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Editorial: Communicating with non-humans: a new visual language

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Editorial on the Research Topic
Communicating with non-humans: a new visual language

> *"Our failure to situate dominant forms of human society ecologically is matched by our failure to situate non-humans ethically"* (Plumwood, 2001, p. 2).

New visual communication platforms have profoundly altered the visual tools of pedagogy and exhibition communication, targeting the way(s) we envisage and shape our futures (Mitchell, 2008; Mirzoeff, 2015). However, in the 21st century, visual communication is still dominated by human-centered views about exchanging information intended for, and that often drives, human consumption (Borthwick et al., 2022). However, visual communication also embraces new genres of imaging, including multi- and hypermedia, non-human biological actors, augmented and virtual reality, and, ultimately, artificial intelligence. In communicating visually, rich formats and (re)presentations can support human participatory experiences with non-humans by using visual media in various spaces for coexistence (Bennett, 2010).

Non-human agency and visual communication with non-humans opens possibilities for shared authorship as it can provide the means to generate contact with those whose means of meaning-making are unknown to humans (Bennett, 2010; Barad, 2007). In this context, bioart and biodesign, new areas of practice and research that can manipulate life processes (Kac, 2007), are innovative in exploring nature as a source of creative encounters between humans and non-humans, evoking pre-mechanical and pre-digital forms of communication. This kind of duality illustrates the tension between tradition and innovation in visual communication practices.

Contributions to this Research Topic revealed, in written and visual form, a wide range of successful (or failed) co-authorships between artists, art educators, and non-humans. The articles discuss processes, outcomes, practices and collaborations in the nexus of human and non-human. Makers, artists, designers, and researchers presented multifaceted explorations in studios, laboratories, or residencies, working between fields and disciplines with non-humans. The eight articles in this Research Topic explore the following questions:

- How can 21st-century visual technologies, indigenous critiques, and ethical co-authorship explore post-humanist creativity in visual communication?
- How can participation in visual communication enhance practice-based and contextual plurality between humans and non-humans?
- How can education through visual arts and design facilitate understanding to improve human–non-human communication?
- How can themes such as visual relationality, post-human collaboration, ethical reflexivity, material-technology interplay, and adaptive coexistence offer narratives for disseminating insights across design, art, and ecological sustainability?
- How can participatory experiences between humans and non-humans be visually communicated, and what roles do digital technologies play? How can collaborations with non-humans be revealed and understood using digital technologies?

The ethical implications of indigenous ontologies and non-human agency are recognized in the new materialist philosophy of science and indigenous scholarship (Watts, 2013; Whyte, 2018). These frameworks advocate for ethical recognition beyond colonialist paradigms to critique the role of humans as key decision-makers with dire implications for non-humans—whether embodied in a river, forest, or microbial community (Escobar, 2018; Tsing, 2015). Indigenous scholarship and new materialist philosophy emphasize the interconnectedness of humans and non-humans, urging a rethinking of ethical frameworks in visual communication.

Beyond anthropocentrism, bioart and biodesign can be innovative mediators of human and non-human interaction represented as visual representations and facilitated by mechanical and digital technologies (Kac, 2007; Mitchell, 2015). The proliferation of visual exchange brings contradictions. While it democratizes representation, it also risks amplifying (dis)information and often reinforces patterns of human-centered consumption (Haraway, 2017). This tension highlights the need for critical engagement with visual communication's ethical and philosophical dimensions, particularly concerning non-human agency.

Four rudimentary themes emerged from this volume's eight articles: visual communication, collaborative co-creation, ethical reflexivity and de-centering of anthropocentric hegemony. These themes contest the dominant norms of traditional human-centered paradigms; they rely on inclusive, relational and materially embedded creativity, research, and societal engagement. The eight articles touch on, to different extents, on the following themes:

Visual communication can be a catalyst for mediating understanding of non-human relationships and interactions

The role of visual mapping and representation in mediating complex relationships between humans and more-than-human (MTH) actors is introduced by Zohar et al. in their article titled "*When we talk about time, we mean many different things: employing visual mapping to think through more-than-human temporalities in participatory design*." In their article, participatory visual mapping emerges as a dynamic tool for navigating temporal and spatial dimensions of MTH interactions. Abstract concepts like time, for example, spanning "near lens" individual experiences to "far lens" ecological timescales, foster awareness of interconnected temporalities and relational agency in visual communication.

Similarly, the article by Karhu et al. titled "*Understanding animal-oriented social media collaboration in Australia's 2019–20 bushfire crisis*" illustrates collaboration on social media during an Australian bushfire crisis. The collaboration mobilized human action by mediating human-to-non-human understanding by leveraging visual depictions of suffering wildlife. The article reveals how non-human trauma can catalyze human solidarity amid an ecological crisis. This case underscored the necessity of frameworks that balance human accountability and contributions toward care for non-humans through human co-creative craft-making acts fuelled by social media interaction.

