TU Delft

Delft University of Technology

Document Version
Final published version

Licence
CC BY

Citation (APA)
van Leeuwen, G., Singh, A., van Eekelen, B. F., & Keyson, D. (2026). Design anthropology for transforming power relations in societal transitions. *Public Management Review*. https://doi.org/10.1080/14719037.2026.2728027

Important note
To cite this publication, please use the final published version (if applicable).
Please check the document version above.

Copyright
In case the licence states “Dutch Copyright Act (Article 25fa)”, this publication was made available Green Open Access via the TU Delft Institutional Repository pursuant to Dutch Copyright Act (Article 25fa, the Taverne amendment). This provision does not affect copyright ownership.
Unless copyright is transferred by contract or statute, it remains with the copyright holder.

Sharing and reuse
Other than for strictly personal use, it is not permitted to download, forward or distribute the text or part of it, without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license such as Creative Commons.

Takedown policy
Please contact us and provide details if you believe this document breaches copyrights.
We will remove access to the work immediately and investigate your claim.

*This work is downloaded from Delft University of Technology.*



Public Management Review

ISSN: 1471-9037 (Print) 1471-9045 (Online) Journal homepage: www.tandfonline.com/journals/rpxm20

# Design anthropology for transforming power relations in societal transitions

Gijs van Leeuwen, Abhigyan Singh, Bregje F. van Eekelen & David Keyson

**To cite this article:** Gijs van Leeuwen, Abhigyan Singh, Bregje F. van Eekelen & David Keyson (22 Sep 2026): Design anthropology for transforming power relations in societal transitions, Public Management Review, DOI: 10.1080/14719037.2026.2728027

**To link to this article:** https://doi.org/10.1080/14719037.2026.2728027

© 2026 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

Published online: 22 Sep 2026.

Submit your article to this journal

Article views: 167

View related articles

View Crossmark data

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=rpxm20

PUBLIC MANAGEMENT REVIEW
https://doi.org/10.1080/14719037.2026.2728027

Routledge
Taylor & Francis Group

OPEN ACCESS Check for updates

# Design anthropology for transforming power relations in societal transitions

Gijs van Leeuwen [a,b], Abhigyan Singh [b,c], Bregje F. van Eekelen [b] and David Keyson [b]

[a]Department of Business Administration, Radboud University, Nijmegen, The Netherlands; [b]Department of Human-Centered Design, Delft University of Technology, Delft, The Netherlands; [c]Amsterdam Institute for Advanced Metropolitan Solutions, the Netherlands

**ABSTRACT**

This article makes the argument that design can serve the purpose of transforming power relations in societal transitions. The article discusses diverse theories of power and their relationship to design, whereby it considers aspects of agency, relationality and scale. Using a design anthropology approach, a theoretical framework is defined for the empirical study of power. The framework is operationalized in a local energy transition project in Amsterdam Southeast. In this empirical study, we describe three power relations that were encountered, the design interventions performed, and their transformative outcomes. Finally, the broader implications for design in societal transitions are discussed.

**ARTICLE HISTORY** Received 29 May 2025; Accepted 29 August 2026

**KEYWORDS** Societal transitions; power relations; design; design anthropology; energy transition

## Introduction

Design approaches are gaining attention as a promising option to address complex societal challenges – including environmental degradation, technological disruption, and exacerbating socio-economic inequalities (Irwin, Kossoff, and Tonkinwise 2015). While societal challenges are commonly understood through theoretical frameworks such as sustainability transitions and the multi-level perspective (Geels 2005; Köhler et al. 2019), there is a sense among scholars that they do not provide a sufficiently nuanced perspective on the role of power, contestation, and politics (White 2015). Since designers engage with political transformation (White 2015), design might be well positioned to develop this understanding. At the same time, design research itself also does not have

**CONTACT** Gijs van Leeuwen gijs.vanleeuwen@ru.nl

© 2026 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.
This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

sufficient methodological and conceptual tools to understand the issue of power (Tomasini Giannini and Mulder 2022; Van Der Bijl-Brouwer 2022). This paper makes a contribution at this intersection by providing a novel and original framework that serves to understand and transform power relations in the context of societal transitions. This framework synthesizes existing insights from the literature and is operationalized in an empirical study. This original framework of power relations contributes to various calls in academic literature, including the need to more clearly articulate the value of design in the public sector (Van Der Bijl-Brouwer 2016), to understand micro-politics in transitions and public management (Avelino et al. 2016; Van Buuren et al. 2020), and to broaden the range of interdisciplinary tools for collaborative public innovation (Torfing 2019).

The scope of the investigation is framed by the formulation of both a research aim and a research question. The research aim, which guides the literature discussion, is to *synthesize the potential of design to contribute to societal transitions by engaging with power*. As such, this aim serves the purpose of integrating and synthesizing a broad variety of ways in which power has been addressed in design research and adjacent fields, such as public management. The literature discussion is used to construct a theoretical framework which is mobilized in the empirical study, which is conducted using the specific approach of design anthropology. Accordingly, the research question for the empirical study is *How can design anthropology transform power relations in a participatory and multi-actor project?* The empirical study is conducted in a local energy transition project in Amsterdam Southeast, which was organized by a multi-actor consortium consisting of research organizations, public institutions, commercial actors, and citizen actors. We use an action-based approach to identify three key power relations in this project, and describe, using the framework, how we understood, intervened in, and partially transformed these power relations. Informed by the findings, the discussion section provides a set of themes pertaining to the significance and relevance of the proposed framework and approach, which constitute an original understanding and conceptualization of power relations.

## The intersection of power and design

In this section we discuss the intersection between relevant theories of power and design, as contextualized in the domains of societal transitions and public management. This review is guided by our research aim of *synthesizing the potential of design to contribute to societal transitions by engaging with power*. To structure this review, we distinguish between three distinct concepts relevant to power: 1) agency, 2) relationality and 3) scale. The literature

discussion synthesizes an understanding of these key concepts, which are later used to construct the original framework and approach for the study and transformation of power relations.

## Power as agency, and design as problem-solving

The first perspective of power as agency considers power as an individual capacity of actors. A consideration of agency serves to understand power from the situated positionality of the designer, before discussing the more complex, relational view of power. A key definition of agentic power is provided by Avelino and Rotmans (2009), who define power as 'the ability of actors to mobilize resources to achieve a certain goal' (Avelino and Rotmans 2009, 550). Actors can be individuals, institutions, communities or companies, and the resources they mobilize can be economic, technological, or epistemic in nature. Other relevant conceptions include Ahlborg's notion of action-theoretical power (Ahlborg 2017) and Lukes' definition of power-to as 'being able to make or receive any change, or to resist it' (Lukes 2004, 69). Whether the exercise of agency needs to be intentional or not is a contested point – see Giddens (1984) and De Haan and Rotmans (2018) for two opposite perspectives on this.

If power as agency is regarded as the human capacity for action, the next step is to consider the actions that feature in designerly practice. The agentic definition of power is closely associated with the definition of design as the practice of 'devising artefacts to attain goals' (Simon 1996, 114), as well as the view that design is a problem-solving practice. As designers aim to change existing situations into preferred ones, they intentionally mobilize tools and strategies to achieve particular goals and outcomes, which may hence be regarded as an exercise of power. In the context of societal transitions, a particular capacity that has been attributed to designers is the capacity to address 'wicked problems' (Bender-Salazar 2023; Buchanan 1992). Wicked problems are characterized by the fact that they defy framing and definition, are place-bound and context-specific, situated in complex multi-stakeholder collaborations, and do not have a clear solution (Head 2008; Rittel and Webber 1973; Sovacool 2016).

Since wicked problems cannot be straightforwardly solved, they challenge the problem-solving frame of design. Some argue that the general frame of 'problem-solving' should be problematized (Morozov 2013), whilst others argue that the aim of solving wicked problems stands in the way of transforming society (Coops et al. 2022). Furthermore, the complexity of wicked problems exceeds the cognitive capacity of single design agents (Dorst 2019a), and problems in the public context do not have a clear problem owner (Van Der Bijl-Brouwer 2016). For these reasons, the problem-solving

framing of design falls short in the context of societal transitions: the agency of designers must entail other forms of action.

Beyond mobilizing tools and strategies to achieve outcomes and solve problems, other competencies of designers include reframing, formgiving, integrating and orchestrating (Van Arkel and Tromp 2024). Rather than a following of steps – which is a key pitfall of some forms of design thinking (Laursen and Haase 2019) – such competencies are ways of acting which are situated in social environments. Capacities such as orchestrating and integrating necessarily have a social component, as they pertain to the collective organization and mobilization of relevant stakeholders. It is by leveraging their social capacities that designers enter the domain of power: designers position themselves in relation to diverse actors which pursue different interests and goals. Hence, there is a clear relevance of design to other framings of agentic power, such as 'the (in)capacity of actors to mobilize other actors, resources and/or institutions to achieve outcomes' (Avelino et al. 2024, 531), or as the capacity to influence other actors and shape structures (Arts and Tatenhove 2004). Hence, the agency of designers pertains to the ways in which they affect the agencies of other actors. From this observation, the second dimension of relationality naturally follows.

