Critical by Design ?

Design Politics
Foucault   by   Critical Practice
                                                                        ?
                                            Human
                                            Social
World   Social   ?
Critical   by   Disobedience   ?   Design Culture   by
                        Social   Social
Understanding   by   Design politics   Politics   by   Design Culture   ?
Social   by   ?   Human   by   Building
                by   World   by   Negative
                by   World   ?
Social   Critical   ?   Social   by
                                         ?   Critical   by   Decolonialization
Social   Human   ?
Human   by   Design Culture   ?
Speculative   by   Ontological   by   Epistemic
                                         ?   Critical
                                                            Unsettling
                                                            Speculative

Genealogies,
Practices, Positions

Design   ?
Social
                by   Vitality   ?   Design Politics   Speculative   ?
Post-Truth   Critical
                        Critical   ?   Politics
Critical Design by   Social   Epistemic   Speculative Design ?
Social   ?   by
                        Understanding   World
Critical   by   Critical Design   Critical   by   ?
Politics   ?   by   Critical Design
                by   Critical   Human   ?
                by   ?
Ambiguity   ?   Misery of Neutrality by Undesign
                                            Critical   Critical

Claudia Mareis
Moritz Greiner-Petter
Michael Renner (eds.)
                                                                 Speculative   ?
                                                            by

                                                                 Ontological
                                                            by   Speculative Design
                                                            by
                by   Critical   Negative   ?
                        Understanding   ?
Critical Object by   Foucault
                by   ?
Design Culture   ?   Post-Capital

[transcript] Design

Claudia Mareis, Moritz Greiner-Petter, Michael Renner (eds.)
Critical by Design?

Critical by Design?
Genealogies, Practices,
Positions

Edited by Claudia Mareis,
Moritz Greiner-Petter
& Michael Renner

Introduction

Genealogies

Practices

Positions 194-285

Epilogue 286-307

Appendix 306-331

Epistemic

Accidence

Critical Design   ?

Human   by   ?   Foucault

Critical   World   by

Re-visioning   by   Human   Social   ?

Understanding   by   ?   Critical Design   by

Critical   by   ?   by

Critical Design

Critical   Critical

by   ?

Speculative   by   Grey Design

Social   Critical

             Speculative   by   Foucault   ?

Critical   Grounding   by   Understanding

Critical Object   by   Human   Critical

Human   by   Biased Design   by   Epistemic

                 Care   by

                 Critical   Critical

                   Speculative   Human   ?

Critical   Critical   Speculative

by   Foucault   ?   Critical Design

                                    ?

by   Ontological   Human

                 Accidence   Human   ?

Critical   ?   Social   by   Ontological   ?

by   Critical   by   Epistemic   ?

Politics   Critical Design   ?

by   Social

Critical   by   Foucault   by   Speculative Design

                                    Critical   ?

                                  by   ?

                                               ?

Introduction   ?

                                             ?

                                             ?

                                  Speculative Design   ?

Social   Social   ?   by   Foucault

Critical Design   by   Human

by   Critical Design   Ontological   by

Critical   by   Speculative Design   by   World   ?

                             ?   by   Critical Practice   ?

                                  Critical   by   Human

by   Human

                             ?

                     World   by   Politics

by

Critical Object   Foucault

Speculative   World   Epistemic
Speculative   ?   Critical   by
                                         ?   by
                    Politics   by
Critical   by   Critical
Speculative   by   Speculative   Critical   ?
                                                  Critical
                                         ?   ?
Human   by

Human   Undesign ?   Grey Design   by   ?
                    by   Social   ?   Human   by   World   ?
Critical Object   Ontological   ?
                                         ?

Unsettling   World   Critical
Individualized
Design   by   ?   Speculative   Disobedience
Speculative   Foucault   Ontological
Design   by   ?
Social   by   Critical Object
                                                  Critical
                                Critical ?   Critical   ?
                                         ?   Critical
                                Ontological   Unsettling
                                                                                           ?
Ineliminable   Critical   by   ?
Post-Capital   by   ?
                                                  Speculative Design   ?
                                         ?   Critical Practice   ?
Design Politics   by
Critical Design   by   ?
                                Critical
                                         ?   by   ?
                                                                                           ?
                    by   Critical   Epistemic
                    by
                                         ?   Critical   Ontological
                                         ?
Critical Design   ?   Re-visioning
                    by   Human   Human
                                Politics   by   Critical Design   ?
                                Care   ?   by
Grounding
World   by
                    Desubjugation   Critical Practice
Critical Design   by   ?
Critical Object   ?   Social   ?
                                                  Speculative Design   Critical
Critical   ?   World

Critical by design?

An Introduction

Claudia Mareis,
Moritz Greiner-Petter
& Michael Renner

The relationship between design and critique remains as ambiguous and conflicting as ever. It is a problematic relationship which seems to be full of irresolvable contradictions and for that very reason it can be seen as a productive one, too.[1] The ambiguity we are referring to is historically grounded and systemically anchored, yet it is open to change and transformation. The history of the design discipline as a modernist profession, mostly envisioned from Europe and North America, closely related to industrial production, nationalist politics and mass communication, is deeply interwoven and still highly complicit with exploitative and unequal processes of creation, production and consumption. As a consequence, and as an ongoing manifestation of the «darker side of Western modernity» (Mignolo 2011),[2] the history and practice of design is infused with very specific, but also very limited Anglo-Eurocentric ideas about «universal» design and exclusive aesthetic preferences, with the perpetuation of unsustainable lifestyles, exuberant consumer cultures and capitalist value structures.

