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Provocation Through Narratives: New Speculative Design Tools for Human-Non-Human Collaborations / Casnati, Francesca; Ianniello, Alessandro; Romani, Alessia. - 37:(2024), pp. 747-755. ( Design! OPEN 2022 Parma (ITA) May 2022) [10.1007/978-3-031-49811-4\_71].

*Availability:*

This version is available at: 11583/3010878 since: 2026-05-15T20:33:37Z

*Publisher:*

Springer Nature

*Published*

DOI:10.1007/978-3-031-49811-4\_71

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# Provocation Through Narratives: New Speculative Design Tools for Human-Non-Human Collaborations

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**Abstract.** In a complex and changing world, design is called to act to nurture and provoke critical reflections regarding wicked, complex, and interconnected issues, becoming a sensemaking agent that, exploiting its speculative methods, uses narratives as an inquiry tool, as a co-design tool, and as a provocative tool. Through the presentation and analysis of a *provotype* designed by the authors, the research aims to define new speculative tools for human-non-human collaborations and highlight how design narratives may be involved within more-than-human discourses.

**Keywords:** Speculative Design · Design Fiction · Research through Design · Design Narratives

## 1 Introduction

A *provotype* (from “provocation” and “prototype”) is a tangible or intangible design artifact whose main goal is to foster, encourage, and provoke discussions and reflections among different users and stakeholders [1]. These provocative artifacts usually regard social and environmental sustainability, innovations, and technologies, leaving designed gaps to be filled with audience perspective [2].

While prototypes are used to solve problems, *provotypes* are effective in reaching and exploring possible futures, and break their boundaries, mediating concepts and ideas, and intervening in people’s expectations and points of view through the exploitation of future scenarios, opportunities, and threats [3]. *Provotyping* is an interesting approach to be applied to design disciplines such as speculative design [4, 5] and design fiction [6, 7], whose aim is also to show and narrate possible futures and to stimulate personal and collective reflections about wicked and complex issues and problems that may affect our tomorrow. Through this contribution, we aim to nurture reflections on the narrative vocation of design by presenting a case study, “The First Multispecies Symposium”. This *provotype* aims to foster imagination and debate around possible futures and inter-species collaborations through different levels of narratives, which can be explored by the audience.

The case study specifically allows to highlight firstly the narrative dimension as a scenario: the fiction that characterizes the *provotype* is based on the ability of the

designers/researchers to imagine remote futures and possible scenarios in a provocative way to foster reflections. From a long-term perspective, it fosters to explore new ways to trigger innovation and experimenting, therefore, the dimension of the narrative as a tool [8, 9]. The researchers/designers worked on the construction of a fictional future to provoke first the user but also the designers themselves, to think outside the box, to serve as a starting point for reflections on the definition of concrete and innovative solutions, framing new methodologies to face complex issues [10–12].

What does more-than-human mean? How should we encourage all ecological actors to exercise their agency in a post-human world [13, 14]? And more specifically, how can design contribute to stimulating narrations and debates to tackle complex issues and to fostering a major shift in thoughts?

In this work, speculative design and design fiction provided the basics to design a *provotype* that can stimulate critical and participative reflections on the concepts of more-than-human and interspecies collaboration [15–18]. In detail, a future fictional event was designed as a starting point for new provocative thoughts, “The first Multispecies Symposium” [19]. Critical reflections and questions about alternative futures may be encouraged thanks to these provocative artifacts. Hence, this research approach could significantly influence the framing of new narrative scenarios, tools, and processes to tackle complex issues. Furthermore, the research highlights the need for a radical shift in design to include non-human actors within its practices to achieve multispecies and collaborative futures, as well as more democratic networks.

## 2 Methodologies

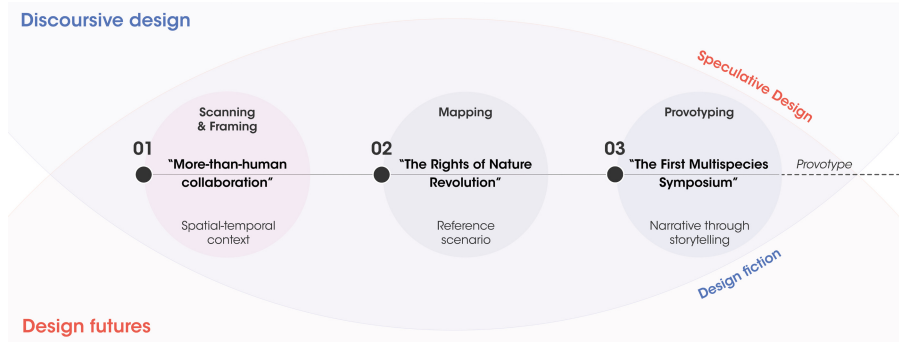
The main fields of design exploited within the research have been speculative design [4, 5] and design fiction [6, 7]. Those two positions themselves at the intersection between two more general areas of design, namely discursive design, whose aim is to nurture dialogues between stakeholders upon themes of interest, and design futures, a field stemmed from future studies, which explores possible and desirable futures to define plausible and sustainable paths to achieve them.

