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Design Anthropology and Ontological Future Making: Transformative Action for the Emergence of Shared Futures

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Abstract
This article presents a novel approach — Ontological Future Making — that prioritizes transformative action. Rather than considering distant possibilities and consequences of futures, this approach engages with the negotiation of futures in the present. It is based on a review of existing work from the field of design anthropology. The article describes three steps of Ontological Future Making: to understand the future orientations of actors involved, engage with the immediate tensions that arise from their negotiation, and transform the ontological conditions that constrain future possibilities. We illustrate the approach with empirical data from a local energy transition project in Amsterdam Southeast. In this empirical account, we describe the future orientations of project partners and local residents and identify tensions related to extractive research and disciplinary differences. We describe the actions taken to address these tensions and describe our collaboration with residents to establish a local energy community. We characterize this initiative as transformative action as it served to enable shared futures for the project. We discuss the implications of these findings, arguing that future making should be more direct, political, and relational.

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Introduction

This article develops an approach—Ontological Future Making—that is transformative and action-oriented. The purpose of *transformative action* is defined as the transformation of the ontological conditions that constrain the possibility of making shared futures. With this approach, we respond to calls from various disciplines that engage with futures. In design studies, we contribute to the need to move beyond design as a neutral problem-solving practice, and harness its capacity for political agency in bringing about futures.[1] In anthropology, we contribute to the need for anthropologists to become active participants in practices of worldmaking and focus on emergent futures rather than the past and present.[2] In organization and management studies, we respond to authors who describe the need to move beyond foresight, speculation, and strategization,[3] who foreground practice-based approaches,[4] and who consider how future making is situated in modes of collective inquiry and deliberation.[5] We aim to retain the iterative, constructive, and creative process that design approaches bring to innovation[6] while prioritizing plural, shared, and collective societal interests.[7] The contribution of our approach lies in undertaking local and pragmatic action while aiming to address long-term societal challenges.[8]

Our Ontological Future Making approach is informed by existing works in design anthropology. Design anthropology is an academic field that has been characterized as a "style of knowing"[9] and that combines aspects of design and anthropology—design being the practice of giving form to new ideas, and anthropology being a mode of inquiry into the situated socio-cultural life of people and communities. Design anthropology combines the two fields in various configurations: as the anthropological study of design practices, the application of anthropological knowledge for design purposes, or the generation of anthropological knowledge through design interventions.[10]

Design anthropology considers future making to be implicit in informal, daily modes of acting and planning, making it well-positioned to understand empirically how futures are created in day-to-day practices.[11] We further argue that the emphasis on the plurality and present emergence of futures, as well as relationality, are essential insights to take from design anthropology. Still, we recognize a gap in design anthropology: how can it be mobilized to address societal challenges? Our contribution to design anthropology lies in the element of transformative action, which aims to transform the fundamental conditions that shape future possibilities. Since these conditions are entangled with ways of interacting with and being in the world, we make use of the lens of ontological design. We synthesize these diverse insights in our Ontological Future Making approach, which we delineate in several steps. The first step is to develop an understanding of the *future orientations* of diverse actors involved in a project, as well as the conditions that constrain and define these future orientations. The second step is to identify how differences in future orientation between actors give rise to *immediate tensions* in the present. The third step is to *transform ontological conditions* so that shared future orientations can emerge, thereby enabling shared future making. We illustrate this approach through an empirical study of a longitudinal energy transition project in Amsterdam Southeast.

1 Susan Yelavich and Barbara Adams, eds., *Design as Future-Making* (London: Bloomsbury, 2014).

2 Juan Francisco Salazar et al., eds., *Anthropologies and Futures: Researching Emerging and Uncertain Worlds* (London: Routledge, 2017).

3 Krista L. Pettit et al., "Transforming Visions into Actions: Strategic Change as a Future-Making Process," *Organization Studies* 44, no. 11 (2023): 1775–99, https://doi.org/10.1177/01708406231171889; Alice Comi and Jennifer Whyte, "Future Making and Visual Artefacts: An Ethnographic Study of a Design Project," *Organization Studies* 39, no. 8 (2018): 1055–83, https://doi.org/10.1177/0170840617717094; Jennifer Whyte et al., "Making Futures That Matter: Future Making, Online Working and Organizing Remotely," *Organization Theory* 3, no. 1 (2022): 1–20, https://doi.org/10.1177/26317877211069138.

4 Neil Aaron Thompson and Orla Byrne, "Imagining Futures: Theorizing the Practical Knowledge of Future-Making," *Organization Studies* 43, no. 2 (2022): 247–68, https://doi.org/10.1177/01708406211053222; Matthias Wenzel et al., "Future Making: Towards a Practice Perspective," *Journal of Management Studies* 62, no. 6 (2025): 2426–51, https://doi.org/10.1111/joms.13222.

5 Alice Comi et al., "Future Making as Emancipatory Inquiry: A Value-Based Exploration of Desirable Futures," *Journal of Management Studies* 62, no. 6 (2025): 2467–81, https://doi.org/10.1111/joms.13227.

6 Walter Brenner and Falk Uebernickel, eds., *Design Thinking for Innovation: Research and Practice* (Cham: Springer, 2016), https://doi.org/10.1007/978-3-319-26100-3.

7 Pelle Ehn et al., eds., *Making Futures: Marginal Notes on Innovation, Design, and Democracy* (Cambridge, MA: MIT Press, 2014).

8 Tony Fry, *Design Futuring: Sustainability, Ethics and New Practice* (London: Bloomsbury, 2009), https://doi.org/10.5040/9781350036079; Tony Fry, "The Dialectic of Sustainment," *Design Philosophy Papers* 1, no. 5 (2003): 289–97, https://doi.org/10.2752/144871303X13965299302794.

9 Ton Otto and Rachel Charlotte Smith, "Design Anthropology: A Distinct Style of Knowing," in *Design Anthropology: Theory and Practice*, ed. Wendy Gunn et al. (London: Bloomsbury, 2013).

10 Keith M. Murphy, "Design and Anthropology," *Annual Review of Anthropology* 45 (October 2016): 433–49, https://doi.org/10.1146/annurev-anthro-102215-100224; Abhigyan Singh et

The article is structured as follows. We begin with a conceptual review that examines literature from various fields, with particular attention to design anthropology. We then delineate our approach of Ontological Future Making in three steps and explain how it addresses the issues raised earlier. Next, we outline the methodology of our empirical study and present the results. This is followed by a broader discussion of the implications of our approach for future making, focusing on how future making can be more direct, political, and relational. The article concludes with a summary of key insights and contributions.

Making Futures in Design Anthropology

Our conceptual review was guided by several key questions that we discuss in the following order: How and where is the future, or futures, encountered? Who can participate in the making of futures, and how is this participation organized? What should be the role of researchers, designers, and other practitioners who aim to support such processes? We focus on how design anthropology addresses these questions and distinguish it from other fields.

As a starting point for the first question, design anthropology considers futures to be multiple rather than singular. It regards futures as the "multiplicity of ideas, critiques and potentialities that are embedded in the narratives, objects and practices of our daily lives."[12] This plural understanding of futures opens up a diversity of pathways and possibilities, as compared to the idea that the future is a single, remote location ahead in linear time, which can be colonized through the mobilization of power.[13] The perspective of the future as singular can be recognized in corporate practices of for-profit innovation[14] and other forms of future planning that aim to reduce uncertainty.[15] These practices can be understood as "defuturing," as they constrain the range of possible futures.[16] Taken to their extreme, the singular understanding of the future can result in hegemonic, monolithic, or colonial practices. While some design practices—those focused on narrow problem-solution framing and linear strategization—have also contributed to this issue,[17] design anthropology takes the opposite approach.

Furthermore, rather than seeing futures as distant locations, designer-anthropologists[18] consider them to be enacted in the present in mundane everyday practices.[19] From this perspective, future making is not a practice of strategization toward a distant goal, but consists of how people engage in everyday planning and speculating. In this way, designer-anthropologists embrace the improvisatory and messy dynamic of the everyday and acknowledge that, ultimately, futures cannot be controlled. Designer-anthropologists recognize a fundamental uncertainty about futures and draw attention to their emergence in the present, rather than the implications of future outcomes.[20] In this way, designer-anthropologists are well-positioned to draw attention to the present tensions, conflicts, and controversies surrounding emergent futures, and how these are co-shaped by various factors from the past and the present.[21] With uncertainty and emergence as key principles, designer-anthropologists consider how emergent futures are contested and political.[22]

al., "Envisioning 'Anthropology through Design': A Design Interventionist Approach to Generate Anthropological Knowledge," *Design Studies* 76 (September 2021): article no. 101014, https://doi.org/10.1016/j.destud.2021.101014.