At the same time, this history has been marked by numerous attempts to tie together the logics and needs of design, technology and society in critical, speculative and utopian ways and change design from within. Starting with the socialist utopias of the Arts & Crafts movement in the 19th century (see Kaplan 2004), the vision of the Bauhaus in uniting art and technology at the beginning of the 20th century (see Droste 2019), the Italian Radical Design movement in the post-war period (see Sparke 2014; Didero 2017), or the school of Critical and Speculative Design (Dunne [1999] 2005; Dunne / Raby 2001) at the turn of the new millennium – to name just a few. Recent calls for a decolonization of design (Abdulla 2018; Escobar 2018; Schultz et al. 2018; Vieira de Oliveira / Prado de O. Martins 2019; Ansari 2021a), however, made clear that as much as these and other critical design movements have been thought to change the world from within design, they have hardly ever been able to overcome their Anglo-European biases.

These examples from Bauhaus to Critical Design show the ambiguity and compromises omnipresent in the tense relation between design and critique. As much as design has been instrumentalized to cement the socio-political and commercial status quo and project it into the future, there has always been the desire and hope that the same practices and concepts could be reframed, reimagined and

1 Recent contributions to this topic include: Dunne / Raby (2013); Thierfelder (2014); Manzini (2015); Malpass (2017); Bardzell et al. (2018); Fisher / Gamman (2019); Tharp / Tharp (2019); Christensen / Conradi (2020).

2 Argentine literary scholar Walter D. Mignolo (2011: xvii) describes the «colonial matrix of power» (a formulation first used by the Peruvian sociologist Aníbal Quijano) as a «unity», «of which the rhetoric of modernity and the logic of coloniality are its two sides: one constantly named and celebrated (progress, development, growth) and the other silenced or named as problems to be solved by the former (poverty, misery, inequities, injustices, corruption, commodification, and dispensability of human life).»

converted to critique the present and propose alternative futures. Just as inequality, injustice and exploitation are all too often established and perpetuated by means of design, there is also an ongoing claim to critically uncover, dismantle and reconfigure these conditions through or with design: through or with critical design practices, methods, histories, manifestos or attitudes. Critical practice, in the words of design researcher Ramia Mazé, is often regarded as «a kind of ‹criticism from within› design – that is based on and carried out by design means, by designers and by means of their own practical and operational modes» (Mazé 2016: para. 1). Cause, criticism and measures appear to be closely linked here. However, it remains a virulent question as to how the language, logics and materialities of design, the epistemological baggage of the discipline, and the methods, approaches and strategies within design practice itself can be thought of and implemented as a mode and vehicle of critique. The answers and positions in this regard are constantly shifting and require disentangling and rethinking. In this process, design is, more or less obviously, also changing its roles, scope and influence in ever more comprehensive social, cultural, political and professional contexts, practices, systems and discourses. «Critical by Design?» is a question to which there is no unambiguous answer, but many different, even contradictory suggestions.

This anthology brings together interdisciplinary perspectives and new impulses for the discussion and advancement of criticality in design. The contributions offer investigations into design as a mode of critique from various backgrounds and positionings towards the discipline, from design studies and history to design practice and education as well as philosophy, art history and theory, and informatics. The interrogative notion of the title «Critical by Design?» carries throughout the book. It is a genuine questioning, neither neglecting nor readily affirmative of the critical potentials of design. It is a careful, but by no means exhaustive attempt to consider in more detail from which positionalities and framings notions of criticality in design can be legitimately and productively conceptualized, how specifically critique has to be fashioned and articulated under the conditions and modes of operation of design, and how our understandings and vocabularies of critique and critical practices can be diversified and expanded. As such, the contributions in this volume are not primarily trying to provide best practices of critical design approaches, but are sharing this questioning and interrogative attitude, each in their own way trying to open up new spaces, vocabularies or frames of reference to think about critique and criticality in design.

Therefore, in the very beginning, it is necessary to turn the gaze of critique inward, as self-critique. Although we have striven to create

a volume of diverse intellectual positions and practices, we acknowledge that the variety of authors we have brought together is nonetheless limited. The positions that are voiced here represent predominantly Western European and Anglo-American perspectives, written by a predominantly white group of peers. As such, this volume by no means offers a comprehensive insight into the debates around design and critique; nor is it a representative depiction of the diversity of actors in the field. Through the work on this book, we have learned that our mandate for the future is to cultivate more diverse and inclusive academic productions and cultures, and to actively acknowledge, reroute and relinquish the privileges of economics and exposure in ways that allow for systemically underrepresented voices to be heard. These comments are not meant to diminish the value of the chapters presented here, but rather to make clear the situated perspective from which many of these authors speak, including the offers and limitations that come with them.

3   For further elaborations on ontological design see also: Willis (2006) and the contribution by Michaela Büsse in this volume (Chapter 4).

4   For further elaborations on design culture see: Julier (2019) and Guy Julier's contribution in this volume (Chapter 12).

What design, what critique?

If design is understood, in an ontological perspective, as a reciprocal mode of socio-material world-making and «coming into being» (Fry 2012),[3] then the power and scope of design seem almost unlimited – and so does its harmful potential. Richard Sennett, among other cultural scholars, has pointed out not only the outstanding civilizational achievements of human making, but also the destructive sides connected to it: «Material culture provides in sum a picture of what human beings are capable of making. This seemingly limitless view is bounded by selfinflicted harm whether occurring innocently, by intent, or by accident» (Sennett 2008: 15). In other words: human making, including design culture,[4] comprises the totality of Promethean power (Latour 2009), it is both farsighted and destructive. Making new devices, objects and technologies is like opening Pandora's Box: once created and in the world, artificial things create a life of their own, which does not always correspond to what their creators had hoped for.