## *The relationality of power, and design in the public domain*

Power understood as agency provides a useful, but only partial, perspective to understand how designers can effect change of political significance. A more comprehensive perspective is that power is a relational phenomenon, which means that power resides in the intersubjective and transindividual space between actors. A key definition, which incorporates agency, is that power is a relational capacity to act (Nightingale and Ahlborg 2018). Adopting the relational view, this article focuses on relations between actors as *power relations*, which are defined as the *asymmetries in capacity for action*. Such asymmetries can consist in various factors: unequal distribution of resources, the differential influence of social structures or institutions, or other contextual particularities. The understanding of power relations may be elaborated using the distinction between 'power-over' and 'power-with' (Avelino 2021). Whereas power-over is associated with relations of domination, oppression and conflict, power-with signifies a consensual form of power, where two actors work together for a common purpose (Haugaard 2012). Working with power relations comes with certain internal contradictions, as one's own positionality becomes part of the equation (Nightingale and Ahlborg 2018). This underscores the need for engaging with power from the situated positionality of the designer.

Power relations, in both consensual and conflictual form, are the key analytical unit for the remainder of this article. In the following

paragraphs we review diverse ways in which power relations have been discussed in relevant literatures pertaining to the role of design in societal transitions. Most relevantly, there is the purpose of 'designing new relationships between people and the state' (Manzini and Staszkowski 2013), and the issue of asymmetric power relations between people and institutions (Lewis, McGann, and Blomkamp 2020). Such relationships, and their configuration, may be regarded in multiple ways.

The first is using the lens of public participation (Arnstein 1969; Barnes et al. 2003; Chilvers and Longhurst 2016). From this perspective, design approaches have been argued to have democratic potential by fostering practices of collective inquiry (Binder et al. 2015; DiSalvo 2022). The 'public' in this relationship is not a given: practices of public participation do not merely 'reach the public', but actually assemble, construct and design new publics (DiSalvo 2009). As the construction of publics is a politically significant activity, the aim of designing new relationships between people and the state is intrinsically characterized by an engagement with power relations.

Discussion of power relations is also implicit in scholarly discussions of co-production, which is how the field of public management has conceived collaborative relationships between public bodies and citizens (Bovaird 2007; Bovaird and Loeffler 2012; Bracci, Fugini, and Sicilia 2016; Voorberg, Bekkers, and Tummers 2015). Co-production can be defined as a process where 'citizens can play an active role in producing public goods and services of consequence to them' (Ostrom 1996, 1073), and where public services are produced through long-term partnerships between professionals and users on the basis of mutuality and reciprocity (Bovaird 2007). Like public participation, co-production is regarded as intrinsically valuable as it can serve democratic purposes (Voorberg, Bekkers, and Tummers 2015). Co-production holds that the qualities of the relationship between public institutions and citizens, which includes aspects of power, are significant.

There are significant challenges for co-production, however, which may also be understood through the lens of power relations. The lack of empirical evidence that co-production leads to better policy outcomes (Voorberg, Bekkers, and Tummers 2015) might be because the 'relational dimension [. . .] does not easily fit this evaluation context' (Durose et al. 2017, 138), which highlights the significance of relationality. Another significant challenge is that co-production undermines established notions of authority and legitimacy (Bovaird 2007) – and hence, power relations. This is underscored by observations that in co-production, power relations must be navigated through a continual relational practice (Farr 2018). Turnhout et al. (2020) describe another reason why co-production often fails – namely the tendency to 'depoliticize' controversies, often through recourse to rational and

scientific reasoning (Turnhout et al. 2020). They conclude that co-production should explicitly engage with power relations.

In design research, similar issues have been addressed in participatory design (Eriksen et al. 2014; Kensing and Greenbaum 2012) the aim of which has been described as 'to rebalance the power relations between users and technical experts and between workers and managers' (Kensing and Blomberg 1998, 181). Whereas co-production concerns the relation between institutions and the public, participatory design brings more focus to the specific techniques, engagements, and micro-level interactions used in participatory engagements. Like co-production, participatory design has been described as a promising approach to ensure greater democratic involvement in innovation processes (Björgvinsson, Ehn, and Hillgren 2010), and as a way for designers to develop balanced collaborations with communities (Tomasini Giannini and Mulder 2022). Participatory designers often act as facilitators and mediators, as they create conducive environments for practitioners and citizens to explore opportunities for collaboration (Björgvinsson, Ehn, and Hillgren 2010). As such, participatory designers play a key role in shaping the distribution of power.

The aim of participatory designers has been described as the maximization of 'power-with' for participants, while minimizing their own 'power-over' (Tomasini Giannini and Mulder 2022). Typically, the participatory designer exercises power by designing the setting of the engagement, which enables and constrains the way in which relations between the participants can emerge (Bratteteig and Wagner 2012). Whilst the designer may have certain intended outcomes, there is a sense that power relations emerge from a contingent and complex interplay (Eriksen et al. 2014) that is not reducible to linear causal mechanisms or designerly control (Nightingale and Ahlborg 2018). Hence, settings of participatory design may be usefully characterized as 'in-between spaces' where power relations are emergent (Dantec and DiSalvo 2013). While participatory designers can co-shape power relations, they cannot fully control their manifestation.

Finally, besides participatory and co-productive efforts, power relations also factor in multi-actor collaborations that span diverse societal domains (Crosby, Hart, and Torfing 2017; Evald et al. 2025; Torfing 2019), which increasingly aim at the sharing of power (Bryson et al. 2017). Given the heterogeneity of actors and their interests in such settings, the relations between them can be seen as constituted by power (Avelino and Wittmayer 2016). In multi-actor projects, value is created in the relations and exchanges in-between actors (Best, Moffett, and McAdam 2019), where relational work is required to navigate paradoxical chicken-and-egg problems (Evald et al. 2025; Waardenburg et al. 2020). Designers are well-positioned to work in this in-between space of conflicting needs and interests (Van Der Bijl-Brouwer 2016) and have been found to take up roles such as

generator, facilitator, communicator, mediator and provocateur (Geenen et al. 2022). These roles can be regarded as different modes of acting in the in-between space, which imply different ways of exercising, distributing, and challenging power.

Overall, engaging with power relations is a meaningful strategy for designers to contribute to societal transitions. Still, while power relations may be co-shaped by those who are entangled in them, no single actor may fully control how power relations emerge and transform.

### *Asymmetries of scale between institutions and communities*

Besides the general relational qualities of power, we consider one further aspect which is particularly important for societal transitions: scale. The scale dimension serves to further understand power relations between institutions on the one hand, and citizens and communities on the other, by characterizing how these different entities act at different scales. In public management research, studies on Public Service Ecosystems (PSE) emphasize this distinction between different levels of scale, including macro-, meso- and micro-levels (Osborne et al. 2022). The PSE framework focuses on diverse interactions, processes and relations between actors, technologies and institutions, and thereby describes how value is co-created or co-produced in a relational rather than transactional way (Chandler and Vargo 2011; Osborne et al. 2022; Petrescu 2019). At the micro-level, the focus is on individual users or stakeholders, which make use of public services. The meso-level consists of the network of actors, institutions and organizations where services originate. Finally, the macro-level consists of societal norms, rules and beliefs which structure how value is created.

To elaborate an understanding of power asymmetries between people and institutions, we suggest that a discussion on relations between micro- and meso-level scales, and on the application of design within and between them, is informative. Design is increasingly adopted in the meso-level of institutional actors, for example to facilitate processes of policymaking (Blomkamp 2018, 2022; Lähteenoja et al. 2023; Lewis, McGann, and Blomkamp 2020; Van Buuren et al. 2020). While institutional activity is commonly characterized by technical knowledge and expertise, the use of design in this context places more emphasis on relationality, interactivity, inclusivity and empathy (Bason 2017; Van Buuren et al. 2020). In this way, design addresses a particular form of power which is present at the institutional level: the tendency towards *governmentality*. Governmentality points towards the risk that institutions tend towards the propagation of technocratic reasoning, which follows from the technical instruments and abstract concepts through which policymakers enable and constrain the collective agency of populations (Foucault 2000). As such, governmentality is a challenge for the

democratic aspirations of co-production and participatory design. Still, design has been found to counteract tendencies of governmentality.

In contrast, for micro-level actors – which, for the present purpose, we take to include citizens and communities external to institutional processes – social-relational qualities are already prioritized over technical reasoning. Transformation at this scale is qualitative and relational, rather than quantitative, and can be understood as 'scaling deep' (Lake et al. 2022). Kossoff (2015) argues to prioritize authentic community relationships in transition design; Escobar (2020) and Akama, Hagen, and Whaanga-Schollum (2019) argue for designing ontologies based on values such as relationality and reciprocity; and De Rosa, Finardi, and Auricchio (2023) study how relational designers can strengthen community narratives. The tension between technical governance focused on measurable impact at scale, and fostering reciprocal relations based on local values, constitutes a particular kind of power relation between institutions and communities, which derives from an asymmetry of scale. We argue that this kind of power relation should be a central concern for designers who aim to foster co-productive or participatory engagements. Hence, in addressing the research aim of *synthesizing the potential of design to contribute to societal transitions by engaging with power*, we argue that this potential consists in addressing power relations between actors who reside at different societal scales.

## Design anthropology approach and framework

The above discussion synthesizes insights on the interconnection between power and design using the key concepts of agency, relationality and scale. Using these key concepts, this section proceeds to construct a framework to operationalize the study and transformation of power relations. All of the literature insights discussed above importantly inform how agency, relationality and scale are used and understood throughout the rest of the study. However, many of the specific literatures may not be explicitly returned to in the remainder of the article.