Visual communication for co-creation and post-humanist collaboration

The articles collectively reframe creativity as a collaborative process involving human and non-human actors. The article by Griniuk titled "*Post-humanist artistic research by the production of performance and Techno-Lab workshops in Sapmi*" discusses post-humanist artistic research and AI transitions from a passive tool to an active, creative assistant that can inspire artistic creation and research through dynamic, improvisatory exchanges.

This shift mirrors bioartistic collaborations with bacteria or reindeer blood, where material agency—such as bacterial luminescence or blood's pigment properties—shapes artistic outcomes. In Saeki et al.'s article, "*The (im) possibility of communication with non-human beings: with digital screen printing of luminous bacteria*," the authors challenge the anthropocentric views of communication and technology by introducing biological non-human agency into traditional media forms. Their article uses luminous bacteria in digital screen printing to interrogate anthropocentric media histories.

In the article by Pietarinen and Qureshi titled "*Blurring bioart boundaries*," the authors draw from ancient traditions of mark-making using blood as a pigment. The authors introduce new explorations and innovative art forms using reindeer blood to acknowledge humans as not separate from but co-evolving with other life forms. Such practices demand a reconfiguration of authorship, ethics, and intentionality, alongside the cultural implications of using life-giving materiality like reindeer blood.

FIGURE 1
Sunflower seedlings create a wool tapestry in the BioARTech laboratory of the University of Lapland, Finland (2022). Artists: Sunflower Seedlings and Melanie Sarantou. Materials: wool. Photography by Melanie Sarantou.

Visual communication can stimulate ethical and critical reflexivity

Ethical considerations permeate discussions of materiality, technology, and representation. For example, using reindeer blood in art prompts reflections on interspecies ethics, advocating for practices that honor ecological sustainability. In addition, the article by Raappana-Luiro, "*Miracle of nature—dialogue with nature through artistic creation*," discussed how historical visual styles linked to colonial natural history illustrations can recontextualize contemporary art to critique human exploitation of the environment while fostering wonder for biodiversity.

Miettinen and Sarantou's article "*Visual communication through performance collaborations*" proposes a critical framework based on respectful improvisation and material sensitivity with placemaking. The article underlines the essential role of context-sensitive and iterative practices deterring anthropocentric presumptions through artistic performance and cooperation with non-humans in attentive ecological practices (Figure 1). Critical reflection on human boundaries and limits of natural resources might stimulate improvisatory and symbiotic sustainable visual communication praxis.

Materiality and technology can act as mediators in visual communication

The interplay of materiality and digital technologies surfaces as a key theme. Bioartistic works are anchored in organic materials such as bacteria, blood, glass, wool fibers and sunflower roots, alongside digital media to blur boundaries between living and non-living, organic, and synthetic expressions. These material visual transformations challenge the hierarchy of human over non-human, suggesting that creativity arises from entanglements.

The article by Zhao, "*The creative cosmos beyond humans: a symphony of participatory design and visual artificial intelligence*," reveals that AI agents, whether viewed as mere tools or creative partners, significantly influence creative performance. Visual tools in participatory design demonstrate how technology can mediate human-MTH interactions. Similarly, Karhu et al. illustrated that digital platforms can mobilize participatory experiences beyond physical and species boundaries. Hybrid practices are required for these forms of technology, but since they inherently reinforce human proficiencies. Critical and reflective practices need to be employed to prevent dominant humancentric foci.

Conclusion

In conclusion, integrating the themes of this series of articles has implications for practice and research through a transformative agenda for visualization design, art, and education. For example, curricula must integrate digital, ecological, and ethical literacies by developing pedagogies for multispecies literacy, emphasizing critical reflection on AI, authorship, and material ethics. Courses could explore how visual arts facilitate human–non-human communication, using case studies from bioart or indigenous practices. By reimagining post-human participatory models, stakeholders can engage with non-human agents through AI-mediated co-creation, bioart, or community-driven conservation projects. Tools such as visual mapping can help navigate power imbalances and amplify marginalized voices. At the same time, a critical framework (Miettinen and Sarantou, this publication) aims to enhance practices for visually communicating with and through MTHs. Future research should continue to focus on the role of digital technologies in documenting and respecting non-human authorship and how failed co-creations can inform ethical guidelines for interspecies collaboration. By centering reciprocity, adaptability, and ethical reflexivity, this work illustrates how creative and societal practices can honor the vitality of all planetary actors and challenge the visual reimagination of humans' roles as respectful participants in more-than-human worlds.

Author contributions

MS: Project administration, Formal analysis, Writing – review & editing, Writing – original draft, Conceptualization. AK: Writing – review & editing, Writing – original draft, Conceptualization. SM: Conceptualization, Funding acquisition, Resources, Writing – original draft, Writing – review & editing. HP: Writing – review & editing, Writing – original draft, Conceptualization.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

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