11 Matthias Wenzel, "Taking the Future More Seriously: From Corporate Foresight to 'Future-Making,'" *Academy of Management Perspectives* 36, no. 2 (2022): 845–50, https://doi.org/10.5465/amp.2020.0126.

12 Mette Gislev Kjaersgaard et al., "Introduction: Design Anthropological Futures," in *Design Anthropological Futures*, ed. Rachel Charlotte Smith et al. (London: Bloomsbury, 2016), 1.

13 Barbara Adam, "Future Matters: Futures Known, Created and Minded," *Twenty-First Century Society* 3, no. 2 (2008): 111–16, https://doi.org/10.1080/17450140802095102.

14 Anthony Dunne and Fiona Raby, *Speculative Everything: Design, Fiction, and Social Dreaming* (Cambridge, MA: MIT Press, 2013).

15 Simone Abram, "Contemporary Obsessions with Time and the Promise of the Future," in *Anthropologies and Futures: Researching Emerging and Uncertain Worlds*, ed. Juan Francisco Salazar et al. (London: Routledge, 2017), chapter 5.

16 Tony Fry, *Defuturing: A New Design Philosophy, Radical Thinkers in Design* (London: Bloomsbury, 2020).

17 Ramia Mazé and Josefin Wangel, "Future (Im)Perfect: Exploring Time, Becoming and Difference in Design and Futures Studies," in *Feminist Futures of Spatial Practice: Materialisms, Activisms, Dialogues, Pedagogies, Projections*, ed. Meike Schalk et al. (Baunach, Germany: Spurbuchverlag, 2016), 273–86, available at https://ualresearchonline.arts.ac.uk/id/eprint/16123/1/FULLTEXT01.pdf.

18 We use the term "designer-anthropologist" instead of "design anthropologist" to recognize and bring attention to the role's orientation toward action. See also: Singh et al., "Envisioning 'Anthropology through Design.'"

19 Kjaersgaard et al., "Introduction"; Caroline Gatt and Tim Ingold, "From Description to Correspondence: Anthropology in Real Time," in *Design Anthropology: Theory and Practice,* ed. Wendy Gunn et al. (London: Bloomsbury, 2013), chapter 8.

20 Otto and Smith, "Design Anthropology"; Abhigyan Singh, "Conceptualizing Inter-Household Energy Exchanges: An Anthropology-through-Design Approach" (PhD dissertation, Delft University of Technology, 2019), https://doi.

With the politicization of futures at stake, the next key question concerns who gets to participate, and how this participation is organized. We argue that design anthropology has something to offer in this regard by distinguishing it from speculative design. Speculative design has been a popular approach in engagements with the future, and it shares many commonalities with design anthropology, embracing uncertainty, acknowledging the plurality of futures, and prioritizing critical reflection and contestation.[23] However, speculative design tends to be situated in museum exhibitions or other controlled and curated environments—a practice for which it has been criticized.[24] In such curated environments, design artifacts are removed from the context where change is taking place, and hence also removed from the stakeholders involved in the process of emergence. This creates space for critical and speculative reflection,[25] but also a risk that the aestheticization of futures takes precedence over politicization.[26] The focus on curated environments may exclude laypeople who would not naturally visit such environments, while there is much to gain from including them in speculative engagements.[27]

Because design anthropology requires engagement with futures in everyday settings, we argue that it is better equipped to enable engagement with the micropolitics from which futures emerge. Embracing everyday contexts comes with a certain messiness and ambiguity. This has further implications, which we highlight by distinguishing design anthropology from participatory design. Participatory design defines specific methods and techniques to mediate the encounters between experts and laypeople,[28] thereby prioritizing the voices of underrepresented groups and making design processes more relational and democratic.[29] Hence, participatory approaches provide a promising avenue for more inclusive future engagements, as also demonstrated by the participatory turn in speculative design.[30] Still, participatory engagements are typically curated, structured, and orchestrated through the specific techniques employed by the participatory design experts—this approach poses specific challenges.[31] There is a risk that participants' influence remains at the level of output rather than process.[32] If the participatory techniques used provide too little flexibility to participants, the participatory designer may obtain undue influence or power. Furthermore, the process is unavoidably shaped by socio-economic, cultural, and political factors that are beyond the control and influence of a participatory session.[33] Finally, the very idea of participation can reify and reproduce the distinction between experts and participants, thereby perpetuating the power asymmetry between them.[34]

These and other considerations have led to a call for better embedding of participatory engagements in contexts of everyday living.[35] Design anthropology is well-positioned for this purpose, as participatory engagements are situated in ethnographic encounters in everyday settings. While ethnographic interventions are also characterized by some degree of prefiguration, they are less staged than participatory workshops, which mobilize specific tools, procedures, and methods.[36] Instead of considering structural factors as external barriers for participation, they are engaged in their messy everyday enactment and considered part of the process of future making. Design anthropology aims to engage with and restructure social relations in their natural environment,

org/10.4233/UUID:57BE7165-2726-4A1A-B076-C5ED3988E00B.

21 Rachel Charlotte Smith and Ton Otto, "Cultures of the Future: Emergence and Intervention in Design Anthropology," in *Design Anthropological Futures*, ed. Rachel Charlotte Smith et al. (London: Bloomsbury, 2016), 19–36.

22 Yoko Akama et al., *Uncertainty and Possibility: New Approaches to Future Making in Design Anthropology* (London: Bloomsbury, 2018); Salazar et al., *Anthropologies and Futures*.

23 Dunne and Raby, *Speculative Everything*.

24 Alix Gerber, "Participatory Speculation: Futures of Public Safety," in *PDC '18: Proceedings of the 15th Participatory Design Conference: Short Papers, Situated Actions, Workshops and Tutorial*, vol. 2 (New York: ACM 2018), article no. 23, https://doi.org/10.1145/3210604.3210640.

25 Abram, "Contemporary Obsessions."

26 Gerber, "Participatory Speculation"; Ann Light, "Collaborative Speculation: Anticipation, Inclusion and Designing Counterfactual Futures for Appropriation," *Futures* 134 (December 2021): article no. 102855, https://doi.org/10.1016/j.futures.2021.102855.

27 Pedro Gil Farias et al., "Social Dreaming Together: A Critical Exploration of Participatory Speculative Design," in *PDC '22: Proceedings of the Participatory Design Conference 2022*, vol. 2 (New York: ACM, 2022), 147–54, https://doi.org/10.1145/3537797.3537826.

28 Erling Björgvinsson et al., "Participatory Design and 'Democratizing Innovation,'" in *PDC '10: Proceedings of the 11th Biennial Participatory Design Conference* (New York: ACM, 2010), 41–50, https://doi.org/10.1145/1900441.1900448; Christopher A Le Dantec and Carl DiSalvo, "Infrastructuring and the Formation of Publics in Participatory Design," *Social Studies of Science* 43, no. 2 (2013): 241–64, https://doi.org/10.1177/0306312712471581.

29 Ehn et al., *Making Futures.*

30 Laura Barendregt et al., "Public Participation in Futuring: A Systematic Literature Review," *Futures* 158 (April 2024): article no. 103346, https://doi.org/10.1016/j.futures.2024.103346.

31 Wafa Said Mosleh and Henry Larsen, "Exploring the Complexity of Participation," *CoDesign* 17, no. 4 (2021): 454–72, https://doi.org/10.1080/15710882.2020.1789172.

32 Sherry R. Arnstein, "A Ladder of Citizen Participation," *Journal of*

and thereby provides the guidelines to directly address the politics of participation as they emerge.[37] In this endeavor, the future orientations of diverse actors — including people, artifacts, and institutions — become layered and entangled,[38] and it is as such that design anthropology engages with futures.

