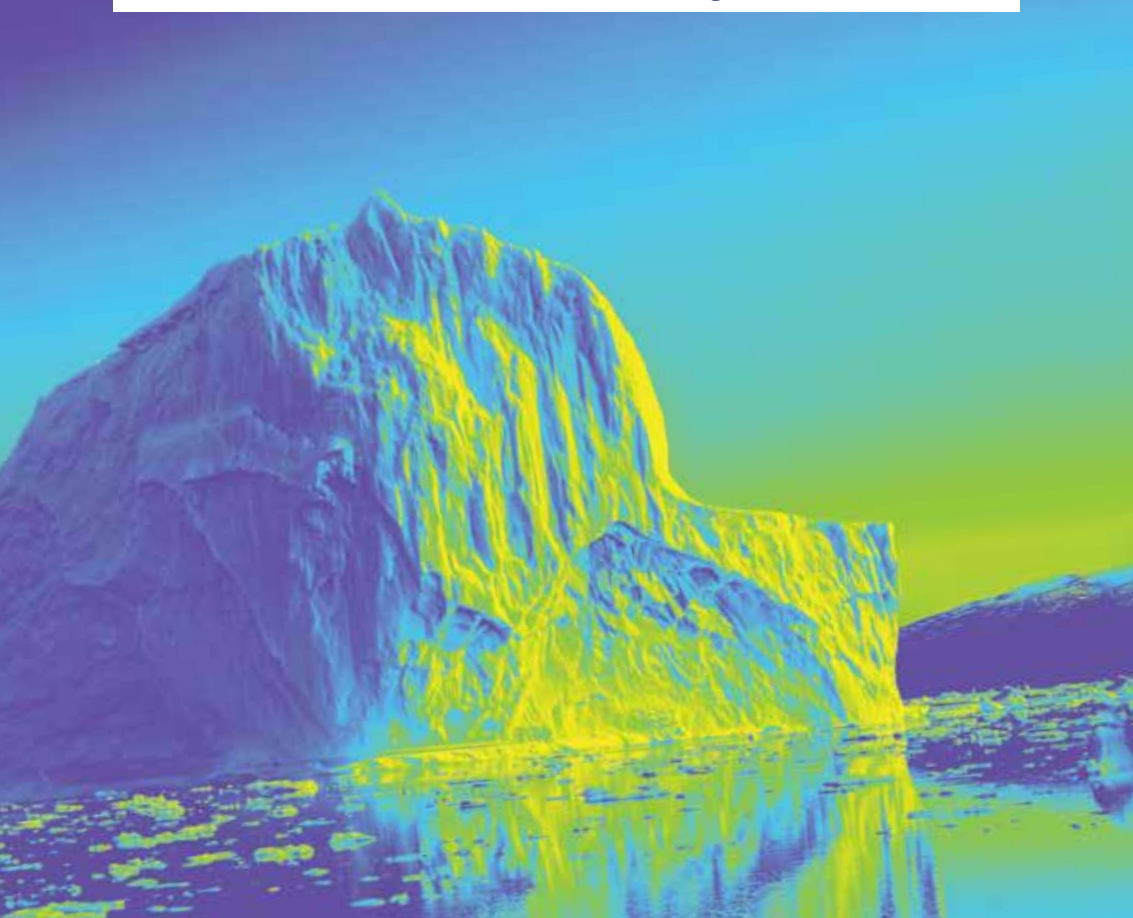


DESIGN FOR ADAPTATION

Cumulus Conference Proceedings Detroit 2022



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DESIGN FOR ADAPTATION

CUMULUS DETROIT

Cumulus Conference
Proceedings Series

Cumulus: The Global Association
of Art and Design Education and Research

Detroit 2022

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DO DEMOCRACIES AFFORD? DESIGN AS EXPERIENTIAL CHANGE

Maria Claudia Coppola¹

¹ *University of Florence*
mariaclaudia.coppola@unifi.it

Abstract

In the New Climatic Regime, climate change establishes the contemporary character of the geopolitical setting. Such a planetary crisis challenges current modes of existence, calling for the need to conceive new cultures and lifestyles through the lenses of ecological thinking, from bees to plastic agglomerates in the oceans. The profile of the more-than-human expands our understanding of the multiple, hybrid entanglements that make up our world. In this sense, the New Climatic Regime forces political obsolescence, challenging the sensible layer of everyday life with more-than-human agencies affecting each other in the sensible layer of reality, namely the political space where actions and the embodiment of those actions merge and make manifest. Such a scenario exacerbates the systemic asymmetry between institutional agency and socio-technical change, casting a shadow of posteriority over contemporary democracies. Here, world-making practices like design are expressing their poietic ability while also contributing to transitioning towards more sustainable futures.

