interaction" [31], and a workshop at DIS'24 on "Teaching for More-than-human Perspectives in Design – A Pedagogical Pattern Mining Workshop" [21]. These similar events have had between 12-120 participants, so we feel confident that we can handle variously sized workshops.

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