From the times of industrial production to contemporary digitalization, many design practitioners, historians and educators have dealt with these double-edged effects of design. They have been driven by a concerned awareness of the destructive violence potentially underlying every creative act and they have struggled with the asymmetric power structures in the design world or with the harmful effects of mass consumption on the environment. Widely known is the bold

11

accusation made by Victor Papanek in the 1970s, when he spoke out against the design profession:

> There are professions more harmful than industrial design, but only a very few of them. And possibly only one profession is phonier. Advertising design, in persuading people to buy things they don't need, with money they don't have, in order to impress others who don't care, is probably the phoniest field in existence today. Industrial design, by concocting the tawdry idiocies hawked by advertisers, comes a close second. (Papanek 1973: 14)

At the same time, however, he also took an affirmative position by advocating a *positive* mode of design and seeing the possibility of designing social justice and change: «As socially and morally involved designers, we must address ourselves to the needs of a world with its back to the wall while the hands on the clock point perpetually to one minute before twelve» (Papanek 1973: 14). Papanek's example, which itself became the subject of criticism (see Clarke 2021), illustrates that the trajectories of invention, production, consumption and destruction, in which design is historically and systemically involved, reflect existing socio-political constraints as well as future spaces of imagination and utopian world views. Design transforms what it touches and is itself always already shaped by history, genealogy and context. The question of design is, as Tony Fry has noted, «always an ontological question», while at the same time design is «a domain of metaphysical knowledge», in that it «always arrives as the way something acts as, in and on the world, and as a learnt thinking (theory) that informs practices which bring something into being» (Fry [1999] 2020: 4).

Seen in this light, design critique, especially critical design practice, harbours the hope for transformation and change, while it also carries existing presuppositions and epistemic contradictions within itself. It promises to actively bring forth new visions of life and society and to build bridges between past, present and future times, while at the same time often failing to extricate itself from the entanglements of history. In the German expression *entwerfen* (designing), which goes back to the Latin word *projicere* (to throw something away or in front of oneself), design's promise to open up futures is very aptly expressed. In the act of designing, ideally a new space for thought and action should be opened – open for both utopian visions and critical distance. Not only design but also critique are presented here as *temporal* modes of thinking through making, as «a reflective disposition towards the present as a fleeting now that opens up to an unknown future», as sociologist Andreas Folkers (2016: 7) puts it. At the same time, this disposition contains not only reflective but also

diffractive properties (Haraway 1997; Barad 2007),[5] as Folkers further emphasizes: «Critique is not just a reflection that leaves what it reflects upon unaltered, but a diffraction ... that changes what is put under critical scrutiny» (Folkers 2016: 19). Simply put, critique changes what it touches. It is a practice of sounding out the limits of knowledge and truth and thus changing them. According to French philosopher Michel Foucault, from whom this idea derives, critique must be seen as something essentially relative and contradictory; as a symptom of incomprehensibility and uncertainty, and at the same time as an attempt to make this uncertainty graspable and controllable. Critique therefore refers to what is coming, what is possible, what has been passed over and what has been missed out. As Foucault wrote: «Critique only exists in relation to something other than itself: it is an instrument, a means for a future or a truth that it will not know nor happen to be, it oversees a domain it would want to police and is unable to regulate» (Foucault [1997] 2007: 42).

Critique, in other words, is a way of dealing with uncertainty and of regaining agency. The project of critique ties in closely with traditions of knowledge about the future: forecasting, projections, prognosis, utopianism or even prophecy (see Bühler / Willer 2016; Weidner / Willer 2013). Because future is absent and can only be thought of as imagined, there is, and always has been, a strong need for ways and means to make it manifest through images, media, models and simulations (Bühler / Willer 2016: 9) – in short, through design. The numerous critical movements and projects in the history of design might be seen from this perspective: As hopeful attempts to sound out the limits of design's own scope of knowledge and action while at the same time providing efficient modes of grasping uncertain futures through careful consideration, creative imagination and material investigation. In this sense, the German design scientist Horst Rittel had already stated many decades before:

> Designing is plan-making. Planners, engineers, architects, corporate managers, legislators, educators are (sometimes) designers. They are guided by the ambition to imagine a desirable state of the world, playing through alternative ways in which it might be accomplished, carefully tracing the consequences of contemplated actions. (Rittel 1988: 1)

In this tradition – that is, in the tradition of the «Western» Design Methods Movement (see Cross 1993; Bayazit 2004) – numerous scholars

5   The concept of «diffraction», used in Folkers' argument, goes back to Donna Haraway (1997) and Karen Barad (2007). It has been shaped and used in the context of feminist theory and new materialism to describe patterns of understanding and productions of difference. Diffractions can be seen as «patterns of difference that make a difference» (Barad 2007: 72; see also Geerts / van der Tuin 2016).

13

have described how design can be seen as a mode of tackling «wicked problems» (Rittel / Webber 1973), of «[d]ecision making in the face of uncertainty with high penalties for error» (Morris Asimov, quote in Jones 1966: 296) or as the «will to design» in order to create resilient systems, behaviours and futures (Grove 2018; see also Cowley 2017).

However, the idea of design as a general mode of problem solving is clearly limited and has been repeatedly questioned and problematized in recent years (Dorst 2006; Kimbell 2011, 2012; Mareis / Paim 2021). The more we understand how much the dominant notions of design in history and theory, in education and practice have been shaped and constrained by particular concepts and understandings of design (Euro- and androcentric, technoscientific, economic), the clearer it becomes how limited these ultimately are. Both design and critique must therefore be seen and problematized as forms of situated knowledge (Haraway 1988), shaped by and confined to specific contexts, persons and situations. The interests and motivations behind design and critique are therefore just as questionable as the conditions and possibilities under which design and critique can or cannot take place.