One key question that remains is how designers, researchers, and practitioners should play an active role in collaborative practices of future making. In design anthropology, scholars have explicated this role through the concept of intervention,[39] which can be understood in various ways. First of all, when designer-anthropologists conduct ethnography, the field site is considered to be constructed in practice rather than "found" in an objective sense.[40] By entering into mutual relationships with collaborators,[41] the context is actively and reflexively co-shaped, including the futures that are emerging within it. In this way, the distinction between the designer-anthropologist and participants is blurred, as both are equal co-creators of a shared reality.[42] Participation is enacted in the ethnographic encounter, which is of an improvisatory nature, characterized by its mundaneness, and situated in contexts of everyday living and working. Thus, participation is understood differently than in orchestrated participatory workshops. The participatory ethnographic encounter is also political insofar as it disrupts existing relations within the context, thereby intervening in the emergence of futures. Beyond ethnography, designer-anthropologists also intervene in other ways, as they employ diverse tools, techniques, artifacts, and visual media to mediate participatory engagements.[43] Still, these other modalities of participation should be understood in the same way: improvisatory, co-creative, and everyday. To refer to this design anthropological modality of participation, we use the concept of *relationality* in Ontological Future Making, which will be elaborated upon in the next section.

Still, we argue that there is an underexplored potential for design anthropology to be more transformative and action-oriented in its approach. Many design anthropological interventions still take place in curated environments. For instance, Ton Otto and Rachel Charlotte Smith engage teenagers in a museum exhibit on digital culture,[44] and Ramia Mazé stages an exhibition to explore energy futures.[45] While the curation of such interventions cannot be entirely avoided, it would be interesting to situate them in contexts of social and technological change, innovation, and transformation. Furthermore, the intervention of design anthropology is often situated at the conceptual level, aiming at changing perceptions, knowledge, and concepts. For example, while Sarah Pink and colleagues work in an interdisciplinary setting on the design of autonomous vehicles, their focus is on generating conceptual insights rather than achieving subsequent transformative outcomes.[46] Furthermore, while Fareed Kaviani and colleagues explore mundane practices of energy use in a novel manner, the transformative impact does not go beyond challenging common assumptions and perceptions.[47] Abhigyan Singh focuses on conceptualizing energy exchanges in rural India as a key outcome,[48] and various authors characterize design anthropology as a "style of knowing,"[49] thereby underscoring its conceptual focus.

the American Institute of Planners 35, no. 4 (1969): 216–24, https://doi.org/10.1080/01944366908977225.

33 Mosleh and Larsen, "Exploring the Complexity of Participation."

34 Esther Turnhout et al., "The Politics of Co-production: Participation, Power, and Transformation," *Current Opinion in Environmental Sustainability* 42 (February 2020): 15–21, https://doi.org/10.1016/j.cosust.2019.11.009.

35 Rachael Luck, "Participatory Design in Architectural Practice: Changing Practices in Future Making in Uncertain Times," *Design Studies* 59 (November 2018): 139–57, https://doi.org/10.1016/j.destud.2018.10.003.

36 Ann Light, "Troubling Futures: Can Participatory Design Research Provide a Constitutive Anthropology for the 21st Century?," *Interaction Design and Architecture(s),* no. 26 (September 2015): 81–94, https://doi.org/10.55612/s-5002-026-005.
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37 Ann Light and Yoko Akama, "Structuring Future Social Relations: The Politics of Care in Participatory Practice," in *PDC '14: Proceedings of the 13th Participatory Design Conference on Research Papers*, vol. 1 (New York: ACM, 2014), 151–60, https://doi.org/10.1145/2661435.2661438.

38 Rebecca Bryant and Daniel M. Knight, *The Anthropology of the Future* (Cambridge: Cambridge University Press, 2019), https://doi.org/10.1017/9781108378277.

39 Murphy, "Design and Anthropology."

40 Otto and Smith, "Design Anthropology."

41 Singh et al., "Envisioning 'Anthropology through Design.'"

42 Gatt and Ingold, "From Description to Correspondence"; Joachim Halse and Brendon Clark, "Design Rituals and Performative Ethnography," *Ethnographic Praxis in Industry Conference* 2008, no. 1 (2008): 128–45, https://doi.org/10.1111/j.1559-8918.2008.tb00101.x.

43 Sarah Pink et al., "Researching Future as an Alterity of the Present," in *Anthropologies and Futures: Researching Emerging and Uncertain Worlds*, ed. Juan Francisco Salazar et al. (London: Routledge, 2017), chapter 9.

44 Otto and Smith, "Design Anthropology."

45 Ramia Mazé, "Design and the Future: Temporal Politics of 'Making a Difference,'" in *Design Anthropological Futures*, ed. Rachel Charlotte Smith et al. (London: Bloomsbury, 2016), 37–54.

46 Sarah Pink et al., "Design Anthropology for Emerging Technologies: Trust and Sharing in Autonomous Driving Futures," *Design Studies* 69 (July 2020): article no. 100942, https://doi.org/10.1016/j.destud.2020.04.002.

We argue that a focus on conceptual innovation does not harness the full potential of design anthropology to contribute to societal transformations and the emergence of shared futures. We argue that designer-anthropologists should engage in transformative action and intervene in the emergence of futures. In the next section, we will outline our approach, named "Ontological Future Making," which aims to provide this.

Ontological Future Making and Transformative Action

This section describes our proposed approach, Ontological Future Making, which embraces the strengths of design anthropology while incorporating a crucial element of transformative action. While this approach is discussed initially in theoretical and abstract terms, it is made concrete and illustrated in the Results section using empirical findings.

The starting point for this approach is the following situation. Diverse actors are engaged in a collaborative process of fostering social and technological change, where diverse futures intertwine in their messy, everyday realities. Such multi-actor collaborative settings are often characterized by challenges, misunderstandings, and disciplinary differences. Ontological Future Making assumes the situated perspective of the designer-anthropologist, who aims to contribute constructively by supporting the emergence of shared futures between all actors. In doing so, the designer-anthropologist prioritizes societal needs and amplifies the voices of underrepresented stakeholders.

To engage in the making of shared futures, the designer-anthropologist must first understand the *future orientations* of the diverse actors involved. The future orientation of an actor is defined as their time horizon for planning and acting.[50] This future orientation is thoroughly constrained by an actor's mode of being in, and interacting with, the world. For this reason, we employ the lens of ontological design. A key principle of ontological design is that as actors design the world around them, they are in turn designed by that world and its material artifacts and artificial environments.[51] Interpreted for the current context: as actors make the world through a specific future orientation, the world acts back upon them in a specific way. Therefore, specific future orientations imply specific ways of being. The question of how someone can perceive and make the future is not a matter of preference, worldview, or opinion. It is bound up with the nature of who they are, as well as the various social, cultural, and political conditions that co-shape them. In this way, we understand the future orientations of actors to be ontologically conditioned.

To further understand how actors with diverse ontological conditioning become related, the understanding of ontology advanced in the field of science and technology studies is helpful.[52] For example, Annemarie Mol uses ontology to indicate how specific material artifacts enact multiple coexisting realities;[53] this understanding of ontology points toward a radical plurality of coexisting worlds, rather than worldviews and perspectives. As diverse actors *enact* such different realities,[54] we consider them to *make* emergent futures. Hence, diverse futures emerge through interactions

47 Fareed Kaviani et al., "Building Plausible Scenarios for Future Living: Intervening in Energy Forecasting Using Household Ethnography and Foresight," *Energy Research & Social Science* 106 (December 2023): article no. 103315, https://doi.org/10.1016/j.erss.2023.103315.

48 Singh, "Conceptualizing Inter-Household Energy Exchanges."

49 Kyle Kilbourn, "Tools and Movements of Engagement: Design Anthropology's Style of Knowing," in *Design Anthropology: Theory and Practice*, ed. Wendy Gunn et al. (London: Bloomsbury, 2013); Otto and Smith, "Design Anthropology."
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50 Bryant and Knight, *Anthropology of the Future*.

51 Anne-Marie Willis, "Ontological Designing," *Design Philosophy Papers* 4, no. 2 (2006): 69–92, https://doi.org/10.2752/144871306X13966268131514.

52 Christian Nold, "Practice-Based Ontological Design for Multiplying Realities," *Strategic Design Research Journal* 11, no. 2 (2018): 58–64, https://doi.org/10.4013/sdrj.2018.112.02.