In fact, public space is becoming the experimental theater of a pragmatic turmoil, where design is challenging theoretical and practical stances of collective life through its devices of reference – prototypes – and processes – prototyping. Such devices and processes nurture the political discourse, launching a wave of diffused prototyping, blurring disciplinary boundaries throughout the planet: since both design and politics concern culture and identity while negotiating technology and materiality, it seems that prototypes and prototyping are turning into a meeting point to spark possibilities of transformation and adaptation.

Thus, this paper aims to discuss how design-focused ways of knowing linked to making, crafting, and doing are engaging the political ways of acting traditionally linked to negotiating, managing, and planning. Focusing on design's experiential nature, this paper explores some case studies set in the sensible layer of reality, where ethics and aesthetics intertwine: here, a call-to-the-senses, aimed at nurturing the establishment of more-than-human communities, reaches citizens. By f(r)ictioning traditional narratives, design contributes to combining plural ways of knowing at a proximity scale of practice, linking bottom-up practices to top-down guidelines. This seems to produce hybrid ways of knowing, triggering alternative approaches inspired by care, relationality, and communal future sense-making. In this sense, it seems that design is playing a catalyzing role in accelerating the generation of knowledge, challenging the politically unthinkable with the experientially desirable. In such a framework, democracy itself can be understood as

something more than a mode of governance, opening new paths to experimentation as a process of never-ending becoming.

Author Keywords

Design and democracy; prototyping; experiential knowledge; more-than-human perspectives.

The Planetarium

The Anthropocene has unveiled the ecological crises underlying human development paths. Here, *humanity* and *nature* have endured troubled relationships over centuries until planet Earth found itself enveloped by the establishment of “a global episteme and aesthetics, driven by the necessity of acceleration” (Hui, 2020, p. 114). In fact, the mobilization and channeling of materials, goods, and energy above and beneath the earth exposed the inherent fragility of the planet, pushing humans to cope with the vulnerability of their artificial, somewhat accidental, planetary systems. Paradoxically, the digital infrastructure crossing international boundaries contributed to broadening human awareness on a global scale. Digital media elaborates data for humans to perceive the planet from different perspectives, showing the more-than-human complexity of metabolic processes that essentially make the Earth (Bennett, 2010; Haraway, 2016). The possibility of tracking events out of human perception makes global phenomena like climate change manifest in the abstractions coming from “studies of seismic activity, the health of forests, maps of contaminant flow, and the tracking of organisms from dragonflies and turtles to seals and elephants” (Gabrys, 2016, p. 30). New geographies reveal how climate change crosses political boundaries, overshadowing human prosperity. In this sense, the climate – the most obviously natural phenomenon – becomes the most clearly political object – the state of the climate. In the New Climatic Regime (Latour, 2018), climate change is not exclusively a scientific phenomenon; it is our contemporary geopolitical setting. As a result, today “we don’t defend nature. We are nature defending itself” (Fremeaux & Jordan, 2021).