Crisis and critique

There is a strong, not just etymological, nexus, between the two terms *critique* and *crisis* (Kosellek 1988). In the sense that crisis is considered a critical moment that defines the future; a moment from which on things develop either for the better or the worse and a call to action is made. But this call to action, however urgent, is rarely unambiguous or free of tension.

> In crisis and critique, decision and distinction meet. They have in common the moment of divorce, of separation. Here as there, self-evident things are suspended. Crisis and critique are connected, but also conflict with each other. The art of distinction precedes the decision, but cannot help complicating it and moving away from it. Crisis challenges action, critique comes out of direct action. (Thomä et al. 2015: 14, translated by the editors)

On the other hand, this also means that simply speaking of a crisis urges action, even though there may not be an acute need for intervention.

But what does the nexus of crisis and critique mean in times like ours, in which crises are no longer decided and resolved at one point, but rather become the normal state of affairs? How is our ability to distinguish and decide appropriately affected when various crises – financial crises, environmental crises, crises of democracy and social

justice, health crises, such as the Covid-19 pandemic – interact in complex ways and reach planetary scale? Finally, what does the strong nexus of crisis and critique and the apparent normalization of crises mean for the field of design? Against this backdrop, Adam Nocek and Tony Fry, in their introduction to *Design in Crisis* (2021: 4), not only ask «how the planetary crisis puts design itself *in* crisis», but argue that «design is immanent to crisis». Design in the modernist tradition, they argue, «is at the ontological root of the universalisms responsible for the asymmetrical forms of violence that human and non-human life are facing today and in the future» (Nocek / Fry 2021: 2). The crisis-like condition of the present must thus be seen as a «consequence of a long and violent history of privileging an Anglo-Eurocentric subject of Reason to the detriment of other ways of thinking, feeling, and living» – with design being responsible «for the fabrication of the rational technocratic human whose ambitions have put life on this planet in jeopardy» (Nocek / Fry 2021: 10).

So, what remains to be done in light of this devastating diagnosis? Is the approach of «unlearning and relearning design» (Tlostanova 2021) the only way out of the crises caused by design? Is it the radical rejection and declassification of hegemonic Anglo-Eurocentric design concepts in favour of other forms of thinking and practising design that have been marginalized, ignored or forgotten so far? The Colombia-based industrial designer Alfredo Gutiérrez (2021: 60) has formulated the dynamic interplay of un- and relearning design as follows: «The End Of The Design As We Know It (*Teotdawki*) goes with The Opening Of Design As We Ignore it (*Tootdawii*).»[6] This statement allows, as Gutiérrez stresses, several interpretations about what exactly is to be ended and what to be opened. However, what is needed, he says, referring to Zimbabwean academic Cetshwayo Zindabazezwe Mabhena, is a «border thinking (and feeling)»[7] in order «to overcome at once fundamentalism of both worlds – the hegemonic and the peripheral ones»: «Border thinking to live in any territory without epistemically dwelling in it as fundamentalism» (Gutiérrez 2021: 61).

Another proposal to escape «the matrix of domination» (Hill Collins 2000) and to make design more just and sensitive towards intersectional discrimination (Crenshaw 1991) has been recently presented by nonbinary, transgender, femme presenting design researcher Sasha Costanza-Chock. Based on the principles of the *Design Justice Network,*[8] Costanza-Chock argues for using design «to sustain, heal, and

6   Gutiérrez is referring here to the term «The End of the World as We Know It» (*Teotwawki*), used by survivalist groups and taken up by the Spanish arts and cultural scholar José Manuel Bueso Fernández in 2019.

7   Introduced first by queer-feminist cultural-scholar Gloria E. Anzaldúa in her seminal book *Borderlands / La Frontera: The New Mestiza* (1987), the concept of «border thinking» has been discussed by many scholars in decolonial theory, including Walter D. Mignolo and Madina Tlostanova (2006).

empower our communities, as well as to
seek liberation from exploitative and oppres-
sive systems» (Costanza-Chock 2020: 6).
The principles of design justice include, among others, to «prioritize
design's impact on the community over the intentions of the designer»
and to «work towards sustainable, community-led and controlled
outcomes» as well as «non-exploitative solutions that reconnect us to
the earth and to each other» (Costanza-Chock 2020: 6f). This raises
questions about both the status of designers and design expertise,
as within the *Design Justice Network* the role of the designer is seen
«as a facilitator rather than an expert» and the lived experience of
those who are touched by design issues in some way is enhanced:
«We believe that everyone is an expert based on their own lived expe-
rience, and that we all have unique and brilliant contributions to bring
to a design process» (Costanza-Chock 2020: 7).

To return to the nexus of crisis and critique, one could subse-
quently also ask here: is it not necessary, as a matter of urgency, to
question and situate, to end and open up the modes of critique «as
we know them» in order to create space for «other», that is, more just
and diverse ways of thinking and critiquing? What would these ways
look like; and what would be the consequences?

Critique of critique

This anthology is also characterized by the awareness that the very
notion of critique has been critically questioned and expanded for
quite some time. This is not only the case in the humanities and social
sciences, but also in the field of design. The idea that design is just
a supplier for industrial production or, in a more advanced under-
standing, a knowledge-based problem-solving activity has increasingly
become blurred by the questioning of design-immanent paradigms,
privileges and beliefs. For a long time, many design scholars saw the
greatest potential of design in its ability to improve people's living
conditions and to solve complex problems – independent of the prob-
lem or context. As stated above, this view has been repeatedly ques-
tioned and problematized in recent years, as it is often based on
asymmetrical power–knowledge structures and false universalist ideas
of design, knowledge, technology and progress. This is done, for
example, by making it seem normal that design experts from the
Global North devised solutions to the problems of the Global South
(see Messell 2021); or by an unquestioned colonialist / orientalist
attitude, in declaring one's own practices to be particularly progres-
sive by neglecting, devaluing or romanticizing the «other». In this
context, Ahmed Ansari has pointed out that many of the key texts of

the Design Methods Movement «were deeply orientalist» in «how they relied on defining the field along very explicit distinctions between ‹modern› Western societies that developed ‹design› against ‹traditional› societies that practiced ‹craft»» (Ansari 2021b: 96).