53 Annemarie Mol, *The Body Multiple: Ontology in Medical Practice* (Durham, NC: Duke University Press, 2002), https://doi.org/10.1215/9780822384151.

54 Steve Woolgar and Javier Lezaun, "The Wrong Bin Bag: A Turn to Ontology in Science and Technology Studies?," *Social Studies of Science* 43, no. 3 (2013): 321–40, https://doi.org/10.1177/0306312713488820.

between the artifacts and actors of a specific context.[55] The negotiation of diverse emergent futures is then analogous to ontological politics,[56] a term which Mol uses to indicate that "the conditions of possibility [of reality] are not given."[57] The negotiation of Mol's "conditions of possibility" is analogous to the manner in which, in Ontological Future Making, individual future orientations of actors are negotiated to give rise to shared future orientations. This negotiation involves transforming the ontological conditioning that underlies such individual future orientations.

Importantly, Ontological Future Making takes the situatedness of the designer-anthropologist as a starting point. From this stance, an understanding of the full extent of coexisting realities cannot be taken for granted. Therefore, Ontological Future Making adopts a strong notion of uncertainty: uncertainty not just about possible futures, but also about what other worlds are presently coexisting, and uncertainty about historical events that are ontologically conditioning emergent futures.[58] For this reason, Ontological Future Making operates through a commitment to relationality. It is only through relationality that diverse realities can come into conversation to inform the construction of a shared reality. This commitment to relationality is informed by Arturo Escobar's notions of ontological design and pluriversal politics.[59] The situatedness and relationality of Ontological Future Making have further implications for the status of knowledge and practices of knowledge creation. Knowledge that is produced by situated future making practices is, first and foremost, relevant to the specific social and material context from which it emerged. Furthermore, the expression of knowledge *about* a context brings about *change* to that context — it acts upon it. In this sense, expressing knowledge is itself an action that contributes to the making of futures, just like other forms of action. Ontological Future Making is not concerned with knowledge *about* futures, nor with using such knowledge to challenge worldviews, shift mindsets, or conduct critical reflection. Instead, it considers how acts of knowledge creation and expression, as well as other actions, *make* futures.

We will now further clarify this approach by delineating its three distinct steps. For clarity and simplicity, these steps are presented in a linear sequence. In practice, however, these steps are enacted in a non-linear way and may not be as easily demarcated.

Step 1: Understanding Future Orientations and Their Ontological Conditioning

The first step is to understand the ontological conditions that enable and constrain the possibilities for individual actors to engage in future making. To identify these conditions, one must first understand how individual actors are oriented toward the future: What are their time horizons for planning, speculating, and acting? These *future orientations* of an actor are constituted by their mode of being in, and interacting with, the world, which therefore must be understood in depth. Rather than treating people — and their future orientations — as objects of study, such understanding is developed by building reciprocal relationships. By building trusted collaborations with the actors involved, as in ethnographic practice, one can develop an

55 Ron Wakkary et al., "Material Speculation: Actual Artifacts for Critical Inquiry," *Aarhus Series on Human Centered Computing* 1, no. 1 (2015): online, https://doi.org/10.7146/aahcc.v1i1.21299.

56 John Law and John Urry, "Enacting the Social," *Economy and Society* 33, no. 3 (2004): 390–410, https://doi.org/10.1080/0308514042000225716; Annemarie Mol, "Ontological Politics. A Word and Some Questions," *Sociological Review* 47, no. 1_suppl (1999): 74–89, https://doi.org/10.1111/j.1467-954X.1999.tb03483.x; Mazé, "Design and the Future."

57 Mol, "Ontological Politics," 75.

58 Roy Bendor et al., "Looking Backward to the Future: On Past-Facing Approaches to Futuring," *Futures* 125 (January 2021): article no. 102666, https://doi.org/10.1016/j.futures.2020.102666.

59 Arturo Escobar et al., *Relationality: An Emergent Politics of Life beyond the Human* (London: Bloomsbury, 2024); Arturo Escobar, *Pluriversal Politics: The Real and the Possible* (Durham, NC: Duke University Press, 2020).

understanding of the ontological conditions that determine their future time horizons, including social, cultural, economic, and political factors.

Step 2: Identifying Immediate Tensions that Emerge in the Present

The second step engages with the negotiation of diverse futures in the present, focusing on the tensions that emerge as a result. As actors with diverse ontologies interact, their diverse short- and long-term future orientations become entangled. This entanglement is likely to give rise to challenges, incompatibilities, and misunderstandings regarding the possibilities for making shared futures. Such challenges manifest in the immediate present as tensions in social dynamics and negotiations. In this step of the approach, actors engage with issues as they emerge in the present, rather than extrapolating them into the future. Thereby, the goal is to bring direct focus to political contestations of emergent futures. Understanding these tensions, in turn, yields an understanding of the ontological conditions that constrain the possibilities for making shared futures.

Step 3: Transforming Ontological Conditions toward Shared Futures

The third step is to intervene in the identified ontological conditions, with a sense of direction rather than an ideal future outcome in mind. Through this intervention, the relations, positionalities, or capacities of actors may be transformed toward shared futures.[60] This kind of intervention constitutes *transformative action*. The specific purpose of transformative action depends on the situated needs of a particular context and is informed by the reciprocal relationships established in Step 1. The resulting transformations can be small, as long as there is a possibility for "sustainment."[61] Immediate action must necessarily aim at a narrow goal: to transform the ontological conditions that currently inhibit the making of shared futures.

Methodology and Project Context

In this section, we describe the methodology used and the project context for the empirical part of this research. We mobilized the Ontological Future Making approach in a local energy transition project in Amsterdam Southeast. We conducted a longitudinal study, collecting data over a four-year period from 2021 to 2025. The field for this study is constituted by a multi-stakeholder research consortium comprising universities, public institutions, businesses, and NGOs. We problematize all activities of this consortium, including meetings, co-creation workshops, and documentation, as part of our investigation.

Project Context

Our case study concerns a multidisciplinary, multi-stakeholder project named the Local Inclusive Future Energy (LIFE). The project addressed problems in the local energy transition, which are both technical and social in character. First, the project aimed to develop technological solutions to address the problem of congestion in the electricity grid. This is an

60 Sarah Pink et al., *Design Ethnography: Research, Responsibilities, and Futures* (Abingdon, UK: Routledge, 2022); Lucy Suchman, "Anthropological Relocations and the Limits of Design," *Annual Review of Anthropology* 40 (2011): 1–18, https://doi.org/10.1146/annurev.anthro.041608.105640.

61 Fry, "Dialectic of Sustainment."

urgent challenge in the Dutch energy transition that could have severe economic consequences and delay the transition to renewable energy, thereby undermining the Dutch government's targets for CO_2 reduction. Second, the LIFE project aimed at social inclusion. To achieve this aim, the LIFE project investigated how the proposed technological solutions could benefit the residents of a local neighborhood, known as Venserpolder. About 8,500 residents live in this neighborhood, of whom around 70% have a non-Western migration background. The neighborhood also faces complex and interconnected socio-economic challenges, including high rates of energy poverty. The municipality of Amsterdam had labeled Venserpolder as a "development neighborhood," signifying that the area requires more attention from policymakers to address local issues.[62]

The lead partner of the LIFE project was the Johan Cruijff ArenA, the football stadium in the area, which maintains an 8.6 MWh storage battery to store solar energy and provide services to the grid operator. This battery served as a primary asset for experimentation with the proposed solutions to grid congestion. Other notable partners include the grid operator, several universities, the municipality of Amsterdam, and a local NGO named Stichting Co-Force.

Research Aims and Data Collection

As partners in the LIFE project, the authors contributed to the aim of social inclusion as well as cross-disciplinary activities within the consortium. While contributing to this aim, we also critically reflected on the project activities and intervened as we deemed necessary. We engage with the project context in its everydayness and problematize how the collaboration between the consortium partners and external participants was structured, while at the same time co-shaping this collaboration. In particular, we were closely involved in the efforts to engage residents from Venserpolder in the project. We collaborated closely with Stichting Co-Force, a local organization in Amsterdam that is funded by the municipality and supports local citizen initiatives in the energy transition.