Ranging from bees to plastic agglomerates in the oceans, the profile of the more-than-human expands our understanding of the multiple entanglements that make up our world. Here, concepts stemming from feminist, decolonial, and pluralistic approaches signal a turning point, creating space for “cultures that are open enough, adaptable enough, and pleasant enough, where the first thought is not ‘more’ but ‘sufficient for all’” (Light, 2022). In this sense, environmental conflicts are ontological: they are conflicts over life itself, as they essentially challenge modes of existence (Tassinari et al., 2020). Since the act of designing is deeply connected to designing ways of being (Papanek, 1971), design practice turns out to be forcing political obsolescence, challenging the sensible layer of everyday life through a pragmatist turn (Rancière, 2010; Dixon, 2020). Such a layer is fundamental to the contribution, as it can be understood as the political place bridging actions and the embodiment of those actions: in other words, it is the place where world-making practices like art and design play a critical, f(r)ictional role (Mallol, 2011). Here, they are expressing their *poietic* ability to support the shape of democracies in times of planetary challenges (Costanza-Chock, 2020; DiSalvo, 2022; Manzini, 2015; Manzini & Margolin, 2017; Rezaei & Erlhoff, 2021), fueling processes of transformation to transition towards more sustainable futures (Irwin et al., 2022).

Such practices are turning public space into an experimental setting, where everyday life becomes the theater of a pragmatic turmoil (Dixon, 2020): design is, in fact, challenging theoretical and practical stances of collective life, spreading its devices of reference – *prototypes* – and related processes – *prototyping*. Such devices and processes are meaningful in handling the tension emerging from the urgency of tackling climate change in short-term horizons and the need to plan transitions within longer timescales. This tension unveils the systemic asymmetry between institutional agency and socio-technical change, casting a shadow of posteriority over contemporary democracies. In fact, the pathways towards change in lifestyles, productive means, consumption models, and political systems are highly contested and intrinsically interdependent (Escobar, 2018; Light, 2022). Thus, adaptation and transformation require not only integrative approaches to build modes of being together on the planet but, most importantly, creating the conditions to generate alternative ways of knowing to enact that transformative integration.

For such reasons, creative disciplines are gaining institutional momentum as drivers to fuel change in a mission-oriented Green Deal (Bason et al., 2020). As a result, a wave of diffused prototyping is blurring disciplinary boundaries throughout the planet: since both design and politics concern culture and identity while negotiating technology and materiality, it seems that prototypes and prototyping are turning into a meeting point to spark possibilities of change for bigger-picture challenges, focusing on a joint commitment to public purpose and value.

Thus, by framing prototypes and prototyping (Schrage, 2013; Corsín Jiménez, 2014) as devices and processes triggering hybrid ways of knowing in the New Climatic Regime, this paper aims to discuss how designer-focused ways of knowing linked to making, crafting, and doing are merging with the political ways of acting traditionally linked to advocating, negotiating, and managing. As the ontological turn wraps together world-making disciplines like design and politics, this paper focuses on design's embodying and experiential features. Here, a descriptive case study methodology is applied to explore some examples stemming from the experimental turmoil happening in the public space. The main goal of the contribution is emphasizing how the commonplace is becoming the preferred sensible layer of reality to bridge top-down and bottom-up efforts through the entanglement of ethics and aesthetics. Therefore, this paper will ultimately present a preliminary research framework to be further developed in the research project, aimed at interrogating the experiential knowledge generated, nurtured, and challenged by *prototypes* and *provotypes*. These are interpreted here as the common grounds of experimentation and knowledge generation in interdisciplinary contexts of transformation and adaptation.

Prototyping Democracies

A major chicken producer trying to improve the lives of its chickens; the Te Awa Tupua River in New Zealand, so fundamental to its community that it gained legal rights; the Estonian Artificial Intelligence (AI) Task Force proposing that Kratt laws grant AI algorithms a legal status: it seems that the non-human is going to play a growing role in social, cultural, and economic dimensions, thus gaining political relevance. More-than-human perspectives contribute to questioning the notions of both "citizenship" and "community," competing agonistically with conventional concepts of politics and the political (Mouffe, 2011).

By setting political life in hybrid ecologies, the concept of more-than-human citizenship is gaining vital relevance. For this reason, experimenting with(in) the civics level gains a special resonance today, since it addresses the foundational layer of socio-political practice where beings and things gather in public spaces to experience the “distribution of the sensible” (Rancière, 2010). As Carl DiSalvo (2022) puts it, in the New Climatic Regime there is a multifaceted value in “staying with the trouble” with civics (Haraway, 2016): planetary issues call for planetary awareness, inviting planetary citizens to take the stage. Thus, climate change calls for climate care (Light, 2022): a planetary, interdisciplinary commitment crossing different scales and stemming from a relational value, since it is about how communal life will be structured and experienced.

