Participatory Ecological Storytelling for Inclusive Systems Design

Talgorn, Elise

Relating Systems Thinking and Design
(RSD12) Symposium | October 6–20, 2023

Participatory Ecological Storytelling for Inclusive Systems Design

Elise Talgorn

When stories drive human-nonhuman entanglement and systemic awareness

Narratives are a practical way to include planetary stakeholders (human and nonhuman) in systems design through empathy building. Story-making and telling are known design tools to create an empathic connection with the subjects of the stories—classically end-users—and to understand their needs and perspectives in order to create solutions that are meaningful for them. We propose and examine taking a similar approach for all planetary stakeholders, human and nonhuman. We will introduce *participatory ecological storytelling*, a design method where participants co-create stories based on character personas that can be human or nonhuman. We will show the results of a series of workshops that we conducted with students, designers, and business stakeholders using this method. After analysing the personas, stories, and participants' feedback, we find that the story-making process triggers an empathic connection with the characters of the story. Imagining the emotions and experiences of nonhuman entities is eye-opening for many participants and motivates them to act more pro-environmentally. At the same time, participants express their own emotions, intentions, and values through the characters and their journeys. The process blurs the demarcation between the human and the nonhuman by creating an entanglement of emotions, agency, and goals for change between the story creators and the story characters. This is an important step when approaching ecological systems beyond the human-nonhuman

dualism carved in Western cultures. We will discuss how participatory ecological storytelling can be practically used in systems design to understand and integrate the needs of planetary stakeholders, to stimulate a re-evaluation of our relationship with the natural world and a mindset shift towards more systemic awareness, to ultimately accelerate the sustainability transformation.

KEYWORDS: storytelling, sustainability, stakeholder, inclusive, nonhuman, more-than-human, Planet, persona, character, empathy, imagination, emotions, mindset shift

RSD TOPIC(S): Methods & Methodology, Socioecological Design

Presentation summary

In systems design, it is critical to understand and consider the needs, perspectives, and relationships of the various stakeholders in the system. When investigating ecological systems, for instance, in environmental sustainability, the stakeholders can be human or nonhuman (or more-than-human), e.g., animals, plants, and natural ecosystems (Akama et al., 2020; Forlano, 2017; Veselova & Gaziulusoy, 2022). However, it is challenging to relate to the nonhuman. We interpret the world in terms of human values and experiences, enforcing an anthropocentric perspective in the way we analyse and envision systems (Lindgren & Öhman, 2019). Going further, in systems thinking, one must value relationships and dynamics between entities, acknowledge that behavioural affects and actor's intentions influence each other, and that agency is both individual and collective. But in our contemporary urban-based and digital lifestyles, intimacy with the natural world has been lost. The human-nonhuman relationship is marked by a dualism that contributes to a psychological distance from the natural world and an attitude of instrumentalization of this world (Donly, 2017; Plumwood, 1993). We propose a method, *participatory ecological storytelling*, that can make systems design more inclusive and comprehensive and thus more impactful by including the voice of nonhuman stakeholders on an equal footing with humans and by helping us re-examine human-nonhuman relationships.

It is known that narratives can play a role in systems design by expressing contrasting perspectives of systems stakeholders (Saltmarshe, 2018; Talgorn & Hendriks, 2021) and by stimulating awareness of dynamic processes and relationships (Stroh, 2015; Tsoukas & Hatch, 2013). More specifically, stories with nonhuman characters favour imagination of their stance, emotions, intentions, and reactions along a journey, which contributes to creating an empathic connection with the nonhuman (Gersie, 2015; Nanson, 2021), assigning them agency and moral kinship (Donly, 2017; Sands, 2019), and conceptualizing complex nonhuman agency (Toivonen & Caracciolo, 2022). We have developed a method, participatory ecological storytelling (Talgorn & Ullerup, 2023), where participants co-create environmental stories using human and nonhuman character personas. The participatory approach enables people to create a story that has meaning to them, in contrast with the classical 'teller-receiver' storytelling, where a given story only works for certain audiences. After applying the method in four workshops with students, designers, and business stakeholders, we analysed the created personas and stories as well as the participants' feedback to infer the impact of the process on the participants' mindset and the implications of the method for sustainable design and innovation.

Method for systems design

This article focuses on the application of the method for systems design and frames the research's conclusions in terms of human-nonhuman entanglement.

Entanglement of emotions: Through the story creation process, participants attempt to imagine the affects, perspectives, and experiences of nonhuman characters, who are animals, plants, and natural elements. Many report that this process is eye-opening. At the same time, participants project their own emotions—such as fear, sadness, shame, hope —, values, and desires onto the characters. This projection contributes to creating an empathic connection and developing a compassionate interest for the nonhuman while expressing and processing one's own emotions associated with environmental challenges.

Entanglement of agency: In the stories created by the participants, the nonhuman world is given knowledge and agency through the decisions and actions of the characters. This positions nonhuman stakeholders on an equal footing with humans

and is a driver for shifting to a post-anthropocentric mindset (Donly, 2017; James, 2015). At the same time, creative sharing in the groups of participants stimulates collective sense-making. Participants reflect on their desire for transformation, and many express an intention to act more pro-environmentally. The process links action on a level that is individual and collective, human and nonhuman.

Entanglement of goals: Through blending the intents of the story creators and the characters, a shared ecosystemic goal emerges (Donly, 2017)—the well-being of the planetary ecosystem. While divergent needs between characters are evidenced in the stories, just like for stakeholders in a system, expression and assimilation of a shared goal are important to frame transformative strategies.