The literature insights are operationalized in an empirical study, which is conducted with the more specific approach of design anthropology. This approach is synthesized with the conceptual language of agency, relationality and scale, to address the research question of *How can design anthropology transform power relations in a participatory and multi-actor project?* Design anthropology combines methods and perspectives from design and anthropology (Gunn, Otto, and Smith 2020; Otto and Smith 2013; Singh et al. 2021), where design has a future-oriented and interventionist stance, and anthropology aims at understanding the richness and local specificity of human practices and meanings. We argue that design anthropology has

several distinctive characteristics which make it well suited for the study of, and engagement with, power relations.

First of all, to start from the situated positionality of the designer, design anthropology makes use of *ethnography* as a core method to obtain rich and context-specific information. Using ethnography, design anthropology investigates social relations as they organically exist in a particular context – not merely through passive observation, but through active participation in co-shaping these informal relationships, aiming for reciprocity. Furthermore, by challenging the distinction between 'researcher' and 'participant' (Gatt and Ingold 2020) – an issue which has also been highlighted in the co-production literature (Bovaird and Loeffler 2012) – design anthropology can explicate how such categories actually enforce power asymmetries. By acting in the space of informality, design anthropology can study how formalized norms, structures and institutions co-shape power, e.g. as a result of governmentality.

Secondly, design anthropology is explicitly *interventionist* (Smith 2016; Smith and Otto 2016). Besides practices of informal relation-building, design anthropology harnesses design techniques or tools to make intentional change to a social context. Through intervention, which can be understood as the intentional exercise of agency, designer anthropologists can interpret what novel social phenomena emerge (Singh et al. 2021) and reflect on the moral implications of the intervention (Murphy 2016). Through its interventionism, design anthropology actively experiments with power. Designer anthropologists do so in a reflexive manner as their own positionality is at stake, and transforms in the process. In a different paper, we have positioned the term *transformative action* to characterize the entanglement between this exercise of agency and the transformation of both one's positionality and its context (Van Leeuwen et al. 2025). In using this approach, design anthropology becomes akin to the experimental action research that intervenes in day-to-day operations of multi-actor projects (Waardenburg et al. 2020).

Integrating these concepts of design anthropology with the earlier discussions on power and design, we position a framework which serves the dual purpose of both transforming and understanding power relations. It consists of the following three steps:

## Understanding power relations

Step 1 consists in understanding how the social context is constituted by power relations. It consists in *mapping the diverse actors*, their interests, the *power asymmetries* between them, and how these asymmetries are shaped by differences of *scale*. This step is operationalized through active ethnographic

participation by the designer anthropologist, which serves to build reciprocal relations and mutual understanding with diverse actors.

### Intervention

Step 2 consists in *intervening* in the power relations identified in step 1. It consists of the intentional exercise of *agency*, by mobilizing various tools and techniques of design, in particular those that can instigate change in co-creative and participatory settings. In this step, it is important to explicate the purpose and intention of the intervention: what does the envisioned and intended transformation of power look like?

### Reflection on transformation

Step 3, which happens after intervention, consists in a *reflection* on the consequences and outcomes of the intervention. In this phase, one may ask questions such as: To what extent were power relations transformed in a desirable direction? What unexpected or contingent dynamics took place? What are potentially harmful side effects of our intervention? In what ways was our own *positionality* transformed in the process?

## Methodology

This section describes the setup of the empirical study and thereby outlines how the approach and framework described above were mobilized to answer the research question of *How can design anthropology transform power relations in a participatory and multi-actor project?* It does so by firstly describing the project context within which the study was conducted, and secondly discussing several specific methods which were used as part of the approach.

### Project context

The approach described above is mobilized in the context of a 4 year local energy transition project situated in Amsterdam Southeast, named the Local Inclusive Future Energy (LIFE) project. This project, which took place between 2021 and 2025, aimed to address joint socio-economic and infrastructural challenges in the local energy transition, and was constituted by a multi-disciplinary, multi-actor consortium between the municipality, research institutions, companies, and local actors. Hence, this project featured diverse actors which held distinct interests and were active in different societal domains and scales. As such, the project was thoroughly characterized by power relations between these actors – it is through working in this

project that the interest in power came to the forefront. In the beginning, a key envisioned outcome of the project was a 'smart energy platform' that would 'solve' congestion problems in the electricity grid. This platform would further provide various innovative energy services to local energy users, where a key goal was to make these services socially inclusive.

A key context for the project was a local neighbourhood in Amsterdam Southeast. This neighbourhood is characterized by various socio-economic challenges, including energy poverty. As we have described elsewhere in detail, initial efforts to involve local residents in the project were unsuccessful (van Leeuwen and Singh 2023), leading to the conclusion that the initial project aim – of developing a smart energy platform – was disconnected from their needs (Van Leeuwen and Singh 2024). The neighbourhood was targeted more because of its status as a 'development neighbourhood' rather than a natural fit with the aims of the project. In the meantime, local residents reported a history of extractive research which had resulted in participation fatigue.

As partners in the LIFE project we worked to realize reciprocal relationships both internal and external to the consortium. Our purpose was twofold. The first was to support cross-disciplinary collaborations between actors in the consortium, including the municipality of Amsterdam, smart technology innovation companies, and local stakeholders including the Johan Cruijff ArenA football stadium. The second was to organize and mediate a participatory process with local residents, and thereby to explore how the project activities could be more socially inclusive. Our active role in this project guided the ways in which we exercise agency: our interventions were aimed towards these two purposes.

## Methods

Using an ethnographic approach, the field for our study consisted in all activities that were part of the LIFE project. Our ethnography was enacted in informal conversations, participation in project meetings, analysis of project documents, and the organization of co-creation workshops. Table 1 shows a selection of key activities where data were obtained. This selection is non-exhaustive, as in total we have logged 203 data collection activities during our study.

In these activities, we combined several methods of gathering data. First of all, we conducted participation observations recorded in fieldnotes (DeWalt and DeWalt 2011). In these fieldnotes, we aimed to capture the organic occurrence of conversations and interactions which we engaged in and observed. In the fieldnotes, we also captured literal quotes of our collaborators, which are represented as such in the results section. Secondly, as part of our interventionist approach, we also organized more structured sessions

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

| # | Date | Description |
|---|---|---|
| 1 | 17–11-2021 | Ethnographic neighborhood visit 1 |
| 2 | 19–11-2021 | Ethnographic neighborhood visit 2 |
| 3 | 23–11-2021 | Ethnographic neighborhood visit 3 |
| 4 | 14–12-2021 | Consortium project session 1 |
| 5 | 21–12-2021 | Consortium project session 2 |
| 6 | 07–02-2022 | Consortium project session 3 |
| 7 | 08–03-2022 | Consortium project session 4 |
| 8 | 16–03-2022 | Ethnographic neighborhood visit 4 |
| 9 | 17–03-2022 | Ethnographic neighborhood visit 5 |
| 10 | 05–07-2022 | Consortium partner day |
| 11 | 20–09-2022 | Ethnographic neighborhood visit 6 |
| 12 | 24–09-2022 | Ethnographic neighborhood visit 7 |
| 13 | 25–10-2022 | Co-creation workshop with consortium partners 1 |
| 14 | 28–03-2023 | Co-creation workshop with consortium partners 2 |
| 15 | 28–04-2023 | Co-creation workshop with consortium partners 3 |
| 16 | 16–05-2023 | Co-creation workshop with consortium partners 4 |
| 17 | 03–07-2023 | Co-creation workshop with Co-Force and residents 1 |
| 18 | 25–09-2023 | Co-creation workshop with Co-Force and residents 2 |
| 19 | 13–11-2023 | Co-creation workshop with Co-Force and residents 3 |
| 20 | 22–01-2024 | Co-creation workshop with Co-Force and residents 4 |
| 21 | 27–05-2024 | Outdoor neighborhood event 1 |
| 23 | 23–07-2024 | Co-creation workshop with Co-Force and residents 5 |
| 24 | 28–08-2024 | Co-creation workshop with Co-Force and residents 6 |
| 25 | 24–09-2024 | Co-creation workshop with Co-Force and residents 7 |
| 26 | 28–09-2024 | Outdoor neighborhood event Venserpolder 2 |
| 27 | 29–10-2024 | Co-creation workshop with Co-Force and residents 8 |
| 28 | 03–12-2024 | Co-creation workshop with Co-Force and residents 9 |
| 29 | 07–01-2025 | Meeting pioneer group 1 |
| 30 | 04–02-2025 | Meeting pioneer group 2 |
| 31 | 06–02-2025 | Co-creation workshop with residents and municipality |
| 32 | 28–02-2025 | Meeting pioneer group 3 |
| 33 | 18–03-2025 | Meeting pioneer group 4 |

and workshops using particular design techniques. In these sessions, we combined our fieldnotes with audio recordings of the conversations and interactions which took place during the sessions. Thirdly, we conducted autoethnographic reflections (Roy and Uekusa 2020) – i.e. reflections on our own, personal sensibilities and experiences – to interpret the manner in which our own positionality was transformed, and to reflect on the outcomes of our interventions.

To interpret the diverse forms of written and recorded data which were gathered, we made use of abductive reasoning, a common approach in context-sensitive social research (Dubois and Gadde 2002; Tavory and Timmermans 2014) and design research (Kolko 2010). Abductive reasoning generates plausible interpretations from surprising or striking empirical findings. We conducted abductive reasoning by going back-and-forth between data and theory in a collaborative fashion, identifying such surprising and anomalous empirical findings, and cross-checking plausible interpretations of these findings between team members. The themes raised in the discussion section were the outcome of this process.

Abductive reasoning was selected in favour of a more systematic process of inductive reasoning, as it better suits the relational dimension of power and the relational quality of our work. The identification of surprising findings is informed by our own positionality as researchers within the project and our relations in this context. These aspects are intrinsic to our design anthropology approach, whereas a process of inductive analysis would abstract away from these aspects.