“Care” is relevant here since it invites overcoming the problem-solving framework (de La Bellacasa, 2017; Tronto, 2013). In fact, “to care” is to have concerns, pay attention, and get involved: it is an intimate, long-term entanglement with something or someone. Therefore, “climate care is not an issue we need to ‘address’ but rather something we need to be engaged in” (Light, 2022). From a political studies perspective, this recalls a strand of research inquiring into the capacity of democracies to respond to climate change through concepts of “eco-democracy” and “eco-citizenship” (Pickering et al., 2020). As such, democratic values like representation, inclusion, participation, accountability, and transparency are questioned in light of non-human agencies influencing human prosperity, paired with the strengthening of caring activism (Fine, 2018) to address environmental, social, and economic inequalities. With care embodying a source of meaning and purpose, eco-citizens cope with ideological and material changes built around the virtue of (climate) justice.

The emergence of themes of care and justice (Björgvinsson et al., 2012; Costanza-Chock, 2020) signal the need to tackle inequalities through interventions with real people in real places (Julier, 2013; Manzini, 2015). As a result, co-design practices spread to stakeholders in open environments of mutual, interdisciplinary learning. Then, with designing stances diffused throughout the sensible layer of communal life, civics turned into a laboratory where unprecedented social modes, conversations, and meanings are collectively prototyped (Manzini, 2015). In such a practice, designing is, at the same time, the catalyst of collective social dreaming (Dunne & Raby, 2013) and a means to explore the possible conditions that might make those visions experienceable: thus, designing becomes a way to care for collective futures.

In this sense, as DiSalvo (2022) discusses, design experiments not only challenge conventional civics, but they embody “a staging ground that help[s] visions of society take form by activating the civic imagination through making and the use of made things” (p. 30). In times of imaginative crisis about plural futures to transition to, it seems that a growing wave of political pragmatism is bridging the gap between design and democracy (Bason et al., 2020; Dixon, 2020; Rezai & Erlhoff, 2021). This is strongly linked to the act of “prototyping,” one of the foundational, most pragmatic processes of design: producing experienceable artifacts contextualized within everyday life in order to simultaneously start discussions, derive theoretical and practical insights, and shape the directions of possible futures (Schrage, 2012; Corsín Jiménez, 2014). Thanks to these features, prototypes are being broadly recognized as productive and processual aspects of experimentation: places like medialabs, hacklabs, and social art collectives, or events like workshops, are

hosting a growing variety of actors, all interested in prototyping and experimentation “as both modes of knowledge-production and cultural and sociological styles of exchange and interaction” (Corsín Jiménez, 2014). This mirrors the need to tackle uncertainty and ambiguity in the New Climatic Regime; prototyping is the common ground to operate in the acknowledged complexity of our unstable world (Manzini, 2015).

By expressing and representing the nexus where traditional views of innovation, collaboration, and authorship are destabilized, prototypes invite both designers and other stakeholders to engage with “how shared decisions about shared futures are made, how we use public space to understand public purpose, how we contest and co-create” (Bason et al., 2020). Thus, design and politics intertwine in prototyping processes and practices, with “the languages of openness and open-endedness, of provisionality and experimentation, inspiring each other as models for cultural practice... the prototype works as a descriptor for both an epistemic object and an epistemic culture” (Corsín Jiménez, 2014). Consequently, on the one hand, prototypes provide a language for political pragmatism to manifest; on the other hand, it is a reference for design's inherently political nature. Thus, the qualities of prototyping establish features of new modes of interaction, perception, and the experience of democracy as essential.

With pragmatism infusing the experimental turn in public space and actors, caring activism enters the sensible layer of everyday life through prototypes embodying transformational stances through agonistic and pluralistic approaches. For such reasons, this paper will discuss three case studies in which *pragmatism through prototyping* occurs, bridging top-down guidelines and bottom-up approaches through designerly means. Selection criteria adopted for case studies draws from the theoretical approaches discussed so far: climate change-related challenges, civic context, more-than-human perspectives and ecological thinking, crossing-boundary strategies, and the prototype/prototyping feature as a mode of cultural engagement with a specific, embodied, real-life situated, open-ended, and temporary experience – here understood as their unique prototype feature.