By making use of some of their transdisciplinary tools and following a three-step process (scanning and framing, mapping, *provotyping*) [19], it has been possible (i) to define the spatial-temporal context for the *provotype*, (ii) to depict a reference scenario where to position the *provotype*, (iii) to build a narrative through storytelling, and (iv) to design the *provotype*.

The exploited tools helped highlight current trends, position weak signals and drivers of change, and analyze the topics of interest from a multitemporal perspective. They were also useful to pose questions, tackle and modify concepts about futures, and change, amplify and critique current ideas about futures. Furthermore, these tools facilitated to identify uncertainties and investigate the drivers of change; embrace the complexity and plurality of futures, and defining the focus of the project. Finally, they contributed to preparing, sketching, and conceptualizing the *provotype* to support the creation of outputs that make it visible and tangible.

The designed scenario, named “The Rights of Nature Revolution”, describes a situation derived from many legal, social, and political transformations and results in a

balanced collaboration between human and non-human agents. In this context, more-than-human co-design could become a tool for cooperation, and the technology a means for fluid multispecies communication [19]. The three-step process, together with the main outputs and results are resumed in Fig. 1.



**Fig. 1.** The three-step process of this work with the corresponding outputs and results: (i) scanning & framing; (ii) mapping; and (iii) *provotyping*.

## 3 Results and Discussion

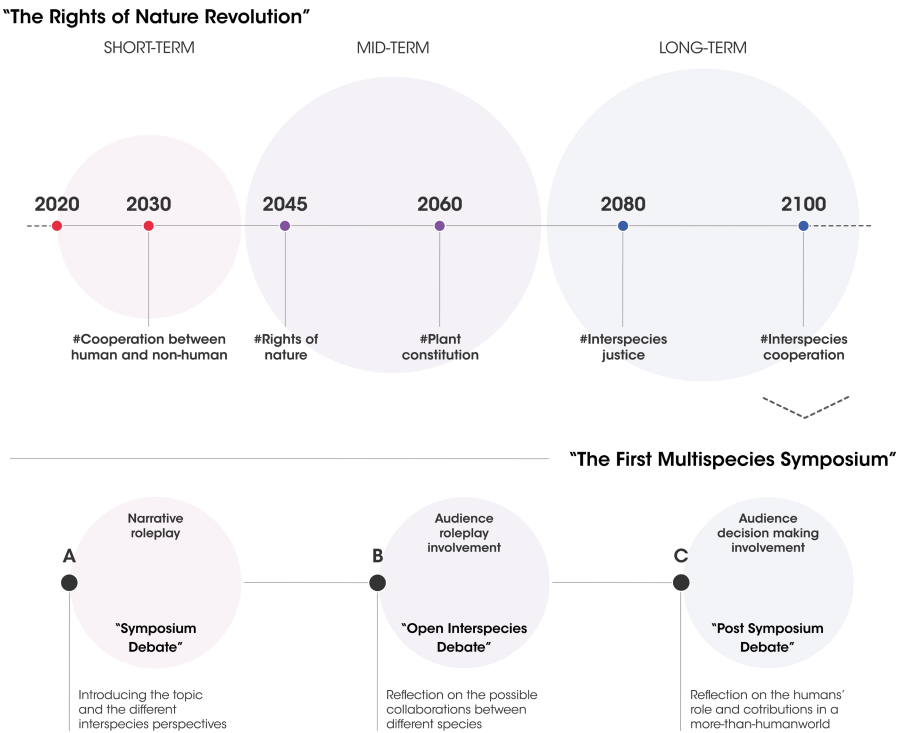
### 3.1 The First Multispecies Symposium

In general, *provotypes* are meant to frame new questions rather than to provide well-defined answers, allowing a certain degree of uncertainty [1]. For this reason, *provotypes* may help provoke people, especially designers, to shift their perspective. The main aim was to encourage the audience, both designers and non-designers, to change their point of view from an anthropocentric to a more-than-human-centric vision, feeding the debate and collaboration amongst the different agencies.