As is common in anthropological and ethnographic research, our findings are reported in a vignette style of writing (Bloom-Christen and Grunow 2024). In the vignettes, the interpretations and findings from the data analysis process are synthesized in a narrative flow of the course of events, as we observed and interpret them. This narrative flow represents how power relations were encountered, intervened in, and transformed, while paying attention to the informality, everydayness, and context-sensitivity which design anthropology is interested in. The vignettes also describe quotations, which are the literal expressions made by collaborators which we recorded. For the rest, the vignettes synthesize both emic (i.e. in-situ) and etic (academic) language (Mostowlansky and Rota 2020).

## Results

The results section provides three instances where we encountered and intervened in power relations, and it provides a short vignette for each of the three steps of the framework – except for the third instance, for reasons which are described there. As such, the vignettes address the following questions: What power relations did we observe? What interventions did we conduct? How do we reflect on their transformative outcome?

### *Collaboration within the LIFE consortium*

Because of the problem of participation fatigue mentioned earlier (activities 1–3, 8, 9), the process of engaging residents was challenging in the early phases of the LIFE project. The consortium was furthermore dealing with challenges in internal collaboration (activities 4–7). Consortium partners were roughly split in 'social' and 'technical' partners, and a common approach between them was lacking. A common experience among project partners was 'having the same conversation over and over again', as the technological problem of electricity grid congestion and the social issue of including the residents seemed to be irreconcilable. From a social perspective, the envisioned 'smart energy platform' could be understood as a depoliticized, technological solution for a broad social issue with economic, cultural, and political dimensions.

### *Understanding power relations*

The power relations of the consortium consisted in the tension between its pre-defined outcome, namely the smart energy platform, and the non-involvement of residents despite the fact that social inclusion was one of the main aims. Whereas the consortium featured a significant mobilization of financial, epistemic, and organizational resources to attain the envisioned outcome, few of these resources were mobilized to directly support the residents. The participation of residents was only supported indirectly through the funding of social researchers – including the authors – and Stichting Co-Force, a local NGO.

The envisioned 'smart energy platform' had been mainly 'designed' in the form of technological system architecture diagrams, which served to develop a scalable and replicable technological solution, to solve the problem of grid congestion. This effort may be understood as a meso-level institutional activity, informed by reasonings of governmentality, which was disconnected from the needs of local residents so that few constructive avenues could be identified for involving them. In this way, there was a strong power asymmetry between the residents and other stakeholders of the project.

### *Intervention*

About 1–1, 5 years into the project a key turning point occurred (activity 10). In one of the consortium meetings, a key addition was made to the system architecture: the 'Social Platform'. Whilst the exact form and nature of this 'Social Platform' was yet to be determined, it's key purpose was to somehow enable residents to meet their needs within the envisioned energy system. By including the Social Platform in the system architecture, the residents – and related social issues – now had a 'place' within the project: the consortium partners could start to envision how the social and technical were interconnected. Even though the form and function of the Social Platform were still unclear, the positioning of a new to-be-designed entity already enabled new understandings and interconnections to form. As design researchers we took up the task of further 'designing' this social platform, and intervened by organizing several co-creation workshops with the consortium partners (activities 13–17).

To frame the co-creation process, we defined the Social Platform as a 'Local Energy Institution', which would 'govern the generation, distribution, and exchange of value'. By doing so, our explicit intention was to repoliticize the project activities: the design of a new institution opens up questions about its power and legitimacy and its relation to other stakeholders. In the workshop, we prompted project partners to envision how the Local Energy Institution would enable or mediate new interactions and exchanges to take place between key stakeholders. A dominant imagination among partners was that it would enable new relationships between

stakeholders perceived as 'powerful' – companies or the municipality – and 'powerless' – the local residents. By enabling these widely imagined new collaborations, the Social Platform was imagined to 'solve' many of the challenges the project was dealing with.

### *Reflection on transformation*

The act of 'designing the Social Platform', as a systemic entity that can fit in a techno-economic view on energy transitions, allowed the imagination of solutions to complex social issues. Whilst these solutions were represented in an overly simplistic manner, it made it possible for the technical partners to understand and engage with these social issues. The Social Platform was imagined as a middle-man and mediator between 'powerful' and 'powerless' actors, showing a strong tendency to 'balance power relations'. By taking up the task of 'designing the Social Platform' as a key component of the system architecture, we mimicked the act of 'making' and 'engineering', whilst actually opening up a discussion about power and issues of a sociopolitical nature. From our perspective, 'designing the Social Platform' was a key turning point in the project, where the focus shifted from techno-economic innovation towards local governance and social organization. This turn enabled a strategic reallocation of resources to further support the involvement of residents. At the same time, this was only a very small step – large power asymmetries were still present.

## *Co-creating a local energy community with residents*

### *Understanding power relations*

After some further thought, project partners concluded that an appropriate form for the Social Platform would be an energy cooperative, or energy community. Hence, not a technological system, but an organization. Energy cooperatives are well established entities in the Dutch energy transition as organizations where residents and other stakeholders worked together on joint social and technological issues. A key problem, however, was that this idea emerged in the project consortium whilst residents themselves were not included.

In the next phase of the project, we explored with local residents if they would be interested to start a local energy community (activities 13–28). Several tensions emerged in this process. The aim was to be as inclusive as possible and to cater to hard-to-reach groups, but we inevitably had to start with local key figures, pioneers and frontrunners, especially those who already had some interest in the energy transition. Furthermore, whilst we intended to obtain input from residents to tailor the initiative to their needs, much effort had to first be made to help them understand current developments in the energy transition and to explain the opportunities that exist if

they engage in this initiative. Whilst a key benefit of an energy community is that residents can take ownership over their local energy system, this initial ownership lay with us as 'top-down', systemic actors. This was due to the fact that residents did not yet possess sufficient capacity to realize the project.

### *Intervention*

Given that we could not engage a broad group of residents on the basis of shared interest – many did not have any awareness of, let alone interest in, the possibility to establish an energy community – and because of the historical experience of extractive research, we had to use several strategies to foster reciprocity. First of all, we paid residents an hourly compensation for their participation in co-creation workshops. As researchers working in this project professionally, it seemed fair to provide residents the same opportunity to contribute their local expertise about the neighbourhood. Another strategy was to make the gatherings more fun and enjoyable. Stationing an ice-cream truck at one outdoor event attracted many people from social groups that we otherwise would not reach (activity 21). Furthermore, we used Lego to playfully represent how a local energy community could be organized, which evoked many positive reactions from participants (activities 23–26).

Whilst the energy community did not exist yet, discussing its potential emergence evoked numerous concerns from residents related to local power relations. Residents voiced their concerns about municipal energy transition agendas, and social housing tenants were perceived as powerless whilst housing corporations held a crucial position in local decision making. One key tension resided between the intention that a local energy community should benefit all residents, including hard-to-reach groups, and the practical possibilities for 'making something work', which would mean working with a 'coalition of the willing' of well-connected – and more powerful – organizations and individuals. One of the main concerns of residents was the energy bill, and one participant said that 'people in this area just want to be offered a ready-made solution, to which they can say yes or no' (activity 18). In this, people exhibited a similar 'solutionist' attitude as the technologists within the project consortium.

### *Reflection on transformation*

Reflecting on these activities, and in particular our positionality, we observe a subtle but important distinction between several potential modes of approaching people with these ideas. It would be problematic if we would either 1) present the idea as 'our project' where we are in full control of key decision-making, or 2) not be transparent and explicit about the greater interests shaping our initiative, and the decisions we were making to steer the project direction. For much of the process, there was a distinct ambiguity

about the role we should – or should not – be taking up. This also concerned ambiguity around the continuity of the initiative: who would take up our role when the project was over? At the time of writing, a 'pioneer group' of 5–10 people was ready and prepared to take the project further, whilst they do require further assistance (activities 29, 30, 32, 33). To ensure continuity, we had to take up the role of mediating relationships between this pioneer group and external sources of support, including the municipality. Whilst we consider it a transformative outcome that the project has come this far, the work is far from complete.

### *Mediating an encounter between residents and public officials*

Finally, we describe an encounter that took place between local residents and municipal officials (activity 31). We do not report this encounter under the same structure as above, but aim to illustrate the power relation, intervention, and transformation by quoting from a conversation as it naturally took place. This conversation took place in a workshop which we organized with the explicit intention of bringing residents and municipal officials together to discuss shared issues and interests in the local energy transition. To mediate the interaction, we first organized a 'serious game' exercise so that participants could become acquainted and work together in a low-stakes and playful manner. We will quote expressions from several participants: one resident (R1) and two municipal officials (M1, M2).

A key discussion emerged as R1 expressed that common initiatives and agendas about 'sustainability', as they are framed by the municipality, do not reach and connect to the concerns of local residents. In particular, she was speaking from her perspective as someone with a Surinamese cultural background.

> R1:It [sustainability] is simply not understandable. The residents in my neighbourhood – there is no one who knows what is going on. What does it mean for me, what can you offer me? I really miss that here, it would be a first step.

> R1:The word sustainability doesn't mean anything to us, we are already very sustainable. The earth is already very important to us. Sustainability and energy transition sounds like a kind of luxury problem, not a problem relevant for me. If you bring it to the culture that people have [. . .], translate it into that, you have so many projects that you can roll out.