Climavore

Climavore (<https://www.climavore.org/>), a long-term research project initiated in 2015 by Cooking Sections, explores via site-specific and site-responsive iterations how to eat as the climate changes.

The “climavore” is a form of devouring that proposes adaptive forms of food production and consumption, acknowledging the intrusive and extractive features behind intensive agriculture and aquaculture techniques and the effects of related climatic phenomena such as subsidence, flash floods, or drought. In this sense, the project uses ingredients as infrastructural devices to react to human-induced climatic events. Here, the more-than-human perspective informs every stage of the project, intercepting the sensible layer of reality through several initiatives which are either self-motivated or commissioned by cultural institutions. Each of them is an ongoing prototype where several different contributions are invited to spark transversal transformation in the economy and ecology of food cultures.

On Tidal Zones (2015-ongoing) is one of Climavore's prototypes dedicated to the dead zones caused by salmon farms on the Isle of Skye, Scotland. The prototype's main question

explores ways to shift from a polluting salmon farming economy to one based on the filter feeders and seaweeds which are crucial to maintaining robust and healthy intertidal ecosystems.

For its experienceable feature, the prototype takes the shape of an oyster table placed in the main tidal zone. The structure hosts both humans and non-humans, each benefitting from the other: at high tide, it is home for oysters filtering seawater; at low tide, it functions as a dining table for humans. According to the tides, performative meals feature a series of Climavore ingredients, where workshops with fishermen, politicians, residents, and scientists have been held to discuss another cultural imaginary for the island. A network of restaurants was also established, each replacing farmed salmon with a Climavore dish. Currently, the prototype is growing into a permanent installation to provide technical and legal advice on alternative and situated food production techniques, facilitate research on aquacultures, train young cooks on the island, and introduce a new coastal horizon for Skye altogether. As such, Climavore's prototypes produce experiential knowledge in a highly situated practice, nurturing and nurtured by the authenticity of local beings, their conditions for wellbeing, and their strategies to be together.

Zoöp

Klaas Kuitenbrouwer initiated the Zoöp project (<https://zoop.hetnieuweinstituut.nl/>) at Het Nieuwe Instituut with other ecologists, philosophers, artists, entrepreneurs, and lawyers. It is the result of a series of speculative workshops – “zoöconomic futures” – beginning in 2018 aimed at challenging human-centric governance to “strengthen the position of non-humans within human societies, stimulate quality of life for multispecies communities and counter extractivist dynamics.” The project takes the shape of a more-than-human governance model that acknowledges mutual reliance. In 2020, the legal structure of the model was developed in close collaboration with the law firm De Brauw Blackstone Westbroek, which provided a solid legal basis drawn from existing elements of Dutch law. This prototype intertwines imaginative experiments and practical outcomes, disrupting organizational models and policies with a wave of ecological caring. The resulting model invites creative publics and land stewards to afford ways to add more-than-humans into the value proposition processes, recognizing their rights to life.

The Zoöp model consists mainly of three bodies: the Zoöconomic Institute, the Zoöconomic Foundation, and Zoöps. Zoöps are organizations that want to contribute to ecological regeneration by including the voices and interests of non-human life in their board. An organization receives the Zoöp license by assigning a Board Observer Seat to the Zoöconomic Foundation. Here, independent experts translate the interests of non-human life into the decision-making processes of their Zoöp. Through this mechanism, more-than-humans are represented in the management of the land.

The protocol is currently being tested and refined in several test sites called “Proto-Zoöps.” In 2022, they include a farm, a hotel, a university, and a cultural institution. Almost twenty organizations in the Netherlands, Belgium, Germany, Italy, and Slovenia already engage the Zoöp model in a prototyping state, whereas from 22 April 2022 (Earth Day) onwards, Het Nieuwe Instituut in Rotterdam is the first Zoöp in the world.

This prototype is open to any organization willing to discover their inner, hidden ecology and draft strategies to support its growth. The situated knowledge here hinges on the peculiarities of Zoöps; however, the whole model can be understood as a rhizomatic structure of hybrid knowledge generation and sharing.