“The First Multispecies Symposium” is a fictional event that, as a *provotype*, helps stimulate the imagination of a post-human non-hierarchical world by using it as a tool to share reflections about sustainable and participative futures [19]. The event takes place in 2100, at the beginning of a new era of interspecies collaboration. According to “The Rights of Nature Revolution”, cooperation amongst human and non-human stakeholders has begun, and technology encourages fluid communication between the different agencies. The fictional event represents the last step of this scenario, which has been developed in the form of a narrative *provotype*.

Figure 2 resumes the steps of the narrative *provotype*, “The First Multispecies Symposium”, and shows its position within the reference scenario, “The Rights of Nature Revolution” [19]. Focusing on the *provotype*, three different steps have been developed to facilitate the audience’s reflections. The “Symposium Debate” (A) consists of brief narrative storytelling. The remote opening debate on a digital platform is simulated, where a heterogeneous set of species representatives participates, i.e., bees, corals, trees, bacteria, and fungi. AI has the role of facilitating communication by translating into not only

different languages but also time and space conceptions. This step aims to introduce the topic to the audience and start to understand the different interspecies perspectives. The “Open Interspecies Debate” (B) starts to involve the audience in the roleplay by giving them the roles of the different species representatives during the different sessions of the symposium. This step aims to reflect on the possible collaboration between different species, trying to avoid an anthropocentric perspective. Finally, the “Post Symposium Debate” (C) involves the audience in the decision-making process. The human representative should decide what to say during the next edition of the symposium, considering the feedback from the other species representatives. This step aims to reflect on the humans’ role and contribution in a more-than-human world. This *provotype* helps in focusing on the topics of interspecies justice and more-than-human world, fostering the perspective-shifting towards post-human scenarios.



**Fig. 2.** Timeline of “The Rights of Nature Revolution” scenario (top) and steps of “The First Multi-species Symposium” *provotype* (bottom) with the activities and aims [19].

### 3.2 The Role of Narratives

Within a speculative and radical design process, the narratives may have multiple shapes and functions, depending on the aims of the project and which phase of the project is going to be addressed. In detail, three different roles of narratives have been defined

through the *provotype*, especially dealing with more-than-human agencies (Fig. 3): (i) inquiry tool; (ii) codesign tool; and (iii) provocative tool.



**Fig. 3.** The different roles of narratives within the speculative radical design, their possible uses, and involved processes of meaning creation: (i) as inquiry tool; (ii) as codesign tool; and (iii) as a provocative tool.

**Narratives as an Inquiry Tool.** The design process which led to the final *provotype* - The First Multispecies Symposium - emphasized in several steps the role of narratives as an explorative tool [20], enabling plausible futures to be hypothesized and new research questions to be framed, focusing on complex topics from different perspectives.

In the meta-design phase, pre-designed tools were used to develop the scenario named “The Rights of Nature Revolution”. The construction of the scenario starts with facts that are actually happening in the present and is articulated through a fictional narrative that proceeds through imaginary and provocative but plausible facts. Furthermore, through meta-design narratives, it is possible to utterly foster the creation of social and technical infrastructures in which new forms of collaborative design can take place [21]. It can be stated that the meta-design phase helps the development of the next phase by generating the right environment for cooperation [21].

In this case, the definition of the narrative space - which represents, in turn, the starting point and premises for the *provotype* project, generating other narratives - implied the continuous questioning and formulation of new hypotheses and research questions with respect to the role of design and technology within the scenario, opening up new reflections to the researchers themselves, dismantling the boundaries that limit the capacity of thinking from a different perspective [20], less human-centric. In this perspective, storytelling can be considered a key mechanism to evoke creative and imaginative plot-lines/narratives of radically transformed futures [22]. The process of verbal or visual translation itself [23] may produce side effects that change the researchers’ behavior and research questions.

The macro-narrative constituted by the scenario thus gave rise to the research questions underlying the *provotype* project. “Posthumanist theorizing may prompt narrative inquiry into nonhuman agents”, Wolgemut and Agosto state in Narrative Research [24]. Through the narrative dimension is, therefore, possible to detect new gaps by framing alternative presents or even future perspectives by detecting possible issues and questions related to the future.