Discussion

The process helps overcome the human-nonhuman dualism engraved in our cultures. Through story making, a new relationship is created between story creators and the nonhuman realm, where boundaries between the human and nonhuman are blurred, in line with post-humanist thinking (Forlano, 2017; Haraway, 1991).

Through the play-like creative process and discovery of the other (the other participants and the characters of the story), the process stimulates humbleness, openness to the unknown, and overcoming prejudices and mental barriers. All these factors help reassign one's position in the ecosystem, appraise the value of relationships, and be comfortable with uncertainty. These are elements essential to shifting from a linear to a systemic mindset. In practice, participatory storytelling can serve as an introduction to systems thinking and create the right mindset for the (human) stakeholders involved in sustainable innovation and development.

Furthermore, stories are a powerful tool to give meaning to, organise, and communicate complex data (Stroh, 2015; Tsoukas & Hatch, 2013). Ecological stories can be used in sustainable innovation and development processes to gather and make digestible the complexity of multiple stakeholders' journeys and interactions when researching, analysing, and visualizing systems.

Participatory ecological storytelling is a first step towards understanding and integrating the needs of planetary stakeholders when designing sustainable solutions with a

systemic approach. Imagination and empathy provide a bridge to the nonhuman world; in the next steps, this should be combined with scientific knowledge about the involved planetary stakeholders to prevent false empathy (Keen, 2007) and understand them as truthfully as possible. Approaching the complexity and ambiguity of systems requires both a logico-scientific and a narrative or intuitive approach (Lorino et al., 2011). Complementary to more analytical processes such as systems mapping, participatory ecological storytelling opens an emotional way to approach systems design.

References

1. Akama, Y., Light, A., & Kamihira, T. (2020, 15-19 June 2020). Expanding participation to design with more-than-human concerns. Proceedings of the 16th Participatory Design Conference, Manizales, Colombia.
2. Donly, C. (2017). Toward the Eco-Narrative: Rethinking the Role of Conflict in Storytelling. *Humanities*, *6*(2), 17. https://www.mdpi.com/2076-0787/6/2/17
3. Forlano, L. (2017). Posthumanism and design. *She Ji*, *3*(1), 16-29. https://doi.org/https://doi.org/10.1016/j.sheji.2017.08.001
4. Gersie, A. (2015). *Storytelling for a Greener World*. Hawthorn Press. https://books.google.nl/books?id=rdlgDwAAQBAJ
5. Haraway, D. J. (1991). *Simians, cyborgs, and women: the reinvention of nature*. Routledge.
6. James, E. (2015). *The storyworld accord: Econarratology and postcolonial narratives*. University of Nebraska Press.
7. Keen, S. (2007). *Empathy and the Novel*. Oxford Academic.
8. Lindgren, N., & Öhman, J. (2019). A posthuman approach to human-animal relationships: advocating critical pluralism. *Environmental Education Research*, *25*(8), 1200-1215. https://doi.org/10.1080/13504622.2018.1450848
9. Lorino, P., Tricard, B., & Clot, Y. (2011). Research Methods for Non-Representational Approaches to Organizational Complexity: The Dialogical Mediated Inquiry [Article]. *Organization Studies*, *32*(6), 769-801. https://doi.org/10.1177/0170840611410807
10. Nanson, A. (2021). *Storytelling and ecology: Empathy, enchantment and emergence in the use of oral narratives*. Bloomsbury Publishing.

11. Plumwood, V. (1993). The politics of reason: Towards a feminist logic. *Australasian Journal of Philosophy*, *71*(4), 436-462. https://doi.org/https://doi.org/10.1080/00048409312345432
12. Saltmarshe, E. (2018). Using Stories to Change Systems. *Stanford Social Innovation review*. https://doi.org/https://doi.org/10.48558/4FVN-0333
13. Sands, D. (2019). *Animal Writing: Storytelling, Selfhood and the Limits of Empathy*. Edinburgh University Press.
14. Stroh, D. P. (2015). *System Thinking for Social Change*. Chelsey Green Publishing.
15. Talgorn, E., & Hendriks, M. (2021, 2–6 November 2021). *Storytelling for systems design - Embedding and communicating complex and intangible data through narratives* Relating Systems Thinking & Design (RSD) Symposium, Delft, Netherlands.
16. Talgorn, E., & Ullerup, H. (2023). Invoking Empathy for the Planet through Participatory Ecological Storytelling: From Human-Centered to Planet-Centered Design. *Sustainability*, *15*(10), 7794. https://www.mdpi.com/2071-1050/15/10/7794
17. Toivonen, H., & Caracciolo, M. (2022). Storytalk and complex constructions of nonhuman agency: An interview-based investigation. *Narrative Inquiry*, *33*(1). https://doi.org/10.1075/ni.21062.toi
18. Tsoukas, H., & Hatch, M. J. (2013). Complex thinking, complex practice: The case for a narrative approach to organizational complexity. In *Complexity and Organization: Readings and Conversations* (pp. 247-276). https://doi.org/10.4324/9781315887784
19. Veselova, E., & Gaziulusoy, İ. (2022). Bioinclusive Collaborative and Participatory Design: A Conceptual Framework and a Research Agenda. *Design and Culture*, *14*(2), 149-183. https://doi.org/10.1080/17547075.2021.2019455