The Gigatonne Challenge

In October 2020, Complexity University launched the Gigatonne Challenge (<https://gigatonne.co/>) as a “ground-breaking at-scale, at-pace strategic response to the climate crisis.” It can be framed as a long-term program aimed at building capabilities to reduce global emissions by one gigaton of CO₂ per year while engaging and benefiting those most affected by the climate crisis. Even though the more-than-human perspective is not predominant, this project provides a clear example of a highly pragmatic approach to the complexity of climate change and how prototypes have a say as experienceable, unlearning-learning devices. In fact, the Gigatonne Challenge starts from a strongly quantitative stance intended to provide citizens around the world with the conditions to make a difference in the sensible layer of reality, leveraging a form of caring activism.

As their manifesto states,

if we imagine the challenge of reducing a billion tons of emissions a year as climbing Mt. Everest, how do we learn to climb such a daunting peak? – Hint, it isn’t by simply listening to a lecture on climbing – The Gigatonne Challenge offers participants from around the world an opportunity to practice “climbing” as part of a team.

Putting it in numbers, the Gigatonne Challenge has already completed three two-week sprints, with thirty-one teams starting the challenge from forty-six different countries, supported by fifty-three coaches whose efforts were embodied in twenty-two prototypes producing twenty-three and a half tons of CO₂ abatement.

The Gigatonne Challenge triggers prototyping at a planetary scale, benefitting from the experiential character of this same process. Teams design their own prototype, combining their knowledge to pragmatically engage with the aesthetic-sensible layer of their (activist) ethics. The program welcomes citizens with any background expertise and develops through two main stages: the first is the unlearn and rewire phase, where participants are supported in building broad, bottom-up capabilities to “scale Mt. Everest” and work together to reduce one billion tons of CO₂ per year. The second stage focuses on prototypes in which teams co-design situated strategies based on the team’s resources while setting abatement targets focused on reducing emissions in four domains plus one – food waste, general waste, transport, energy efficiency, and equity.

Affording Democracies

“Climavore,” “Zoöp,” and “the Gigatonne Challenge” engage prototypes and prototyping in different ways, providing alternative paths towards public value generation in The New Climatic Regime. This study understands prototypes’ function primarily as a means to learn, discover, generate, and refine in osmotic manners (Valentine, 2013). This occurs thanks to prototypes’ primary quality: their incompleteness makes it possible to examine an idea’s quality outside of the problem-solving framework and thus without needing to

engage with finalized artifacts. This specific feature helps knowledge and practices from other domains to hack their own traditional infrastructures and engage with embodied, experiential approaches. By understanding prototypes not just as crafting-related artifacts but most importantly as media for crafting knowledge interaction, Schrage (2013) discusses how prototypes are “platforms for collaborative creativity” since they “enable different ecologies and economics of innovation insight. They are [a] means to interpersonal – not just technical – ends.” In other words, dealing with unfinished artifacts – whether material or immaterial – creates an intimate and safe space for different perspectives to take the stage and make a difference: the prototype will only be benefitting from diverse contributions, especially if they are in agonistic friction with each other (Mallol, 2011; Dunne & Raby, 2013). As a result, if prototypes embody manifestations of an unknown range of possibilities, then the cultural shift from defined solutions to open possibilities in disciplines other than design is afforded by prototypes’ incompleteness.

Such a feature suggests the multipotential shapes the prototype might be molded into. In this sense, prototyping thrives on imagination about possibilities. Moreover, imaginative thinking invites discourses in future tenses – prototypes have a peculiar relation with temporality. To some extent, all design practices are future-oriented, implying that, essentially, what designers make becomes the future we inhabit. Times of crisis strengthen this stance, turning designers into visionaries “in service of society” (Nelson & Stolterman, 2000), inventors of “scenarios and strategies [who] must play in the territories of the imagination to create new stories, new fictions, which will add to the thickness of the real” (Branzi, 1999). Thus, it seems that design catalyzes knowledge production by acting as a multi-temporal force: design explores futures through its prototypes, then comes back into the present to fuel transition informing those prototypes (Irwin et al., 2022). In this sense, the second quality we are addressing is temporal ubiquity, as these devices dwell in two complementary timelines: on the one hand, radical futures in which prototypes engage with deeper levels of culture, mental models, and structures; on the other, the progressive present in which prototypes invite working on contingent phenomena and their ecology of patterns. Yet again, both futures and present are not destinations or something to channel defining efforts into, but media to fuel imaginative thinking through their embodied vessels. In this sense, prototypes are the “quintessential future-facing object” (Glenn, 2013, p. xiv) as they are not meant to define futures, but generate and, through iterative processes, inform, update, and revise them.