This perspective highlights how power relations interrelate with culturally specific views and policy discourse related to sustainability. One municipal official, who also had a Surinamese background, could elaborate in the following manner:

> M1: *In Amsterdam Southeast you have community-based cultures, whereas in Europe and North-America there are individualistic cultures. One is a "culture*

*of being", the other is a "culture of doing",*[. . .] *in Southeast, the culture of being is more represented than the culture of doing. The* [policy] *approach, it comes from here* [points up] [. . .] *because that's where it comes from, people go to hide every time because it looks like a meteorite.*

After establishing this difference, a conversation ensued about how these groups might – or might not – be able to find each other, drawing from their present interaction as an example:

R1:*What we are doing here, you could do for more groups. Then people already feel invited*

M2:*You say we can do this with more people. But you are in* [the neighbourhood], *you could also organise something, and invite people from the municipality to come over. You can say: we have an idea, do you want to help us.*

R1:*Yes, it has to go both ways. We can do this in the neighbourhood, then you have the feeling of being there. The people in* [my area] *have to also be pulled out of their comfort zone. If you do this both ways, there is connection, and you can meet each other.*

M2:*I also work in other places in the city, where resident initiatives ask the involvement of the municipality. They say: we are doing something good here, can you support us. In your area, I have the feeling that the municipality is going there a lot, which results in less local initiative.*

The above exchange shows that both parties are willing to engage in a reciprocal relationship, but perceive a lack of initiative on both sides. The conversation proceeded about potential solutions and challenges:

M2:*perhaps we just need to invest in community building for 5 years, independent of policy agendas. So that there is more local connection and organization. Then we can start implementing policy plans*

R1:T*he municipality only knows the local parties to whom they give the subsidy. It is always the same key figures who get both rewarded and burdened. The municipality should not rely on local parties, but unburden them by thinking everything through, so that all we have to do is take the residents along*

The municipal official questioned whether it is within the municipality's power to do so:

M2:*I have some doubts [. . .] whether we can actually do this. It is hard to admit because we should be able to listen, be open and available, without our own agenda and policy goals. To make the residents' needs central, and serve those, is very challenging for us. My advice to you would be: tell us what to do, and make sure we are doing it right*

R1:*Why do we have to this? It shows you cannot place yourselves in our shoes, it is a mindset problem in the municipality.*

This interaction illustrates structural challenges in the relationship between the municipality and the residents represented by R1. It shows a perceived lack of agency and power, with both parties, to take initiative and cross the in-between space. At the same time, it shows how we as designers could relatively simply mediate this conversation.

After the session, the interaction was described by attendees as both 'meaningful' and 'poignant' – it had been the first such interaction that they had seen. We reflect that there is a deficiency in the mutual relationship between the municipality and residents, as they are unable to meet on an equal basis. R1 and M1 exchanged phone numbers and had more meetings later to continue the discussion. We reflect that such interactions, whilst seemingly insignificant, can be meaningful and transformative to the extent that they lead to longer-term partnerships.

## Discussion

In this section, we discuss the broader significance and relevance, of the novel and original framework which was constructed for the study and transformation of power relations. The discussion is divided in five themes, which were identified through the abductive analysis described in the methodology section. Since abductive analysis only foregrounds surprising and anomalous insights, the themes may only relate to a small subset of the literatures discussed earlier. Since the proposed framework is a result of synthesis and integration, we consider the insights to be additive to existing work, using the conceptual language of power to articulate novel insights as well as explicate insights which were implicit in previous research.

### *Designers as power brokers in societal transitions*

The interventions describe above were aimed at challenging, restructuring and transforming power relations in different ways. While the interventions took different forms – the positioning of a new institution, the initiation of reciprocal relations, and the mediating of unlikely conversations – this aim was common among them. While such interventions do not make the 'problem of power' go away, they brough attentiveness to power relations in a way that enabled ongoing engagements with power, and which provided a future perspective towards addressing the thorny issues in the project.

While various fields of design already engage with power (e.g. in infrastructuring and participatory design (Hillgren, Seravalli, and Emilson 2011; Kensing and Blomberg 1998) and agonistic design (Björgvinsson, Ehn, and Hillgren 2012)), we argue that designers' role as power brokers in societal transitions should be made more central and explicit – a novel recommendation compared to existing

discussions on designers' roles (Howard and Melles 2011; Lee 2008; Van Arkel and Tromp 2024). By positioning themselves in the in-between space of participatory and multi-actor relations, designers can become active agents in mediation, negotiation and translation, whilst distributing and sharing power between diverse actors. This understanding of a designers' role brings their agency to the forefront and makes designerly activity more explicitly political. In the context of public management, creative and experimental designerly work will inevitably challenge and politicize established notions of authority and legitimacy.

## *Towards power-work beyond 'balancing' power relations*

In our study, we encountered the common intuition that power relations should be balanced, which may also be found in scholarly debates (e.g. Tomasini Giannini and Mulder 2022). While in our design anthropology approach, we were able to challenge and reshape the balance of power, none of the power relations we engaged with were 'balanced'. Furthermore, our efforts to empower local residents to establish a local energy community show that even the residents didn't want to have fully balanced power relations, as they preferred to outsource certain powers – and hence, responsibilities – to external experts.

We suggest that in the context of societal transitions, where institutions, markets and citizens become related, power asymmetries cannot be eliminated. Rather than aiming to balance power relations, we argue that designers should learn to perform *power-work*. Such power-work would bear resemblance to relational work, which has been found as crucial for multi-actor collaborations (Evald et al. 2025) and which is increasingly becoming the focus of relational design (Akama, Hagen, and Whaanga-Schollum 2019; De Rosa, Finardi, and Auricchio 2023; Udoewa and Gress 2023). Power-work consists in understanding the proper distribution of responsibilities, burdens and benefits, in concert with collaborators: it considers power asymmetries not as problems to be solved, but realities to be considered. How can asymmetric power asymmetries be leveraged for more constructive outcomes, and what power-work competencies should designers learn? Whilst power-work is implicit in many understandings of design and designerly practice, its explication is – to our knowledge – a novel contribution of this study.

### Design as a dialectic between social issues and solutions

Our findings show that, whilst the view of design as a problem-solving practice is too limited, the envisioning of solutions was important for engineers, residents and policymakers alike, whereas social researchers and designers brought attention to nuanced social complexities. We argue that this latter role is necessary, but must be performed carefully. In our project, the positioning of the social platform and the local energy community as 'social solutions' was necessary to build collective confidence for constructive action. At the same time, this effort gave rise to a discussion of matters-of-concern (Brodersen and Pedersen 2019; Ehn 2008; Latour 2004; Poderi et al. 2020) among the partners, which was desired by the social researchers. The result was a dialectical back-and-forth between imagining solutions to narrowly defined problems and nuancing this understanding by drawing attention to broader social complexities.

The implication of this is that designers should not merely be technical problem-solvers, nor social workers or activists, but something in-between. Besides strategically conceptualizing solutions to move the design process forward, designers should also advocate for a fair distribution of resources and for the interests of marginalized groups. It can be emphasized here that the framing of scalable solutions with a measurable impact is well suited for meso-level regime contexts, whereas social nuances and complexities characterize micro-scale interaction. Hence, engaging in this dialectic serves the purpose of bridging between these scales and is an additive contribution to existing understandings of designers as mediators and translators (Geenen et al. 2022).

### Positionality of the designer and its transformation

Throughout the project, our positionality continually transformed with respect to our collaborators and the issue at hand. In relation to the technologists in our project, we became 'solvers of social issues', whereas we became 'solvers of high energy costs' in relation to local residents. Evidently such perceptions were inaccurate, and while they served temporary strategic purposes for affording our own agency, we had to take care to nuance these roles. It is only because of a reflexive practice that we could understand our positioning as such. Another important finding is that, unlike policymakers, civil servants or other regime-level institutional actors, we were able to exercise agency to politicize the issues in the project. We were able to do so because we were positioned in the in-between space of relations, not committed to one single cause. This insight suggests that designers are well-positioned to address the manner in which co-production challenges existing power structures (Bovaird 2007).

Overall, we suggest that designers can actively experiment with, assert, or undermine their own position, depending on the needs of the context. To do so, a reflexive practice is crucial, not only for considerations of positionality (Öz and Timur 2023; Pihkala and Karasti 2016; Vink and Koskela-Huotari 2022) but for power-work more generally (Schiffer 2020; Tomasini Giannini and Mulder 2022). Importantly, the designers' role is not fixed, and ultimately, designers should endeavour to make themselves unnecessary so that their context of interest may become self-sufficient and resilient without their intervention. Hence, while designers should aim to become trusted figures that mediate connections, relationships, collaborations that otherwise could not happen, they should transfer ownership over problems and their solutions to appropriate actors at the right time. These insights are in line with understandings in the emerging field of relational design, while contributing the conceptual language of power (Udoewa and Gress 2023)

### *What is the entity 'to-be-designed'?*

Finally, a key question that comes to mind is: what are designers actually 'designing', if not solutions? In our project, we did not deliver a 'final design' as a concrete artefact, but instead advocated for the emergence of a new political entity, in the form of an energy community. For much of the project, particularly in the form of the social platform, this entity functioned as a boundary object in the design process (Broberg, Andersen, and Seim 2011; Mark, Lyytinen, and Bergman 2007; Tharchen, Garud, and Henn 2020). The nature of our boundary object was fundamentally political: not only did it serve as a mediator in the power relations between project collaborators, but as an object of governmentality (Foucault 2000), the object itself implied novel future configurations of power. More specifically, the local energy community would provide local residents the capacity to participate in meso-level regime structures.