Against this background, projects from the field of Critical and Speculative Design, although they might appear less «solutionist» or «affirmative» at first sight, were also problematized because of their unquestioned Eurocentric and colonial biases. By discussing concrete examples from the field of Critical and Speculative Design, Pedro J.S. Vieira de Oliveira and Luiza Prado de O. Martins (2019) have shown how much the speculative visions of the future are shaped by the sociocultural background of the designers creating these visions, and how little the Eurocentric view – the colonial «gaze» – often underlying them is questioned: «There is no space for questioning where that scenario came from, what sequences of events preceded it ... There is only space for one narrative – the one devised by the designer; no rough edges, no place for those who cannot afford to have their stories up for display» (Vieira de Oliveira and Prado de O. Martins 2019: 107). In contrast, «that speculation needs to be enacted in transient spaces in which any perspective could become a loose thread for exploring the future or an amalgamation of untold pasts and uncertain presents» (Vieira de Oliveira / Prado de O. Martins 2019: 109).

Ramia Mazé believes that, instead of being «concerned with problem-solving», critical design practice should rather be about «*problem-finding*» (Mazé 2009: 381). This means that critical design practice should be about fundamentally questioning problem definitions and problem-solving approaches with regard to their inherent political interests and seeing things in a larger historical and systemic context. As a consequence of this suggestion, research and research-related methodologies are becoming increasingly important for the design discipline and critical design practice (see Mazé / Redström 2007). Also, design is moving closer to the humanities and their tradition of genealogical self-questioning, problematization and critique. At the same time, it must be added, Anglo-Eurocentric discourses and traditions of critique are often perpetuated.

In the humanities, the question of critique is profoundly linked to epistemological, ethical and political considerations on the limits of knowledge / truth as well as to the relation between self-determination and governance (see Foucault [1997] 2007). At the same time, the notion of critique has been associated from within and outside the humanities with a judgemental, distanced view – as something that can be destructive rather than constructive. The examination of critique thus refers to different aspects, modes and levels of impact. It is a question of how and through what media, formats and practices

critique is expressed (e.g. philosophical texts, artistic manifestos, provocative images, speculative design objects, disobedient behaviour etc.). Moreover, it is about a sensitivity to the convictions of knowledge and truth, of distance and commitment, which underlie the various critical traditions in the sciences, humanities, the arts and design. Many scholars consider the seductive idea that critique would «expose» or «reveal» something hidden as too simplistic, as is the idea that critique could be formulated «from the outside», unaffected by what is criticized.

«The narrative of theoretical unravelling, of being undone is a journey of phases in which the thought we are immersed in is invalidated», Visual Culture scholar Irit Rogoff argues (2003). Critique, or better yet *criticality*, as she defines it (Rogoff 2003), is thus not necessarily characterized by analytical distance or theoretical superiority, but rather by the unique opportunity of embodied involvement, by bringing together «that being studied and those doing the studying, in an indelible unity» (Rogoff 2006). «[I]t is not possible to stand outside of the problematic and objectify it as a disinterested mode of learning», Rogoff explains; rather it is «a state of duality in which one is at one and the same time, both empowered and disempowered, knowing and unknowing» (Rogoff 2006). Accordingly, criticality cannot arise simply by adding something new to existing knowledge, but it is, again, about the painstaking process of un- and relearning. Rogoff explains this point as follows: «‹Criticality› as I perceive it is precisely in the operations of recognising the limitations of one's thought for one does not learn something new until one unlearns something old, otherwise one is simply adding information rather than rethinking a structure» (Rogoff 2003).

Michel Foucault, who has worked comprehensively on the genealogy of critique and has taken a political position himself, reminded us that a critique that carries weight is always associated with a personal risk for the critic. Critique is not something for which one needs to ask permission, he argued, but an act of self-empowerment. Following him, critique must be regarded as «the movement by which the subject gives himself the right to question truth on its effects of power and question power on its discourses of truth» (Foucault [1997] 2007: 47).

Ultimately, one needs to realize that any critique, however well-intentioned and well-grounded it might be, at some point can turn against itself. It is also sometimes forgotten that the same critique, for example the critique of the state, can be expressed from different sides and with different intentions: by neoliberal as well as by anarchist voices (Foucault 2008). Critique thus definitely has a life of its own, which sometimes goes beyond what once was intended, and it might also include more and other meanings than are explicitly expressed.

Claudia Mareis, Moritz Greiner-Petter & Michael Renner

Against this background, it makes sense to see critique as something that potentially creates diversity and multiplicity. «What would critique do if it could be associated with *more*, not with *less*, with *multiplication*, not *subtraction*», sociologist Bruno Latour asked in view of the problem that, of all things, the critical attitude of science ultimately plays into the hands of science sceptics (Latour 2004: 248). He is concerned with the fact that critique too often damages and diminishes things instead of making them productive. We would like to transpose this concern to the field of critical design practice: what might a contemporary critical design practice look like that is committed, involved, courageous and robust, but is not so elitist, naïve and short-sighted as to be misused and turned against itself?