Thus, temporal ubiquity is another quality afforded by prototypes blooming in the public space. The prototypes of the case studies discussed here inhabit those two dimensions, which are always connected, to trigger different responses and fulfill different purposes. This aligns with a research strand in design which distinguishes *provotypes* from *prototypes*: according to the temporal ubiquity feature, the first dwells in *radical futures*, serving as contingent spaces for collaborative analysis and exploration while driving dialectic processes of change (Mogensen, 1992; Boer, 2011). The latter populates the *progressive present*, inviting stakeholders to become bricoleurs (Manzini, 2015), using whatever is at hand to approximate and reassemble pre-existing artifacts and reshape their meaning. Following this model, *provotypes* embody *tensions* stemming from differences in the shared nexus of knowledge: their main goal is to provoke reactions and insights from the stakeholders to co-find and co-frame relevant questions. Consequently, prototypes embody those *questions* to have stakeholders experience them and explore their triggered

possibilities throughout the prototyping process, testing, and practice. The Gigatonne Challenge seems perfectly aligned with this approach, as its global teams act as bricoleurs discovering a sense of their actions and agency.

Notwithstanding the temporal-related distinction, both provotypes and prototypes create the conditions for experts with different backgrounds – designers, ethicists, political scientists, economists, philosophers, chefs, lawyers, and so on – to work together on *futures*.

Thus, prototyping occurs in a highly interdisciplinary context: just as designers are well known mediators of knowledge (Celaschi in Germak, 2008), prototypes are the devices enabling that same cultural mediation through embodying processes (Schrage, 2013). However, this aspect is turning out to be enriched by more-than-human perspectives, since – as Climavore and Zoöp make clear – non-humans are going to be increasingly involved in prototyping practices and thus knowledge production. This proves a challenge for both designers and other agencies to design prototypes open enough to allow more-than-human contributions to inform them. This can also be framed as the third quality of prototypes blooming at the intersection of design and democracy: *intimacy*. Prototypes traditionally have the capability to creatively engage with stakeholders so that they can make such devices their own: experiencing them through a personal connection with the artifacts and what they stand for.

Climavore and Zoöp offer a solid example of how non-humans might also participate in the prototyping process, triggering interspecies reflection. As such, prototypes are devices of embodied knowledge which might also be understood as the interplay between two types of knowledge. In fact, recalling the distinction between provotypes and prototypes, engagement with those devices encourages the production of actionable knowledge and reflective knowledge. The first might be easily linked to prototypes living in the progressive present that translate f(r)iction into decisions, actions, and impacts; the latter seems to resonate with provotypes inhabiting radical futures which stimulate openness, and even unlearning, through embodied conversations. All the case studies have a trace of such an interplay in their prototyping phases. However, if this is valid from a human perspective, as may be experienced in the Gigatonne Challenge, from a more-than-human perspective, we witness the rise of more-than-human ways of knowing. Here, creative practices like design are believed to play a catalyzing role, since they might contribute to translating the experiential knowledge traditionally enabled through prototypes into embodied, somewhat codified knowledge, even when it comes from more-than-human sources. This might be a promising step to better inform the new shapes of democracies from more-than-human ontological and epistemological perspectives.