Building on this finding, we suggest that designers who perform power-work contribute to the emergence, reproduction and transformation of social and political entities, including transitions, institutions and communities. To our knowledge, this is a novel and original framing of what designers do. Designers can make use of various tools and techniques to prototype these entities and make them tangible, to communicate their character to the relevant stakeholders, and open them up for politicization and contestation. Still, the notion that transitions can be 'designed' in their totality is inadequate, not only because these exceed designers' cognitive limits (Dorst 2019b) but because transitions are diffuse processes that are co-shaped by a large number of actors.

## Concluding remarks

The research aim which guided the literature discussion was to *synthesize the potential of design to contribute to societal transitions by engaging with power*. We argued that this potential consists in engaging with power relations between actors who act at different scales. Using the specific approach of design anthropology, a theoretical framework was constructed for the study and transformation of power relations, using the key concepts of agency, relationality and scale. This framework was used to empirically address the research question of *How can design anthropology transform power relations in a participatory and multi-actor project?*

In doing so, this article has developed a novel and original framework for the study and transformation of power relations, which is how we conceive of the purpose of design in the context of societal transitions. In this way, designers can contribute to the development of relational and social infrastructure, which is intrinsically characterized by power. It is through fostering resilient and organic relations and networks between citizens, communities, institutions, companies, and other actors, and by 'linking existing solutions so that they become steps in a larger transition vision' (Irwin, Kossoff, and Tonkinwise 2015, 4), that design can contribute to societal transformation. Since this is an open-ended process that cannot be 'solved', and that gives rise to conflict and contestation, power-work should be central to designerly practice.

## Acknowledgments

This research is part of the Local Inclusive Future Energy (LIFE) City Platform project, which is funded by the Missiegedreven Onderzoek, Ontwikkeling en Innovatie (MOOI) subsidy program from the Netherlands Enterprise Agency (RVO). The RVO is part of the Dutch Ministry of Economic Affairs. We thank our local collaborators in Amsterdam, especially Stichting Co-Force.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

No Generative Artificial Intelligence tool was used in writing this manuscript.

## Funding

This research is part of the Local Inclusive Future Energy (LIFE) City Platform project, which is funded by the Missiegedreven Onderzoek, Ontwikkeling en Innovatie (MOOI) subsidy program from the Netherlands Enterprise Agency (RVO). The RVO is part of the Dutch Ministry of Economic Affairs.

## ORCID

*Gijs van Leeuwen* http://orcid.org/0000-0002-5374-2302
*Abhigyan Singh* http://orcid.org/0000-0003-4984-9067

## Ethics declaration

This research makes use of data collected from interactions and conversations with various stakeholders in our project. This data was gathered in the form of written notes and audio recordings. All participants have signed an informed consent form before this data was collected, and the data were anonymized so that participants are not identifiable. Our research was approved by the Human Research Ethics Committee of TU Delft on 24 June 2022, under the ID 2354. The application was categorized as minimal risk.

## References

Ahlborg, H. 2017. "Towards a Conceptualization of Power in Energy Transitions." *Environmental Innovation and Societal Transitions* 25:122–141. https://doi.org/10.1016/j.eist.2017.01.004.

Akama, Y., P. Hagen, and D. Whaanga-Schollum. 2019. "Problematizing Replicable Design to Practice Respectful, Reciprocal, and Relational Co-Designing with Indigenous People." *Design and Culture* 11 (1): 59–84. https://doi.org/10.1080/17547075.2019.1571306.

Arnstein, S. R. 1969. "A Ladder of Citizen Participation." *Journal of the American Institute of Planners* 35 (4): 216–224. https://doi.org/10.1080/01944366908977225.

Arts, B., and J. V. Tatenhove. 2004. "Policy and Power: A Conceptual Framework Between the 'Old' And 'New' Policy Idioms." *Policy Sciences* 37 (3–4): 339–356. https://doi.org/10.1007/s11077-005-0156-9.

Avelino, F. 2021. "Theories of Power and Social Change. Power Contestations and Their Implications for Research on Social Change and Innovation." *Journal of Political Power* 14 (3): 425–448. https://doi.org/10.1080/2158379X.2021.1875307.

Avelino, F., J. Grin, B. Pel, and S. Jhagroe. 2016. "The Politics of Sustainability Transitions." *Journal of Environmental Policy & Planning* 18 (5): 557–567. https://doi.org/10.1080/1523908X.2016.1216782.

Avelino, F., and J. Rotmans. 2009. "Power in Transition: An Interdisciplinary Framework to Study Power in Relation to Structural Change." *European Journal of Social Theory* 12 (4): 543–569. https://doi.org/10.1177/1368431009349830.

Avelino, F., K. Wijsman, F. Van Steenbergen, S. Jhagroe, J. Wittmayer, S. Akerboom, K. Bogner, E. F. Jansen, N. Frantzeskaki, and A. Kalfagianni. 2024. "Just Sustainability Transitions: Politics, Power, and Prefiguration in Transformative Change Toward Justice and Sustainability." *Annual Review of Environment and Resources* 49 (1): 519–547. https://doi.org/10.1146/annurev-environ-112321-081722.

Avelino, F., and J. M. Wittmayer. 2016. "Shifting Power Relations in Sustainability Transitions: A Multi-Actor Perspective." *Journal of Environmental Policy & Planning* 18 (5): 628–649. https://doi.org/10.1080/1523908X.2015.1112259.

Barnes, M., J. Newman, A. Knops, and H. Sullivan. 2003. "Constituting 'The public' In Public Participation." *Public Administration* 81 (2): 379–399. https://doi.org/10.1111/1467-9299.00352.

Bason, C. 2017. "Leading Public Design: How Managers Engage with Design to Transform Public Governance."

Bender-Salazar, R. 2023. "Design Thinking as an Effective Method for Problem-Setting and Needfinding for Entrepreneurial Teams Addressing Wicked Problems." *Journal of Innovation and Entrepreneurship* 12 (1): 24. https://doi.org/10.1186/s13731-023-00291-2.

Best, B., S. Moffett, and R. McAdam. 2019. "Stakeholder Salience in Public Sector Value Co-Creation." *Public Management Review* 21 (11): 1707–1732. https://doi.org/10.1080/14719037.2019.1619809.

Binder, T., E. Brandt, P. Ehn, and J. Halse. 2015. "Democratic Design Experiments: Between Parliament and Laboratory." *CoDesign* 11 (3–4): 152–165. https://doi.org/10.1080/15710882.2015.1081248.

Björgvinsson, E., P. Ehn, and P.-A. Hillgren. 2010. "Participatory Design and Democratizing Innovation." In *Proceedings of the 11th Biennial Participatory Design Conference*, edited by T. Robertson, 41–50. New York, NY: Association for Computing Machinery. https://doi.org/10.1145/1900441.1900448.

Björgvinsson, E., P. Ehn, and P.-A. Hillgren. 2012. "Agonistic Participatory Design: Working with Marginalised Social Movements." *CoDesign* 8 (2–3): 127–144. https://doi.org/10.1080/15710882.2012.672577.

Blomkamp, E. 2018. "The Promise of Co-Design for Public Policy." *Australian Journal of Public Administration* 77 (4): 729–743. https://doi.org/10.1111/1467-8500.12310.

Blomkamp, E. 2022. "Systemic Design Practice for Participatory Policymaking." *Policy Design and Practice* 5 (1): 12–31. https://doi.org/10.1080/25741292.2021.1887576.

Bloom-Christen, A., and H. Grunow. 2024. "What's (In) a Vignette? History, Functions, and Development of an Elusive Ethnographic Sub-Genre." *Ethnos* 89 (5): 786–804. https://doi.org/10.1080/00141844.2022.2052927.

Bovaird, T. 2007. "Beyond Engagement and Participation: User and Community Coproduction of Public Services." *Public Administration Review* 67 (5): 846–860. https://doi.org/10.1111/j.1540-6210.2007.00773.x.

Bovaird, T., and E. Loeffler. 2012. "From Engagement to Co-Production: The Contribution of Users and Communities to Outcomes and Public Value." *International Journal of Voluntary and Nonprofit Organizations* 23 (4): 1119–1138. https://doi.org/10.1007/s11266-012-9309-6.

Bracci, E., M. Fugini, and M. Sicilia. 2016. "Co-Production of Public Services: Meaning and Motivations." In *Co-Production in the Public Sector*, edited by M. Fugini, E. Bracci, and M. Sicilia, 1–11. Cham, Switzerland: Springer International Publishing. https://doi.org/10.1007/978-3-319-30558-5_1.

Bratteteig, T., and I. Wagner. 2012. "Disentangling Power and Decision-Making in Participatory Design." In *Proceedings of the 12th Participatory Design Conference: Research Papers*, edited by K. Halskov, H. Winschiers-Theophilus, Y. Lee, J. Simonsen, K. Bødker, 41–50. Vol. 1. New York, NY: Association for Computing Machinery. https://doi.org/10.1145/2347635.2347642.

Broberg, O., V. Andersen, and R. Seim. 2011. "Participatory Ergonomics in Design Processes: The Role of Boundary Objects." *Applied Ergonomics* 42 (3): 464–472. https://doi.org/10.1016/j.apergo.2010.09.006.

Brodersen, S., and S. Pedersen. 2019. "Navigating Matters of Concern in Participatory Design." *Proceedings of the Design Society: International Conference on Engineering Design* 1 (1): 965–974. https://doi.org/10.1017/dsi.2019.102.