Besides these aims, the activities served the purpose of research and data collection, for which we used several methods. We conducted ethnographic fieldwork as informed by design anthropology. We conducted participant observations[63] and analyzed project documentation as forms of data collection. We had collaborative autoethnographic reflections[64] within the research team to reflect on our own roles and positionality, and to interpret emerging insights from the research. Finally, we organized several co-creation workshops where we mobilized various design techniques for the dual purpose of facilitating collaborative engagements and gathering data. Since our priority is on how these sessions were embedded in the broader process of community engagement, a detailed description of the workshop techniques used exceeds the scope of the present article. Although not exhaustive, Table 1 presents several key research activities where data were gathered.

Roles between the authors were distributed as follows. The first author took up the primary role in conducting the fieldwork, collecting data, and engaging with stakeholders. The first and second authors jointly conducted

62 Gemeente Amsterdam, "Principenota Venserpolder: Verkenning van de Kansen Stadsdeel Zuidoost [Policy Document: Venserpolder Exploration of Opportunities Southeast District]" (policy document, Gemeente Amsterdam, 2020), available at https://openresearch.amsterdam/image/2021/10/7/verkenning_van_kansen_stadsdeel_zuidoost.pdf.

63 Kathleen M. DeWalt and Billie R. DeWalt, *Participant Observation: A Guide for Fieldworkers*, 2nd ed. (Lanham, MD: Rowman & Littlefield, 2011).

64 Rituparna Roy and Shinya Uekusa, "Collaborative Autoethnography: 'Self-Reflection' as a Timely Alternative Research Approach during the Global Pandemic," *Qualitative Research Journal* 20, no. 4 (2020): 383–92, https://doi.org/10.1108/QRJ-06-2020-0054.

Table 1 **Non-exhaustive overview of key research activities.**

	Date	Description
1	2021–11–17	Ethnographic field visit to Venserpolder 1
2	2021–11–19	Ethnographic field visit to Venserpolder 2
3	2021–11–23	Ethnographic field visit to Venserpolder 3
4	2021–12–14	LIFE project meeting — use cases 1
5	2021–12–16	Ethnographic field visit to Venserpolder community centers 4
6	2021–12–21	LIFE project meeting — use cases 2
7	2022–01–24	Ethnographic field visit to Venserpolder community centers 5
8	2022–02–07	LIFE project meeting — use cases 3
9	2022–02–28	Volunteering at Venserpolder community center 1
10	2022–03–02	Volunteering at Venserpolder community center 2
11	2022–03–05	Volunteering at Venserpolder community center 3
12	2022–03–08	LIFE project meeting — use cases 4
13	2022–03–16	Ethnographic field visit to Venserpolder 4
14	2022–03–17	Ethnographic field visit to Venserpolder 5
15	2022–07–05	LIFE project partner day
16	2022–09–20	Ethnographic field visit to Venserpolder 6
17	2022–09–24	Ethnographic field visit to Venserpolder 7
18	2022–10–25	Co-creation workshop with LIFE project consortium partners 1
19	2023–03–28	Co-creation workshop with LIFE project consortium partners 2
20	2023–04–28	Co-creation workshop with LIFE project consortium partners 3
21	2023–05–16	Co-creation workshop with LIFE project consortium partners 4
22	2023–07–03	Co-creation workshop with Co-Force and Venserpolder residents 1
23	2023–09–25	Co-creation workshop with Co-Force and Venserpolder residents 2
24	2023–11–13	Co-creation workshop with Co-Force and Venserpolder residents 3
25	2024–01–22	Co-creation workshop with Co-Force and Venserpolder residents 4
26	2024–05–27	Outdoor event Venserpolder 1
27	2024–07–23	Co-creation workshop with Co-Force and Venserpolder residents 5
28	2024–08–28	Co-creation workshop with Co-Force and Venserpolder residents 6
29	2024–09–24	Co-creation workshop with Co-Force and Venserpolder residents 7
30	2024–09–28	Outdoor event Venserpolder 2
31	2024–10–29	Co-creation workshop with Co-Force and Venserpolder residents 8
32	2024–12–03	Co-creation workshop with Co-Force and Venserpolder residents 9
33	2025–01–07	Meeting pioneer group Venserpolder 1
34	2025–02–04	Meeting pioneer group Venserpolder 2
35	2025–02–28	Meeting pioneer group Venserpolder 3
36	2025–03–18	Meeting pioneer group Venserpolder 4

data analysis, interpretation, and reflection. The third and fourth authors took up roles of supervision and project management, as well as giving feedback.

Data Analysis through Abductive Reasoning

For data analysis, we mobilize abductive reasoning to draw inferences from the empirical data.[65] Abductive reasoning is a well-established approach that is suited for context-sensitive social research, where it is impossible to achieve a sufficient degree of repeatability and consistency in observations to apply inductive reasoning. Rather than producing a tested and confirmed theory, abductive reasoning generates plausible hypotheses from surprising empirical findings.[66] This approach allows us to balance humility in our epistemic claims with creative interpretations. We aim to demonstrate that Ontological Future Making is both a plausible and useful approach to engage with the kind of project context in which we were working, and make plausible suggestions and inferences regarding its broader relevance in the discussion section.

Abductive reasoning operates through an iterative back-and-forth engagement between theory, raw data, and interpretations.[67] We did this through a continual study of the various unstructured data, including participant observations, workshop audio recordings and transcripts, and our own reflections. We had individual and collaborative sessions where we studied the data — usually in printed form — in-depth, and compared emerging insights through individual and collaborative note-taking, diagramming, and collaborative discussions. Through cross-checking our interpretations, we came to a shared understanding of what the right interpretation should be. Because of the heterogeneity of the data, and because some of the key issues described are implicit throughout the entire research process — and thus, all data — we found coding software to be unsuitable for our purposes. Through this process, the identification of a literature gap, the delineation of the Ontological Future Making approach, and the curation of empirical accounts all co-emerge in a parallel, non-linear fashion. For the purposes of this article, however, these aspects are structured in a linear fashion. This means that our empirical account has been written — and is intended to be read — through the lens of Ontological Future Making: it describes concrete empirical phenomena that illustrate and elaborate the abstract description in the preceding section.

Results

As in the "Ontological Future Making and Transformative Action" section, we report the empirical results under the three steps of Ontological Future Making. In doing so, we aim to show the connection between the abstract description and the theoretical phenomena. While these results are written — and intended to be read — through the lens of Ontological Future Making, we emphasize again that the approach, results, and literature gap co-emerged in parallel, and that in reality, there is not the linear relationship as suggested by the structure of this article.

65 Iddo Tavory and Stefan Timmermans, *Abductive Analysis: Theorizing Qualitative Research* (Chicago: University of Chicago Press, 2014).
66 Ibid.
67 Ibid.

68 **Project Proposal: Local Inclusive Future Energy (LIFE) Project.**

Understanding Future Orientations and Their Ontological Conditioning

In this section, we describe the future orientations of diverse actors within the LIFE project and interpret how these are ontologically conditioned. In particular, we discuss the future orientations of the project's structure, the consortium partners, the residents of Venserpolder, and broader developments in the energy transition.

The LIFE Project Structure

Starting with the structure of the LIFE project, we first observe that the project lasts for four years. After these four years, the project and all its activities will formally come to an end, and the results and outputs must be delivered to the subsidy provider, the Netherlands Enterprise Agency. To maintain focus on this 4-year time horizon, regular meetings were held on a weekly, bi-weekly, monthly, and quarterly basis, where a project management team ensures that short-term activities build up toward the long-term goal. Work was divided into work packages, where representatives of various partner organizations work on specific outputs. Notably, the initial framing of the project already included an envisioned technical solution for the problems mentioned: the so-called "LIFE platform." In the project proposal, the platform was defined as follows:

> "The key result of this project is a district-scale ICT smart energy management platform (LIFE) connected to a wide variety of energy devices/assets. This platform will strive for maximum societal acceptability by developing a technical and legal framework for local communities and stakeholders to access the benefits of flexibility. The platform will monitor and control multiple devices, simulate the effects of control measures using a Digital Twin, and optimize flexibility with an intelligent algorithm while integrating with various energy markets. The platform will improve self-reliance on local clean energy, create financial value for flexibility, and engage locals in the process."[68]

Overall, we interpret this pre-negotiated and predefined project output to ontologically condition all subsequent project activities. This conditioning is enacted through bureaucratic project management structures, including work package division and the required deliverables.