**Narratives as a Co-design Tool.** Co-designing with the more-than-humans means (i) admitting their agency as a real-life project stakeholder, (ii) dialoguing with the natural

science world to comprehend the "perspectives" of the more-than-humans, (iii) empathetically including these perspectives into the project, and (iv) creating shared meaning. In this direction, narratives turn out to be a potential tool by which to foster new processes of multi- and inter-species collaboration.

A narrative space, which is composed of the story, the story-word, and the characters who inhabit and enrich it with their own values, thoughts, and actions, and especially a transmedia narrative space [25], is an imaginary world in which the audiences enter autonomously, spending a certain amount of time in the speculation and exploration of itself. Stories have, indeed, the power to activate changes and nurture the creation of a collective and shared imagination [25].

Narrative space and narrative are, as a result, continuously mediated in a process of co-creation of meaning involving all stakeholders. Thus, many storylines can coexist, inhabited by different characters and agents [26], both humans and non-humans. They configure and shape the relationship between individuals and the collective, between ingroups and outgroups, becoming tools to understand, negotiate, and make sense of situations we encounter [26]: if every narrative can be told from many perspectives (including more-than-human perspectives), and have popular and multispecies protagonists, which face different challenges, new practices of grassroots and more-than-human initiatives may emerge, tackling mainstream ways of living [26] and leading to the failure of the big narratives [27].

Therefore, designers, non-designers (normal people and science experts), and more-than-human agents can play a fundamental and meaningful role when co-designing for tackling recurrent routines and finding new meanings [26]. In particular, designers can provide tools to envision new scenarios, and mediate the relationships between the different stakeholders [27], while non-designers contribute both in mediating and reframing the sense and the meanings of the project with their own visions and beliefs and in providing tools to understand the more-than-human perspectives, thereby truly including those actors in the project.

**Narratives as a Provocative Tool.** Interacting and living in a post-human world also means striving for a radical paradigm shift from the current anthropocentric point of view of the world we live in [13]. For this reason, narratives may help in spreading reflections to a broader audience, aiming to disseminate the different more-than-human perspectives, trying to overcome existing biases [29]. At the same time, narrative spaces can also assume a provocative role for the audience, especially in the form of *provotypes*, because of the active reflection and speculation inherently required during the whole narrative experience. As a matter of fact, the audience is involved within the narrative space through the provocation, which is mediated by the narrative itself. This provocative process of meaning creation may be seen as a path experienced by the audience, resulting in a proper experience from their point of view. Therefore, reflections are the outcome of this provocative experiential process fostered by narrations. They can be seen as tools to tackle practical issues from more-than-human perspectives and give a post-human interpretation to common and mainstream daily scenarios [8, 10].

Provocations and reflections derived from the narrative experience can also lead the audience to further investigate these complex topics [26]. Therefore, narratives help

to raise awareness related to more-than-human perspectives, triggering further actions within the audience's own context. In this way, new interpretations of the different human and non-human agencies may emerge thanks to those provocations and reflections, becoming the critical lenses of the context we live in. As a result, provocative narratives may spark more in-depth reframing actions, fostering the paradigm shift toward post-human collaborative scenarios.

## 4 Conclusions

This contribution aimed to highlight three different roles of narratives that have been defined through the design of a *provotype*: (i) inquiry tool; (ii) codesign tool; and (iii) provocative tool, three functions that continuously contaminate each other without being mutually exclusive. The use of narratives, in this case, emphasizes the actual nature of the *provotype* as a tool to frame new questions rather than to provide well-defined answers, allowing a certain degree of uncertainty [1].

*Provotypes* may help in provoking people through different forms of narratives, fostering a shift in perspective from an anthropocentric to a more-than-human-centric vision, feeding the debate and collaboration amongst the different agencies.

As anticipated, the role of narratives was essential at all stages of the project, from the definition of the scenario to the *provotype* itself. At the end of this experience, by undertaking a retrospective reinterpretation that allowed us to systematize the research process, some issues emerged that design could tackle to help other fields facing the crisis we are living in. As the project fits into an area that inevitably overlaps with future studies, the question arises as to how and in what contexts design can take charge of actions useful to stimulate a radical change of perspective, contaminating decision-making and policy-making processes with tools that can help dismantle a human-centric (androcentric and west-centric) vision and all that it brings with it.

**Acknowledgments.** This research received no external funding. All co-authors equally contributed to the research and the drafting of the publication. All co-authors read and approved the final manuscript.

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