On design as critical material practice

One aspect that has been important for the conception of this anthology is the question of the different embodiments and socio-material entanglements of design as critical material practice. Many of the following chapters deal with this idea of practical, materialized critique. Whereas in the humanities critique is usually expressed in the form of language and text (which obviously also have a practical and material dimension), in the field of design we can observe a trend to exercise critique in an explicitly embodied and materialized way: through interventions in urban spaces, speculative design objects, fictional film scenarios or thought-provoking images. One driving idea behind materialized critique is that designed artefacts consist of a symbolic–material dimension that triggers both action and thought; that they have an «evocative» character (Turkle 2007). Through their particular usability, readability or affordability, critical objects or critical artefacts, as they might be called, enable access to certain insights, things, spaces and functions and in turn exclude others (see Helvert / Bandono 2016). They aim to challenge and question prevailing views on body, gender, culture and social class and attempt to counter them with new perspectives. The idea that the symbolic–material dimension of design can trigger both action and thought is not only currently driving many design scholars and practitioners, but was adopted (at least partially) by earlier critical design movements. For example, within the semiotically oriented design groups around Ettore Sottsass in Italy (Sparke 2014; Didero 2017) or in the school of Critical and Speculative Design founded by Anthony Dunne and Fiona Raby (Dunne [1999] 2005; Dunne / Raby 2001). However, critical material practice in design is not only about the role and meaning of finished artefacts in their use, but also about the ways of producing them; that is, the activity of inventing, designing and manufacturing. In short, it's about

the process of «thinking through making», as the anthropologist Tim Ingold calls the complex interplay between maker, material and situation (Ingold 2013). A very similar view on design, although stated earlier and against a different background, was suggested by sociologist Donald Schön. He described design as «conversation with the materials of a situation»: «[The designer] shapes the situation in accordance with his initial appreciation of it, the situation ‹talks back›, and he responds to the situation's back-talk. In a good process of design, this conversation with the situation is reflective» (Schön 1983: 78f.).

On the one hand, the trend of seeing design as a *critical material practice* draws on historical traditions and models in the field of design history itself (such as the few examples mentioned above). On the other hand, however, it also benefits from the fact that an awareness of non-textual – that is, visual, material or embodied forms of knowledge production and critique – has been created in the humanities in the decades that have passed. Since the debates around the «linguistic turn» (Rorty 1967) in the humanities in the course of the 20th century it has become clear that the generation and dissemination of knowledge is not only conditioned and limited by language, but is also shaped by media and images, instruments and tools, spatial and material constellations (see Mareis / Windgätter 2013).

The concept of «cultural techniques», for example, coined by an interdisciplinary group of German scholars, follows this critique on language primacy. This concept focuses especially on those practices, techniques and forms of representation which, alongside language, are important for the systematic genesis and analysis of cultural orders and for knowledge-generation processes (Krämer / Bredekamp 2003: 11; see also Winthrop-Young et al. 2013; Siegert 2015). It assumes that culture is not only constituted by language and thought, but also by materiality, cultural techniques and epistemic procedures, such as the practical handling of pictures, sketches, models, diagrams or plans (Krauthausen 2010; Wittmann 2012). Also, the scholars involved in the areas of Image Studies and Visual Culture Studies base their projects precisely on these assumptions (see Mitchell 1994; Boehm 1994; Renner 2011). Cultural techniques, design included, are thus acknowledged to be powerful language alternatives in the process of generating and disseminating knowledge.

Although design researchers do not refer often to the mentioned humanities concepts, many related debates within the field are heading in a similar direction. «Design has its own distinct ‹things to know, ways of knowing them, and ways of finding out about them›», claimed design researcher Nigel Cross (1982: 221). Design knowledge, according to him, is manifested through «people, processes and products» (Cross 2006: 101). His colleague Bruce Archer, who coined the telling

expression «designerly ways of knowing», described design research as «systematic enquiry whose goal is knowledge of, or in, the embodiment of configuration, composition, structure, purpose, value and meaning in man-made things and systems» (Archer 1981: 31). For them and many other design researchers, design represents an independent but often neglected area of practical making and material epistemology that is not covered by the natural sciences and humanities. They see design rather as a practical knowledge culture in its own right, dealing with «the man-made world» and artificial systems (see Cross 1982: 221f.). (Although nowadays, against the backdrop of the Anthropocene crisis, we can hardly distinguish any longer between natural and artificial systems.)

In our opinion, this view of design is reflected in many of the debates about design as a critical practice. As much as we agree with the assertion that knowledge production is a deeply practical and socio-material matter, we also believe that the idea of critical objects and artefacts in design as well as the general praise of practice should be reconsidered in some respects. On the one hand, we see that designers are often still not reflecting critically enough on their own role in shaping the world and society, be it by under- or overestimating their influence, agency or privileges. On the other hand, we believe that the idea that only designers produce critical objects or artefacts blurs the fact that there are many other (both human and non-human) actors involved in shaping and reshaping the world in material ways. As Horst Rittel put it, «Everybody designs sometimes; nobody designs always. Design is not the monopoly of those who call themselves ‹designers›» (Rittel 1988: 1). By this he meant that design is a specific way of thinking and acting that is not found only within design disciplines in the narrower sense, but in numerous other fields of practice too. To this view, which is still strongly influenced by the premises of the «Western» design methods movement, we would like to add that it is not sufficient to simply extend the boundaries of design to different fields of practice or contexts of application. What seems to be much more necessary is different ways of looking at design that are more diverse and inclusive, that no longer start from a narrow image of «the human», and that also consider non-human actors (materials, animals, plants) as co-creators within the design process.