Social and Technical Partners

The LIFE project had a stark division between socially and technically oriented work packages. These different "social" and "technical" partners, as they were referred to throughout the project, operated with distinctly different orientations toward future. From the beginning, the technical partners were eager to start "building" as quickly as possible, working toward the predefined output of the LIFE platform. In doing so, they exhibited a future orientation in which this future output lay ahead in linear time, assuming that they could strategize to realize this output in a controlled fashion. In contrast, the social partners, which include the authors, advocated for a distinct sense of openness and uncertainty. We argued that before significant progress is made with the technical solutions, the relevant local stakeholders

should first be engaged and included in a participatory design process. In doing so, we exhibited a shorter-term time horizon that only encompasses the first iteration of the design process. This necessary step of reframing the problem-solution space would yield a deeper understanding of stakeholder needs and ensure that the LIFE platform benefits them. We consider this difference in approaches between "social" and "technical" to be ontological, as it as it is a fundamental difference in modes of being in the world.

Venserpolder Residents

The residents in Venserpolder were not included at the outset of the project, so we undertook numerous activities to build relationships with them. Ethnographic field visits provided important insights into their future orientations. The fieldwork was a team effort of multiple researchers — Gijs van Leeuwen and Abhigyan Singh report these ethnographic interactions in greater detail elsewhere[69] — but here, we highlight several key findings for our current purpose. We quickly learned that people had prior experiences with the presence of researchers in their neighborhood and being engaged in other energy transition projects. Our presence was often met with suspicion, and residents posed very direct and informed questions, including about the sources of our research funding. Several people, especially local community leaders, noted that researchers had frequently visited Venserpolder and that people had grown weary of filling out surveys, answering interview questions, and participating in projects.[70] From these engagement challenges, we identified two different future orientations among the residents.

One key concern of the residents was that many research projects do not yield tangible results and outcomes for the neighborhood, as the activities are discontinued when the project reaches its deadline. In their experience, researchers would visit to obtain data for publication, rather than make real improvements to the neighborhood. As one local community leader said, "It is really important that you bring something to the neighborhood, as so much research has happened already, and little has changed for people in a tangible way."[71] This can be interpreted as a concern that the futures of the neighborhood are only investigated, rather than made. These findings show how the future orientation of the residents is characterized by a need for persistent, permanent solutions for the long-term well-being of their neighborhood.

The people we spoke to were not very interested in topics of sustainability and energy transition as they perceived these as distant problems. There were no households with solar panels in the neighborhood, meaning the envisioned functionalities of the LIFE platform would be of little use to them. People's main concerns were the energy bill and their daily costs of living. One man expressed his discontent about how his energy bill became much more expensive after his apartment building was retrofitted with a new heating system, even though a lowering of the costs had been promised.[72] Given the socio-economic challenges in this neighborhood, people reported being "too busy paying the bills" to invest time in participating in research. We interpret the second future orientation here as short-term horizons, which are primarily concerned with the daily, weekly, and monthly

69 Gijs van Leeuwen and Abhigyan Singh, "Local Frictions in the Energy Transition: Design Anthropology for the Emergence of Energy Communities," *Ethnographic Praxis in Industry Conference* 2023, no. 1 (2023): 277–94, https://doi.org/10.1111/epic.12167; Gijs van Leeuwen and Abhigyan Singh, "Design Anthropology for Ethics of Care and Emergence: Reflections from an Energy Transition Project," in *DRS2024: Boston*, ed. Colin Gray et al. (Boston: DRS, 2024), 1–14, https://doi.org/10.21606/drs.2024.797.

70 Research activities 1–3, 5, 7, 9–11 (see Table 1).

71 Anonymous–Research activity 17 (see Table 1).

72 Anonymous–Research activity 5 (see Table 1).

routines of regular workaday life. These short-term horizons thoroughly constrain the residents' capacity to participate in longer-term projects, especially projects with a significant degree of uncertainty. The significance of this short-term time horizon is underscored by numerous structural societal challenges and inequalities that the residents are dealing with. These challenges, including a lack of social cohesion, historical and present-day racism, and high levels of illiteracy, make it difficult for residents to perceive a long-term future where these issues are resolved.

Energy Transition Developments

Finally, we describe the future time horizons of the energy transition, which are enacted through long-term timelines of policy agendas, technological innovation, and regulatory change. These structural developments ontologically condition all other activities taking place in the LIFE project. On the one hand, there are long-term government ambitions to be CO_2-neutral by 2050, which shape the pace and trajectory of the energy transition. On the other hand, there is the urgent and pressing problem of grid congestion, which is threatening short-term integration of renewable energy, business activities, and real estate development. Furthermore, certain envisioned technological solutions related to the LIFE platform — including Peer-to-Peer (P2P) energy trading and local energy markets[73] — remain at an early stage of development for future innovations and depend on regulatory and systemic change. Despite the uncertainty about their future viability, the potential promises of these innovations shape the research activities in the LIFE project to a significant extent. At the same time, the neighborhood of Venserpolder is dealing with energy transition developments on an entirely different timeline — its pressing issue is the sustainable retrofitting of apartment complexes, for which smart energy innovations are largely irrelevant.

Identifying Immediate Tensions that Emerge in the Present

In this section, we describe how the future orientations identified above are entangled and negotiated. We do so by drawing attention to the immediate tensions that we encountered in the field. We describe these tensions in two sub-contexts: in the collaboration within the LIFE project consortium, and in the participatory engagement with the Venserpolder residents.

Collaborative Tensions in the LIFE Project Consortium

During the 2021–2022 timeframe, numerous efforts were made to align predefined project outcomes and planning with the diverse future orientations of project partners, as well as present concerns in the local context.[74] These efforts gave rise to distinct tensions. On the one hand, the technical partners argued for the need to tightly define a technological solution as well as a strategy to realize it. On the other hand, the social partners advocated for the need to remain open to emergent needs of local stakeholders, especially residents who were not involved from the beginning. From the perspective of the social partners, the definition of the LIFE platform given above implied that the social inclusion research is taken as instrumental to the engineering work. Only "maximum societal acceptability" is mentioned as a societal goal, and

73 Inês Campos and Esther Marín-González, "People in Transitions: Energy Citizenship, Prosumerism and Social Movements in Europe," *Energy Research & Social Science* 69 (November 2020): article no. 101718, https://doi.org/10.1016/j.erss.2020.101718; Tiago Sousa et al., "Peer-to-Peer and Community-Based Markets: A Comprehensive Review," *Renewable and Sustainable Energy Reviews* 104 (April 2019): 367–78, https://doi.org/10.1016/j.rser.2019.01.036.

74 Research activities 4, 6, 8, 12, 15 (see Table 1).

that "local communities [should] access the benefits of flexibility." A general perception was that the project proposal was weighted toward the technical side of the project, with technical solutions like the "digital twin," "grid management system," and the "MultiMarketModel" having a central role.

Many discussions around these issues took place concerning the "use cases" of the LIFE platform.[75] These meetings were tedious: it seemed impossible to align the logics and methods of technical and social partners in one integral approach. Because of the apparent incapability of creating collective ways of working, partners deferred to the work structure and goals that were predefined in the project proposal. As a result, issues of managerial, logistical, and organizational concern dominated project meetings and conversations. One example of this is the Inclusion and Engagement Plan, a key deliverable for the social partners in the first year of operation. The plan would outline the project's strategy for engaging and including local stakeholders, especially residents. Conversations around this deliverable often concerned the structure, roles, and responsibilities related to the writing of the document, rather than the content of the actual activities that would take place.[76]

The derailment of content discussions by a focus on managerial issues indicates a key tension. We observed a tendency to linearize the process of engaging the residents and to force-fit a complex and emergent process into the project structure. However, we suggest that there is more to this observation. Discussing the futures of the project in themselves seemed impossible as partners' attention was continually drawn to the present tensions. Rather than considering this as a deficiency, we regard the observation as informative: evidently, the present ontological conditioning of the project was not conducive to long-term planning. The focus on logistical and organizational matters along with the tendency to defer to the original project proposal, represents failed efforts to transform these present conditions.