Bryson, J., A. Sancino, J. Benington, and E. Sørensen. 2017. "Towards a Multi-Actor Theory of Public Value Co-Creation." *Public Management Review* 19 (5): 640–654. https://doi.org/10.1080/14719037.2016.1192164.

Buchanan, R. 1992. "Wicked Problems in Design Thinking." *Design Issues* 8 (2): 5. https://doi.org/10.2307/1511637.

Chandler, J. D., and S. L. Vargo. 2011. "Contextualization and Value-In-Context: How Context Frames Exchange." *Marketing Theory* 11 (1): 35–49. https://doi.org/10.1177/1470593110393713.

Chilvers, J., and N. Longhurst. 2016. "Participation in Transition(s): Reconceiving Public Engagements in Energy Transitions as Co-Produced, Emergent and Diverse." *Journal of Environmental Policy & Planning* 18 (5): 585–607. https://doi.org/10.1080/1523908X.2015.1110483.

Coops, F., C. Hummels, K. Dorst, B. Goldstein, D. Loorbach, and İ. Gaziulusoy. 2022. *Designing for transitions and transformations*. DRS2022: Bilbao. June 25. https://doi.org/10.21606/drs.2022.897.

Crosby, B. C., and T. Hart, and J. Torfing. 2017. "Public Value Creation Through Collaborative Innovation." *Public Management Review* 19 (5): 655–669. https://doi.org/10.1080/14719037.2016.1192165.

Dantec, C. A. L., and C. DiSalvo. 2013. "Infrastructuring and the Formation of Publics in Participatory Design." *Social Studies of Science* 43 (2): 241–264. https://doi.org/10.1177/0306312712471581.

De Haan, F. J., and J. Rotmans. 2018. "A Proposed Theoretical Framework for Actors in Transformative Change." *Technological Forecasting and Social Change* 128:275–286. https://doi.org/10.1016/j.techfore.2017.12.017.

De Rosa, A., M. Finardi, and V. Auricchio. 2023. "Relational Design Practices in Design for Social Innovation: A Place-Centred Approach." *IASDR*. October 9. https://doi.org/10.21606/iasdr.2023.509.

DeWalt, K. M., and B. R. DeWalt. 2011. *Participant Observation: A Guide for Fieldworkers*. 2nd ed. Md: Rowman & Littlefield

DiSalvo, C. 2009. "Design and the Construction of Publics." *Design Issues* 25 (1): 48–63. https://doi.org/10.1162/desi.2009.25.1.48.

DiSalvo, C. 2022. *Design as Democratic Inquiry: Putting Experimental Civics into Practice*. Cambridge, MA: The MIT Press.

Dorst, K. 2019a. "Co-Evolution and Emergence in Design." *Design Studies* 65:60–77. https://doi.org/10.1016/j.destud.2019.10.005.

Dorst, K. 2019b. "Design Beyond Design." *The Journal of Design, Economics, and Innovation* 5 (2): 117–127. https://doi.org/10.1016/j.sheji.2019.05.001.

Dubois, A., and L.-E. Gadde. 2002. "Systematic Combining: An Abductive Approach to Case Research." *The Journal of Business Research* 55 (7): 553–560. https://doi.org/10.1016/S0148-2963(00)00195-8.

Durose, C., C. Needham, C. Mangan, and J. Rees. 2017. "Generating 'Good enough' Evidenc for Co-Production." *Evidence & Policy* 13 (1): 135–151. https://doi.org/10.1332/174426415X14440619792955.

Ehn, P. 2008. "Participation in Design Things." In PDC '08: Proceedings of the Tenth Anniversary Conference on Participatory Design 2008, Bloomington, Indiana, edited by David Hakken, 92–101. Indianapolis, IN: Indiana University.

Eriksen, M. A., E. Brandt, T. Mattelmäki, and K. Vaajakallio. 2014. "Taking Design Games Seriously: Re-Connecting Situated Power Relations of People and Materials." In *Proceedings of the 13th Participatory Design Conference on Research Papers - PDC 14*, edited by O. Sejer Iversen, H. Winschiers-Theophilus, V. D'Andrea, C. Bossen, B. Teli, and K. Bødker, 101–110. New York, NY: Association for Computing Machinery. https://doi.org/10.1145/2661435.2661447.

Escobar, A. 2020. *Pluriversal Politics: The Real and the Possible*. Durham, NC: Duke University Press.

Evald, M. R., T. Hoholm, T. Mainela, and H. Torvinen. 2025. "Creating and Maintaining Momentum – Relational Work in Public-Private Innovation Partnerships." *Public Management Review* 27 (1): 218–240. https://doi.org/10.1080/14719037.2023.2239826.

Farr, M. 2018. "Power Dynamics and Collaborative Mechanisms in Co-Production and Co-Design Processes." *Critical Social Policy* 38 (4): 623–644. https://doi.org/10.1177/0261018317747444.

Foucault, M. 2000. "Governmentality." In Essential Works of Foucault, 1954–1984, 3, Power, edited by J. D. Faubion, 201–222. New York: Free Press.

Gatt, C., and T. Ingold. 2020. "From Description to Correspondence: Anthropology in Real Time." In *Design Anthropology: Theory and Practice*, 139–158. New York, NY: Routledge.

Geels, F. W. 2005. "Co-Evolution of Technology and Society: The Transition in Water Supply and Personal Hygiene in the Netherlands (1850–1930)—a Case Study in Multi-Level Perspective." *Technology in Society* 27 (3): 363–397. https://doi.org/10.1016/j.techsoc.2005.04.008.

Geenen, A., D. Özkaramanli, J. Matos-Castaño, and M. Van Der Voort. 2022. *Positioning Design in Transdisciplinary Collaborations: Experiences from a Smart City Consortium Project*. DRS2022: Bilbao. June 25. https://doi.org/10.21606/drs.2022.726.

Giddens, A. 1984. *The Constitution of Society: Outline of the Theory of Structuration*. Oakland, CA: University of California Press.

Gunn, W., T. Otto, and R. C. Smith, Eds. 2020. *Design Anthropology: Theory and Practice*. New York, NY: Routledge.

Haugaard, M., Ed. 2012. *Power: A Reader*. 1. paperback ed. Manchester, UK: Manchester University Press.

Head, B. W. 2008. "Wicked Problems in Public Policy." *Public Policy* 3 (2): 101–118.

Hillgren, P.-A., A. Seravalli, and A. Emilson. 2011. "Prototyping and Infrastructuring in Design for Social Innovation." *CoDesign* 7 (3–4): 169–183. https://doi.org/10.1080/15710882.2011.630474.

Howard, Z., and G. Melles. 2011. "Beyond Designing: Roles of the Designer in Complex Design Projects." In *Proceedings of the 23rd Australian Computer-Human Interaction Conference*, edited by C. Paris, N. Colineau, V. Farrell, G. Farrell, and W. Huang, 152–155. New York, NY: Association for Computer Machinery. https://doi.org/10.1145/2071536.2071560.

Irwin, T., G. Kossoff, and C. Tonkinwise. 2015. "Transition Design Provocation." *Design Philosophy Papers* 13 (1): 3–11. https://doi.org/10.1080/14487136.2015.1085688.

Kensing, F., and J. Blomberg. 1998. "Participatory Design: Issues and Concerns." *Computer Sup Ported Cooperative Work (CSCW)* 7 (3–4): 167–185. https://doi.org/10.1023/A:1008689307411.

Kensing, F., and J. Greenbaum. 2012. "Heritage: Having a Say." In *Routledge International Handbook of Participatory Design*, edited by J. Simonsen and T. Robertson, 21–36. New York, NY: Routledge.

Köhler, J., F. W. Geels, F. Kern, J. Markard, E. Onsongo, A. Wieczorek, F. Alkemade, et al. 2019. "An Agenda for Sustainability Transitions Research: State of the Art and Future Directions." *Environmental Innovation and Societal Transitions* 31:1–32. https://doi.org/10.1016/j.eist.2019.01.004.

Kolko, J. 2010. "Abductive Thinking and Sensemaking: The Drivers of Design Synthesis." *Design Issues* 26 (1): 15–28. https://doi.org/10.1162/desi.2010.26.1.15.

Kossoff, G. 2015. "Holism and the Reconstitution of Everyday Life: A Framework for Transition to a Sustainable Society." *Design Philosophy Papers* 13 (1): 25–38. https://doi.org/10.1080/14487136.2015.1085698.

Lähteenoja, S., T. Marttila, İ. Gaziulusoy, and S. Hyysalo. 2023. "Transition Co-Design Dynamics in High Level Policy Processes." *Design Studies* 88:101207. https://doi.org/10.1016/j.destud.2023.101207.

Lake, D., D. Marshall, R. Carducci, and T. Thurnes. 2022. "The Power and Place Collaborative: Participatory Strategies for Scaling." *Contexts – the Systemic Design Journal*: 1. https://doi.org/10.58279/v1005.

Latour, B. 2004. "Why Has Critique Run Out of Steam? From Matters of Fact to Matters of Concern." *Critical Inquiry* 30 (2): 225–248. https://doi.org/10.1086/421123.

Laursen, L. N., and L. M. Haase. 2019. "The Shortcomings of Design Thinking When Compared to Designerly Thinking." *Design Journal* 22 (6): 813–832. https://doi.org/10.1080/14606925.2019.1652531.

Lee, Y. 2008. "Design Participation Tactics: The Challenges and New Roles for Designers in the Co-Design Process." *CoDesign* 4 (1): 31–50. https://doi.org/10.1080/15710880701875613.