Moreover, the desire for a *practical* change or effect of design critique sometimes has a blind spot, we feel, that manifests itself in some unquestioned biases of designing and making. As numerous authors in this anthology argue, the question of power and agency *in* and *through* design currently presents itself against the background of decolonial, queer–feminist, new materialist and ecological debates

as something that urgently requires revisions. For too long, the discipline has struggled with an understanding of design (and designers) as anything but diverse and inclusive. The many problems with which design has to struggle today are far from being solved – let alone comprehensively understood (Mareis / Paim 2021). In view of the continuing crisis of the present, it is all the more urgent that we ask ourselves what understanding of design we want to criticize and want to cultivate. For too long design has been complicit in exploiting both natural resources and human labour, and ignoring the diversity of both human and non-human actors. Just as in other domains of thinking and acting, designers need to learn and develop «sympoietic practices for living on a damaged planet» (Haraway 2017: M31; see also Haraway 2016: chapter 3).

In addition to the current challenge of rethinking design as a radically diversified and sympathetic form of making between humans and more-than-human beings, there are other concerns too. One that we would like to share is the concern that the potential of artistic activism and critique (from which design historically often benefited) seems to be increasingly incorporated and subdued by the «new spirit of capitalism» (Boltanski / Chiapello 2005). Following the authors Luc Boltanski and Eve Chiapello, every creative act or artistic expression, however innovative, rebellious or critical it may seem, is eventually transformed into a consumable product or service. In the logic of late capitalist and neoliberal markets, creativity has long since ceased to be a unique characteristic reserved for artists and designers, but has become an encompassing social imperative that affects all professional groups equally (Reckwitz 2017). This includes not only the constant pressure to reinvent and change things, but also the acceptance of flexible – that is, precarious – working conditions and uncertain, project-based employment (Raunig et al. 2011). In this constant field of tension between resistance, innovation and commercialization, the numerous approaches to design as *critical material practice* must also be situated. Again, a similar question to that already asked above applies here: what might contemporary critical design practices look like that include creativity and material making in post-human (Forlano 2017) and more-than-human worlds (Puig de la Bellacasa 2017) but are not so solution-oriented and pseudo-innovative that they can easily be instrumentalized and turned against themselves?

As already emphasized at the beginning of this introduction, the aim of this anthology is not to provide ready-made answers, but to bring together a variety of voices and various perspectives around the question of *Critical by Design*?

Claudia Mareis, Moritz Greiner-Petter & Michael Renner

The volume is structured into three main parts – Genealogies, Practices and Positions. These primarily act as thematic reading guidance, while by no means trying to mark definite categorizations or clear-cut divisions. In fact, many of the contributions address and approach their respective subjects in ways that expand across and beyond the proposed notions of the sections. They nonetheless offer a set of larger framings in order to shift attention to certain domains or positionalities from which the chapters can be read and approached.

We consider Part I, Genealogies, foundational in character in a number of ways. Contributions in this part variously retrace conceptual filiations and histories of notions of critique within design and their influences on discourse and practice in the field. They furthermore begin to unpack essential assumptions and epistemes of the discipline of design to displace the vantage points for critical engagements to more fundamental levels of the conditions and epistemological genealogies of the field. In their different focuses, the chapters in this part also map out a range of ways to approach the capacities of critique within design across varying and equally crucial scales, spanning from the level of the artefactual or the critical object to the politics of design.

Design theorist and historian *Annette Geiger* opens the section with her chapter «What is a critical object? Design as ‹desubjugation› (after Foucault)», in which she lays out how Foucault's understanding of critique, unlike critical design's often misleading references to critical theory, offers an appropriate understanding of the critical and emancipatory potential of designed things.

In «The vitality of the negative: critical design between social philosophy and conceptual art» design and art historian *Emanuele Quinz* retraces the genealogies of fundamental theoretical contexts of critical thinking and practices in design and reconstructs the negation of functionality, commodification and usefulness as an influential conceptual model for critical design strategies.

In his detailed philosophical analysis «Ask what can be! Modal critique and design as drivers of accidence», *Bruno Gransche* shows how critique and design share a transformative power in relation to the modal sphere of the *possible*, that is also the sphere of *accidence*. He argues for a *modal design* that assumes responsibility for the often unintended side effects of every act of designing – the structuring of the space of possibility.

In «What are the politics of ontological design? A critical reflection on the mutual becoming of ‹the human› and ‹the world›», design researcher *Michaela Büsse* thoroughly examines the concept of Ontological Design and points out design politics as a blind spot that

is indispensable to appropriately study and characterize contemporary forms of design.

Design philosopher *Mara Recklies* asks in «Engaging in epistemic disobedience: on the decolonialization of design discourses» what it would entail to deconstruct and disobey the deep coloniality of the epistemic foundations, knowledge cultures and ideologies of the design discipline, a challenging endeavour not without its own inherent contradictions.

Part II, Practices, brings together contributions more distinctly oriented towards, informed by and reflecting on critical design in and as practice. Without neglecting questions of materialization, aesthetics and form-giving, the contributions nevertheless share a deliberate shift of attention to the conditions and performance of design practice itself as a mode of critique. They collectively ask how practices need to be extended, reframed and reconfigured to allow for novel and effective forms of practising and articulating critique to emerge.

Anja Groten reflects on her own practice as designer, educator and community organizer as part of the collective Hackers & Designers. In «Unsettling individualized design practice through collaboration», she discusses situations of collaborative making as social prototypes and sites of friction for probing and challenging notions about individual and collective design and knowledge practices.

In «‹Ci concimiamo a vicenda›: building support structures as part of design practice», a conversation between *Meike Hardt* and *Bianca Elzenbaumer*, the two designers and design researchers discuss the economic conditions and cultivated work ethics of design practice itself as a field for creative intervention and critical reconfiguration.

Patrycja Zdziarska, Jeffrey Bardzell and Shaowen Bardzell, humanistic researchers in Informatics and Human–Computer Interaction, adopt the feminist concept of «Re-Vision» as a productive analytical framework for design criticism. In «Re-visioning pelvic care through design», they show how differing design approaches that address a shared issue can perform critically on different scales and to varying degrees.