Research Extractivism and Reciprocity with Venserpolder Residents

As described in step 1, there were distinct disconnects between the envisioned outcomes of the LIFE project and the needs of local residents. When we explained the LIFE project to local residents, they rightly realized that project outcomes were already pre-negotiated to such an extent that it could not cater to their needs: their futures were already being made without their involvement. Furthermore, our ethnographic intervention in this area was—apparently—part of a greater trend of researchers frequently visiting this area, presumably because of Venserpolder's status as a "development neighborhood." *Development* can here be understood as a form of future making conditioned by bureaucracy: by policy agendas that were constructed without direct involvement of the residents. Residents perceived these interventions to be insufficiently reciprocal and insufficiently contributing to the making of a desirable future for their neighborhood.

While the LIFE project had a four-year time horizon, some residents live in the neighborhood for a lifetime. The LIFE project was temporary and oriented toward deadlines, creating a sense of urgency to make progress

75 Research activities 4, 6, 8, 12, 15 (see Table 1).

76 Sara Ahmed, "'You End Up Doing the Document Rather than Doing the Doing': Diversity, Race Equality and the Politics of Documentation," *Ethnic and Racial Studies* 30, no. 4 (2007): 590–609, https://doi.org/10.1080/01419870701356015.

and "obtain the data." At the same time, residents desire persistent and permanent solutions in their local living environment. This need constituted a distinct challenge to the design anthropological openness to uncertainty, as collaborating with the local residents seemed to require some sense of certainty and control around the future outcomes of the research. At the same time, without the openness to emerging insights from the fieldwork, this realization would have gone unnoticed.

This tension has a further dimension in the distinction between "expert" and "participant." While we and our colleagues, the "experts," worked on this project as part of our profession, local residents would be expected to participate as volunteers, investing time on top of their regular paid and unpaid work. Here, the distinction between "expert" and "participant" is exposed, not merely as a definitional matter, but through institutionalized distribution of time and resources.[77] In temporal terms, the experts are afforded the opportunity to work on long-term societal interests while also meeting their own short-term needs, whereas the residents are not. Given the substantial uncertainties about how future energy transition pathways and agendas will play out, as well as the speculative nature of the subject matter of the LIFE project, it was impossible to promise people that the outcomes would definitely benefit them. These outcomes were dependent on factors beyond our control, and still many years out, in tandem with the pace of the greater energy transition.

Transforming Ontological Conditions toward Shared Futures

Building on the tensions described above, this section describes the actions we took to transform the ontological conditions that constrained the possibilities for future making, and the ways in which these actions were—or were not—successful. An important pivot was made in the LIFE project in late 2022.[78] The team dropped the assumption that the technological LIFE platform would cater to all user needs; evidently, it turned out to be a form of technological solutionism.[79] The challenges in engaging local stakeholders strengthened the need for this pivot. The main focus of the project shifted toward local governance in favor of technological innovation. In a series of co-creation workshops between late 2022 and mid-2023,[80] organized by the authors, project discussions centered around how to establish a local organizational structure and decision-making procedure that would enable local stakeholders to collaborate. These collaborations were discussed in relation to their present and future enactment, which indicates a shift from focusing on future outcomes to present actions.

Transforming Ontological Conditions in the LIFE Consortium

As an example of these efforts, one of the workshops was aimed at co-creating a novel "local energy institution, which governs the generation, distribution, and exchange of value." We used this definition to explicate the political dimensions of the future that the project was making, and bring such contestations to the forefront. Hitherto, these political dimensions were implicit in the techno-economic framing of the envisioned outcomes. In the workshops, the consortium partners engaged in a collective visioning process to imagine

77 Turnhout et al., "Politics of Co-Production."
78 Research activity 18 (see Table 1).
79 Martín Tironi, "Speculative Prototyping, Frictions and Counter-Participation: A Civic Intervention with Homeless Individuals," *Design Studies* 59 (November 2018): 117–38, https://doi.org/10.1016/j.destud.2018.05.003; Evgeny Morozov, *To Save Everything, Click Here: The Folly of Technological Solutionism* (New York: PublicAffairs, 2013).
80 Research activities 18–21 (see Table 1).

how such an institution could address joint challenges of grid congestion and social inclusion. For the present purpose, the goal is not to elaborate on the content of these future imaginations, but rather to point out that this visioning process has transformed the present ontological conditioning of the consortium. While the content of the workshops focused on envisioning distant futures, the meaningful impact lies in the fact that project partners could enter into a new mode of collaboration. Explicitly discussing these issues of future collaboration and organization also shifted the present focus of project partners toward the present manifestation of these aspects. Before this shift occurred, the challenges in engaging local stakeholders were understood merely as barriers toward future goals that lay ahead in linear time. After the shift, these immediate challenges came to the forefront as the core concern of the project. This process of reframing was accompanied by a restructuring of the work package structure of the project, as well as a reallocation of resources to support the participation of residents in Venserpolder.

An Energy Community as a Foundation for Making Shared Futures

Regarding the neighborhood of Venserpolder, the question became: How can local residents work together to make collective decisions about their local energy system? The project partners quickly agreed that this could take the form of an energy cooperative or energy community. Energy communities are recognized energy system entities in the European Union, and are becoming established as meaningful organizations for citizens to gain local control over their own energy provision.[81] At the same time, an energy community would provide sufficient capacity for organization, governance, and coordination, so that grid congestion problems in the neighborhood could be addressed. Hence, this initiative could address concerns of both the social and technical partners. Stichting Co-Force, the local foundation, took the initiative to establish the energy community in Venserpolder, while we took up a supportive role.

Since the most important concern of local residents was the high energy bill, the main purpose of the energy community became to reduce the energy bill. This could be realized, for example, by installing solar panels in local ownership and distributing the revenues within the community. At the same time, it was uncertain whether local residents would be willing or able to undertake such a complex project on their own. After all, the ontological conditions constraining their future making capacities remained in place. Together with Co-Force, we decided that it would be fair to provide local residents with an hourly compensation for their participation in this project. This arrangement afforded residents the same opportunity as professionals — to meet their short-term needs while contributing to longer-term societal interests. With this measure in place, and through the close involvement of Co-Force, it became easier to establish collaborations with the residents.

Between late 2023 and late 2024, we organized nine co-creation sessions with a group of local residents and two outdoor events in the neighborhood.[82] The organization of the sessions was somewhat improvisational;

81 Thomas Bauwens et al., "Conceptualizing Community in Energy Systems: A Systematic Review of 183 Definitions," *Renewable and Sustainable Energy Reviews* 156 (March 2022): article no. 111999, https://doi.org/10.1016/j.rser.2021.111999.

82 Research activities 22–32 (see Table 1).

aspects such as the location and number of participants often changed at the last minute. We found that structured participatory techniques aimed at predefined outcomes were counterproductive. It was more constructive to engage in open and organic conversation, while improvising with the use of a few simple co-creative exercises. Co-creating a vision for the energy community required a careful balance between envisioning distant future possibilities and acknowledging constraining conditions in the present. If we focused excessively on the potential future opportunities, the initiative would come across as unrealistic and utopian. A one participant noted, "If you are too ambitious or creative, it will scare people away."[83] Conversely, dwelling on the barriers and challenges would inhibit constructive progress. Approaching the sessions with a design anthropology perspective, we sought to foreground social and human concerns. We quickly realized, however, that participants were more interested in technical data, financial calculations, and other techno-economic information. We interpret this as an indication that the participants regarded such information as more actionable and useful than social considerations.

Throughout this engagement process, we learned what the core of transformative action consisted of in this case, which we recognize in two categories. First, there is the necessity of building relations, networks, and collaborations between relevant actors. This work falls especially to key figures who are at the center of local networks, such as leaders of local community centers and board members of local homeowners' associations. While anticipation of new collaborations opens up a view toward new, shared futures, their realization constitutes the making of those futures. The second type of transformative work involves mobilizing resources to support such collaborations. This includes economic, knowledge-based, and technological resources. The availability of such resources opens up possible futures that were not possible before. Both collaborations and resources are important factors in transforming the ontological conditions that determine future making. The energy community in Venserpolder would do both: provide a place for community-building and collaboration and serve as an organization to harness collective ownership over resources.

While the LIFE project has formally ended at the time of writing, a local pioneer group of nine residents wishes to take the project further. The authors continue to collaborate with this group to assist and support these efforts.

Toward More Direct, Political, and Relational Forms of Future Making

This section discusses the broader implications of our findings for how scholars and practitioners can engage in future making.