A Never-Ending Journey

The New Climatic Regime is not only a climate crisis: it is a cultural crisis and thus an imaginative one. The theoretical approaches in this paper help highlight how essential notions of public life such as citizenship and community are soon going to change. Today, the New Climatic Regime is enriching those concepts, so that communal flourishing will result from a multispecies response-ability, where citizenship – or, rather, *kinship* – comes before any other role, even the “stakeholder” ones. This is possible if we frame civics and civic engagement as being in service of more-than-human communities. Within this interpretation, the focus point shifts on a relational perspective which seems to perfectly

hold design and democracy together. In fact, they can be understood as a set of practices and capabilities whose mission aligns with being in service: they are naturally inclined to engage with others and otherness. As such, both design and democracy cannot be autoreferential practices, since they thrive on *bridging, mediating, and becoming*.

Here, relationality helps in articulating care in design and democracy as an experiential value, represented by a direct engagement in maintaining, repairing, and sustaining more-than-human ecologies for collective thriving. This concept of care relies on prioritizing shared purposes and commitments. Thus, more-than-human attunement entails sustaining togetherness which both design and democracy understand as the ultimate outcome of their agency. As such, care is essential to future democracies since it entails taking and enabling response-abilities both for humans and other entities that cannot represent themselves within the contemporary political infrastructure but prove to be highly influential on collective life. This aligns not only with the relationality of both design and democracy, but also with how this relationality is delivered: they are always producing sensible experiences towards at least one interlocutor. Discourse, then, is engaged with incomplete, temporally ubiquitous, and intimate devices: in fact, prototypes enable democratic experiences through design, producing nurturing cycles of mutual learning, shaping, and positioning. Here, this endeavor of participating and endlessly negotiating plural imaginaries and practices is essentially inherent to the nature of democracy.

Pragmatist and agonistic shapes of democracy suggest the foundational need to unceasingly reiterate, contest, and renew democratic conditions. In this sense, just as "climate care is a journey to remake cultures, find justices and regenerate habitats" (Light, 2022, p. 34), so is democracy through design: an ongoing endeavor of inquiry and experiment. Just like prototyping, the effort of keeping democratic possibilities vibrant is never complete. The pragmatist turns towards futures tightened by the interplay between design and democracy: here, democracy speaks to the experiential nature of design as something we are involved in making, feeling, and doing. By f(r)ictioning traditional identity and future sense-making, design contributes to combining more-than-human ways of knowing at the proximity scale of the practice of civics, linking bottom-up practices to top-down guidelines. As a result, the *politically unthinkable* is challenged and informed by the *experientially desirable* in experimental practices. Here, democracy emerges from a process-oriented stance: with prototypes and prototypes acting as situated-utopias facilitated – not determined – by design. There is no definite destination since the interplay between design and democracy is traced in the journey.

Thanks to prototypes and prototyping, this paper has built a preliminary framework – a research prototype – from which it seems possible to gain insights of the affordances of democracies as both modes of communal life and perpetual becoming. The case studies presented here are believed to belong to a broader range of experimentations that developed situated, experiential approaches to keep the state-of-becoming kindled. Paradoxically, the main driver of such approaches resides in creative processes, which, by definition, draw their life force from uncoded stances to knowledge production. However, the embodied stage of prototypes might help unpack the same intimate, situated, and bottom-up ways of knowing that eventually imprint the socio-materiality of everyday life.

Prototypes, thus, become proxies through which it is possible to approach prototyping as the intimate, hybrid process for design and democracy to embed adaptation and transformation in everyday life. Both designers and democratic institutions – as well as other agencies that might be interested in working on the civic layer of society – might benefit from this approach, as it invites them to stay with the trouble, namely tackling possibilities in more-than-human ecologies. Here, locality, temporariness, and partiality are both strengths and weaknesses of civic efforts. This tension might benefit from designing dynamic and inclusive representations of worlds aimed at releasing conventional boundaries on behalf of open-ended relationalities: according to the discussion built so far, prototypes and prototyping embody the affordances of a never-ending journey which might be addressed as both “democracy” or, rather, “*democracying*.” From a research perspective, the focus on “-ing” seems to call for alternative strategies to track experiential knowledge resulting from prototyping in more-than-human civics to preserve its transient yet influencing agency over the sensible layer of reality. Here, diverse strands for future development open for research. Notwithstanding the need to further develop a more nuanced understanding of similar practices through the qualities resulting from the present study, the hope is to have contributed to outlining research coordinates to further notice the proxies of transformation and adaptation in times of planetary entanglement.

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