Lewis, J. M., M. McGann, and E. Blomkamp. 2020. "When Design Meets Power: Design Thinking, Public Sector Innovation and the Politics of Policymaking." *Policy and Politics* 48 (1): 111–130. https://doi.org/10.1332/030557319X15579230420081.

Lukes, S. 2004. *Power: A Radical View*. Third ed. London, UK: Red Globe Press.

Manzini, E., and E. Staszkowski. 2013. *Public and Collaborative: Exploring the Intersection of Design, Social Innovation and Public Policy*. Milan, Italy: DESIS Network.

Mark, G., K. Lyytinen, and M. Bergman. 2007. "Boundary Objects in Design: An Ecological View of Design Artifacts." *Journal of the Association for Information Systems* 8 (11): 546–568. https://doi.org/10.17705/1jais.00144.

Morozov, E. 2013. *To Save Everything, Click Here: The Folly of Technological Solutionism*. First ed. New York, NY: Public Affairs.

Mostowlansky, T., and A. Rota. 2020. "Emic and Etic." *Cambridge Encyclopedia of Anthropology*. https://doi.org/10.29164/20emicetic.

Murphy, K. M. 2016. "Design and Anthropology." *Annual Review of Anthropology* 45 (1): 433–449. https://doi.org/10.1146/annurev-anthro-102215-100224.

Nightingale, A., and H. Ahlborg. 2018. "Theorizing Power in Political Ecology: The 'Where' Of Power in Resource Governance Projects." *Journal of Political Ecology*, (*25*(1). 25 (1). https://doi.org/10.2458/v25i1.22804.

Osborne, S. P., M. Powell, T. Cui, and K. Strokosch. 2022. "Value Creation in the Public Service Ecosystem: An Integrative Framework." *Public Administration Review* 82 (4): 634–645. https://doi.org/10.1111/puar.13474.

Ostrom, E. 1996. "Crossing the Great Divide: Coproduction, Synergy, and Development." *World Development* 24 (6): 1073–1087. https://doi.org/10.1016/0305-750X(96)00023-X.

Otto, T., and R. C. Smith. 2013. "Design Anthropology: A Distinct Style of Knowing." In *Design Anthropology: Theory and Practice*, edited by edited by W. Gunn, T. Otto, and R. C. Smith, 31. 1st ed. New York, NY: Routledge.

Öz, G., and Ş. Timur. 2023. "Issues of Power and Representation In/Of the Local Context: The Role of Self-Reflexivity and Positionality in Design Research." *Design Journal* 26 (2): 252–269. https://doi.org/10.1080/14606925.2022.2088097.

Petrescu, M. 2019. "From Marketing to Public Value: Towards a Theory of Public Service Ecosystems." *Public Management Review* 21 (11): 1733–1752. https://doi.org/10.1080/14719037.2019.1619811.

Pihkala, S., and H. Karasti. 2016. "Reflexive Engagement: Enacting Reflexivity in Design and for 'Participation in Plural." In *Proceedings of the 14th Participatory Design Conference: Full Papers*, Aarhus, Denmark, edited by Claus Bossen, 21–30. Vol. 1. New York, NY: Association for Computing Machinery. https://doi.org/10.1145/2940299.2940302.

Poderi, G., H. Hasselqvist, A. Capaccioli, C. Bogdan, and V. D'Andrea. 2020. "Matters of Concerns and User Stories: Ontological and Methodological Considerations for Collaborative Design Processes." *CoDesign* 16 (3): 220–232. https://doi.org/10.1080/15710882.2018.1557694.

Rittel, H. W. J., and M. M. Webber. 1973. "Dilemmas in a General Theory of Planning." *Policy Sciences* 4 (2): 155–169. https://doi.org/10.1007/BF01405730.

Roy, R., and S. Uekusa. 2020. "Collaborative Autoethnography: 'Self-Reflection' As a Timely Alternative Research Approach During the Global Pandemic." *Qualitative Research Journal* 20 (4): 383–392. https://doi.org/10.1108/QRJ-06-2020-0054.

Schiffer, A. 2020. "Issues of Power and Representation: Adapting Positionality and Reflexivity in Community-Based Design." *International Journal of Art & Design Education* 39 (2): 418–429. https://doi.org/10.1111/jade.12291.

Simon, H. A. 1996. *The Sciences of the Artificial*. 3rd ed. Cambridge, MA: MIT Press.

Singh, A., N. Romero Herrera, H. W. van Dijk, D. V. Keyson, and A. T. Strating. 2021. "Envisioning 'Anthropology Through design': A Design Interventionist Approach to Generate Anthropological Knowledge." *Design Studies* 76:101014. https://doi.org/10.1016/j.destud.2021.101014.

Smith, R. C., Ed. 2016. *Design Anthropological Futures: Exploring Emergence, Intervention and Formation*. London, UK: Bloomsbury publishing.

Smith, R. C., and T. Otto. 2016. "Cultures of the Future: Emergence and Intervention in Design Anthropology." In *Design Anthropological Futures*, 19–36. New York, NY: Routledge.

Sovacool, B. K. 2016. "How Long Will it Take? Conceptualizing the Temporal Dynamics of Energy Transitions." *Energy Research and Social Science* 13:202–215. https://doi.org/10.1016/j.erss.2015.12.020.

Tavory, I., and S. Timmermans. 2014. *Abductive Analysis: Theorizing Qualitative Research*. Chicago, IL: The University of Chicago Press.

Tharchen, T., R. Garud, and R. L. Henn. 2020. "Design as an Interactive Boundary Object." *Journal of Organization Design* 9 (1): 21. https://doi.org/10.1186/s41469-020-00085-w.

Tomasini Giannini, F., and I. Mulder. 2022. "Towards a Power-Balanced Participatory Design Process." In *Proceedings of the Participatory Design*

*Conference 2022 - 2*, editd by Vasilis Vlachokyriakos, 111–117. New York, NY: Association for Computer Machinery. https://doi.org/10.1145/3537797.3537819.
Torfing, J. 2019. "Collaborative Innovation in the Public Sector: The Argument." *Public Management Review* 21 (1): 1–11. https://doi.org/10.1080/14719037.2018.1430248.
Turnhout, E., T. Metze, C. Wyborn, N. Klenk, and E. Louder. 2020. "The Politics of Co-Production: Participation, Power, and Transformation." *Current Opinion in Environmental Sustainability* 42:15–21. https://doi.org/10.1016/j.cosust.2019.11.009.
Udoewa, V., and S. Gress. 2023. "Relational Design." *Journal of Awareness-Based Systems Change* 3 (1): 101–128. https://doi.org/10.47061/jasc.v3i1.5193.
Van Arkel, T., and N. Tromp. 2024. *What Do Designers Bring to the Table? Identifying Key Design Competencies When Designing for Societal Challenges in the Public Sector*. DRS2024: Boston. June 24. https://doi.org/10.21606/drs.2024.370.
Van Buuren, A., J. M. Lewis, B. Guy Peters, and W. Voorberg. 2020. "Improving Public Policy and Administration: Exploring the Potential of Design." *Policy and Politics* 48 (1): 3–19. https://doi.org/10.1332/030557319X15579230420063.
Van Der Bijl-Brouwer, M. 2016. "The Challenges of Human-Centred Design in a Public Sector Innovation Context." In *Proceedings of DRS2016: Design + Research + Society - Future-Focused Thinking*, edited by P. Lloyd and E. Bohemia, 2149–2164. London, UK: Design Research Society. https://doi.org/10.21606/drs.2016.294.
Van Der Bijl-Brouwer, M. 2022. "Design, One Piece of the Puzzle: A Conceptual and Practical Perspective on Transdisciplinary Design." *DRS2022: Bilbao*. June 25. https://doi.org/10.21606/drs.2022.402.
van Leeuwen, G., and A. Singh. 2023. "Local Frictions in the Energy Transition: Design Anthropology for the Emergence of Energy Communities." In *EPIC 2023 Proceedings*, 277–294. OR, USA: EPIC.
Van Leeuwen, G., and A. Singh. 2024. *Design Anthropology for Ethics of Care and Emergence: Reflections from an Energy Transition Project*. DRS2024: Boston. June 23. https://doi.org/10.21606/drs.2024.797.
Van Leeuwen, G., A. Singh, B. F. Van Eekelen, and D. Keyson. 2025. "Design Anthropology and Ontological Future Making: Transformative Action for the Emergence of Shared Futures." *The Journal of Design, Economics, and Innovation* 11 (4): 407–432. https://doi.org/10.1016/j.sheji.2025.08.004.
Vink, J., and K. Koskela-Huotari. 2022. "Building Reflexivity Using Service Design Methods." *Journal of Service Research* 25 (3): 371–389. https://doi.org/10.1177/10946705211035004.
Voorberg, W. H., V. J. J. M. Bekkers, and L. G. Tummers. 2015. "A Systematic Review of Co-Creation and Co-Production: Embarking on the Social Innovation Journey." *Public Management Review* 17 (9): 1333–1357. https://doi.org/10.1080/14719037.2014.930505.
Waardenburg, M., M. Groenleer, J. De Jong, and B. Keijser. 2020. "Paradoxes of Collaborative Governance: Investigating the Real-Life Dynamics of Multi-Agency Collaborations Using a Quasi-Experimental Action-Research Approach." *Public Management Review* 22 (3): 386–407. https://doi.org/10.1080/14719037.2019.1599056.
White, D. 2015. "Metaphors, Hybridity, Failure and Work: A Sympathetic Appraisal of Transitional Design." *Design Philosophy Papers* 13 (1): 39–50. https://doi.org/10.1080/14487136.2015.1085694.