First, we argue that transformative forms of future making should become more direct by focusing on immediate issues in the present rather than extrapolating them into the future. The purpose is to avoid the attempt to grasp and control systemic societal challenges in their totality—this effort is bound to fail or have adverse consequences. In contrast, the purpose

83 Research activity 27 (see Table 1).

is to iteratively and locally transform societal challenges in the context where they are encountered and enacted. This direct focus on immediate issues is both a modest and ambitious form of future making. It is ambitious in the sense that it aims to directly address the most difficult challenges it is confronted with, and holds that transformation is possible. It is modest in the sense that it acknowledges that such challenges can only be transformed in the most local and iterative manner. Furthermore, while speculation, conceptualization, and imagination of futures still have a role, this role is limited to inspiring local action. Direct forms of future making do not merely aim to change worldviews, assumptions, and perceptions — they aim to go one step further.

Second, if future makers should intervene in worlds that are emerging, they should therefore be more pioneering, agenda-setting, and political. In this way, future making becomes inherently value-laden rather than value-free, which echoes recent work.[84] Another way to understand this is what Caroline Gatt and Tim Ingold call the next twist of the reflexive turn: "the anthropologist's deliberate and reflexive participation in the production of artefacts."[85] In this article, the artifact in question was the local energy system and its entanglement with local sociopolitical conditions. While the proposition to become more political might sound radical, it is a logical consequence of the observation that researchers, designers, and practitioners of future making always already have an agenda. Transformative forms of future making require that we recognize the ways in which such agendas challenge or reproduce structural inequalities or injustices.[86] Hence, future making should directly engage with issues, structures, and dynamics of power. Aspects such as the politics of collaboration and participation, which were central to the LIFE project, should not be externalized as out-of-scope, but rather taken as internal and constitutive to the process of future making, and iteratively transformed.

Third, one process by which the politics of future making takes place, is through the negotiation of promises, expectations, possibilities, and uncertainties. While anthropologists have empirically studied such diverse temporal orientations,[87] future making requires that we build capacities to negotiate them in practice. One tension identified in this article is between the uncertainty of long-term structural issues, such as energy transition agendas and pathways, and pressing short-term needs, such as people's livelihoods and grid congestion problems. Collaborative forms of future making require that both short- and long-term temporalities be integrated in the present. The point here is not that long-term futures should be ignored in favor of immediate needs, as some authors have cautioned against.[88] Rather, we argue that framing futures as distant, long-term temporalities can divert attention from present actions — the very context in which these futures can be shaped, transformed, and realized.

Fourth, we emphasize the importance of relationality, as the negotiation of future orientations was inherent in the process of building relations with the residents and other stakeholders, as demonstrated in our research. To build trust, it was necessary to continually go back and forth between emphasizing hope on the one hand and realism on the other. At times, it

84 Comi et al., "Future Making as Emancipatory Inquiry."
85 Gatt and Ingold, "From Description to Correspondence," 154.
86 Halse and Clark, "Design Rituals and Performative Ethnography," 144.
87 Bryant and Knight, *Anthropology of the Future*.
88 Michael Shamiyeh, "Designing from the Future," in *Design Thinking for Innovation*, ed. Walter Brenner and Falk Uebernickel (Cham: Springer, 2016), 193–219, https://doi.org/10.1007/978-3-319-26100-3_14.

was necessary to emphasize that more desirable worlds are possible and to concretize shared futures using design techniques to make them tangible, appealing, and engaging. At other times, there was a need to clearly articulate the structural barriers that could hinder the realization of such worlds, and to emphasize that the imagined futures are likely ideal states that may not be fully realized in practice. Based on these findings, we suggest that future makers should become brokers of hope and possibility, as well as realism and skepticism. We suggest that there is potential to develop approaches and strategies that leverage such capacities. Future making requires articulating and giving form to desirable future outcomes, as well as acknowledging that difficult challenges hinder the realization of these outcomes.

Furthermore, we observe that simply acknowledging uncertainty is not enough; to build trust with collaborators, it is important to provide some degree of certainty. This certainty lies partly in the availability of sufficient resources for an appropriate period. For example, if the futures of a vulnerable neighborhood are at stake, there must be a reasonable possibility of safeguarding financial support. Perhaps more importantly, however, is certainty about the futures of the collaborations and relations established—that is, whether collaborators can trust that the interaction will endure. If we recognize that we are active agents in future making, we can acknowledge that, while we cannot provide certainty about future outcomes, we can provide certainty about our own intentions and actions. This is especially important when working with vulnerable groups. Embracing fundamental uncertainty is a privilege reserved for those who already possess, for example, certainty of future income, housing, and opportunities.

Finally, reflexivity was central to our approach, and we argue that it should be central for all practitioners of future making. Undertaking transformative action requires that our own ontological conditioning—including our role, positionality, and commitments—be at stake. The transformations in the LIFE project were co-enacted with our own transformation, particularly in our role as academic researchers. The problem of extractive research meant that we had to face how our own role might be part of the problem, rather than the solution. Publication pressure, epistemic norms regarding what constitutes high quality research, and the bureaucratic structuring of our contribution to LIFE project deliverables were all external factors that contributed to the risk of re-enacting extractive research. Given the power of these external constraints, we consider them to ontologically condition our own future orientations. To engage in transformative future making, this ontological conditioning had to be transformed—a felt and embodied process involving a reorientation of our own identity. As a result, we took on roles more akin to those of advocate, mediator, and even activist. Because these transformations opened us up to the formation of new reciprocal relations, they are already—however small—iterations in the process of making shared futures. Overall, through this reflexive practice, we find that a focus on "ontology" is required, as this concept points to the fundamental nature of the transformations that are at stake. Transformative action requires that we not only recognize the limitations of our situatedness but also act intentionally to broaden it.

Concluding Remarks

Ontological Future Making builds upon the strengths of existing design anthropology approaches, while adding a crucial element of transformative action. We regard transformative action as taking the design anthropological notion of intervention one step further: intervention should not only be instrumental in the production of knowledge, but also in the creation of shared futures that emerge from reciprocal collaborations, addressing societal needs. This occurs by transforming ontological conditions, both internal and external, that inhibit such shared futures. Accordingly, we prefer to position Ontological Future Making as a "style of acting," as compared to the positioning of design anthropology as a style of knowing.[89]

Of course, the Ontological Future Making approach also has limitations. The approach is not useful in cases where an established social collective, team, or community already exists; instead, it excels in contexts where this collective of stakeholders has not yet been assembled and is iteratively constructed. Furthermore, because of its openness and focus on contestation, Ontological Future Making is not suitable if there are certain predetermined desirable outcomes that should be realized in a controlled fashion. Also, with its focus on politicization and contestation, Ontological Future Making might result in conflict and disagreement among stakeholders. While we consider this an advantage and often a necessary step, it might not be suitable in all cases. Overall, Ontological Future Making is most suitable for contexts that are characterized by a high degree of uncertainty and ambiguity, as opposed to highly stable, controlled, and predictable environments.

To facilitate the constructive building upon this approach by others, we propose several directions for future research. For example, there might be a generative convergence between *acting* and *making*, which has already been of interest to designer-anthropologists.[90] Furthermore, we suggest that future work can constructively investigate the intersection between future making and relationality.[91] Established design approaches, such as infrastructuring, can offer valuable insights in this regard.[92] Furthermore, the notion of transformative action has also been mobilized in the literature on transitions and social innovation, which might provide fruitful.[93] Finally, we propose that issues of power, as they emerge in collaborative, multi-actor future making practices, should be more central.[94]

Declaration of Interest

There are no conflicts of interest involved in this article.

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89 Otto and Smith, "Design Anthropology."

90 Tim Ingold, *Making: Anthropology, Archaeology, Art and Architecture* (London: Routledge, 2013).

91 Escobar et al., *Relationality*; Victor Udoewa and Savannah K. Gress, "Relational Design," *Journal of Awareness-Based Systems Change* 3, no. 1 (2023): 101–28, https://doi.org/10.47061/jasc.v3i1.5193.

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93 Frank Nevens et al., "Urban Transition Labs: Co-creating Transformative Action for Sustainable Cities," *Journal of Cleaner Production* 50 (July 2013): 111–22, https://doi.org/10.1016/j.jclepro.2012.12.001.

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