In «Trojan horses: ambiguity as a critical design strategy», *Emile De Visscher*, researcher and practitioner with a background in design and engineering, argues for a promising space of critical design approaches that effectively bridge the distinction between affirmative, functioning or solution-oriented operation on the one side, and critical, reflective or speculative dimensions on the other.

Similarly, in «Grey design: critical practices of design at the peripheries of the discipline», designer and design researcher *Moritz Greiner-Petter* proposes to diversify understandings of the forms

critical design projects can take and to shift the attention to practices that operate in expanded contexts, where the boundaries of what is recognized as designing are questioned.

Part III, Positions, brings together chapters that are, to various extents, more speculative in character in the way they project and propose new trajectories for critique. These contributions probe the grounds for innovative approaches to critical practices, transfer notions of criticality between the fields to offer new perspectives for design, and take on and develop distinct critical positions and attitudes.

Janneke Wesseling introduces notions of critique from the perspective of art theory and discusses the critical potential of «The ineliminable aesthetic dimension of art». Illustrated by the practices of three artists, she proposes «deictic explanation» as a specific material–discursive gesture of artworks.

Design researcher and practitioner *Guy Julier*, who established Design Culture as an academic field of enquiry that studies the interconnections between design, production and consumption – the relationality of objects, social and material processes – asks what it could mean to understand «Design culture as critical practice».

Designer and researcher *Carl DiSalvo*, in asking «What might be the speculative social?», is proposing a novel mode of practice by critically reassessing and bringing together the fields of Speculative Design, Social Design and Participatory Design.

In «Undesign and understanding», designer and design theorist *Björn Franke* offers the concept of «undesign» as a critical lens, form of inquiry and practice that aims at questioning and undoing adverse ideologies deeply held within the design discipline.

In light of the inevitable political dimension of any design activity and design's enduring and historically elusive claims of neutrality and objectivity, designer and design educator *Jesko Fezer* argues in «Biased design, or the misery of neutrality» for the need for an emphatically political design attitude.

Lastly, as an epilogue to the volume, *Matt Ward* reflects on his extensive experience as a design educator and practitioner in his very personal account of «The life and death of critical and speculative design: post-disciplinarity, post-truth, post-self and post-capital», weaving together a thoughtful retrospective with prospects for more caring, sustainable and self-reflective cultures of design practice and teaching.

25

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Claudia Mareis, Moritz Greiner-Petter & Michael Renner

Social

World
Accidence   by   Critical Object   ?
                   by   Social   Discourses   by
Critical   Critical   by
Critical Design   by
Critical   Critical Design   by   ?
Epistemic   by   ?   Critical Design   by   ?
                            World   by   ?

Critical   by   ?
by   ?

Genealogies

                                                          Understanding   by

                                                                                 Human
                                                                                 Foucault   ?
                                        ?   Accidence   by   ?
                                        ?   World   by   ?

Critical Design   Critical   ?
Politics
                                                                                                    ?

                            Human   Epistemic   by
          by
          by   Discourses   by   ?

          by   Critical   Critical   by   Design Politics ?
Critical Object   by   Ontological   ?   Human
                                                     ?   World
          by   ?   Human
Foucault   by   Critical Design
Accidence   Accidence   ?
          by   ?   Critical   World
                                Critical   by   ?
                                                                                 by   Human   ?
Human   Critical   ?   Human
                                                                                 by   Epistemic
                                Critical Design   by

                                                                                 by   World
Critical Design
Epistemic   by   Critical   ?
                               Politics
                   by   Critical Design   by
                               Critical
Negative   by   Critical   Critical   ?
                               Critical Design   Critical Design   by   ?
                                        ?   World   by
Foucault   by   ?
Critical   Accidence   Politics   ?
                               Desubjugation   by
          by   World   ?   by
          by

Critical Design by Ontological ?

Epistemic by Disobedience ?

Undesign ?
Human by Critical ?
by Critical
Critical by Disobedience ?
by World Critical Design
by ? Critical Critical Design ?
Critical by
Social ? Critical Reflection
by
by
Politics by
Ontological
Politics by
Politics Critical Object by
Foucault ?

Critical Critical Human ?
by ?
Foucault by by Critical Design ?
Foucault
Social by
Foucault Social by Human
by ?
by ? Politics
Mutual Becoming ? Epistemic by Desubjugation ?
Foucault Human and World Politics ?
by
Critical by ? Social Human ?
Critical by ?
by
Epistemic Building ?
Understanding ?
by Human ?
? Social Critical Design ?

Social ?
Critical by Critical Design
Critical ?
by Critical Critical
by Critical Design Discourses
? Accidence ?
? Critical
Critical
Critical Design by Critical
by ?
Critical Design ? Human Ambiguity
Ontological by
by Speculative by

What is a critical object?

Design as

«desubjugation» (after Foucault)

Annette Geiger

It was a lasting achievement of Michel Foucault to ascribe power and control not only to political rulers, but to institutions, their discourses and finally to knowledge itself. Every aspect of our existence is subject to rule and normalization, even through the use of objects. We could therefore apply Foucault's insights to design and posit that artifacts ranging from basic objects of everyday use to the latest technological gadget represent the materialized knowledge of a society. They discipline the user or consumer in their correct handling and the proper use of objects in society. To design, therefore, is a technique of governance. Design is a powerful means for people to impact the world. But design then also forces us into certain ways of being in the world.

This is the background to understand Foucault's concept of criticism. To critique cannot merely mean to design objects by innovative methods and make them more useful and effective. This would result in replacing an established discourse of power and control with a new and even more potent one. Objects would still govern us. We would still follow their operating manuals to make them function. To require and use objects in this mode degrades us into passive consumers.

According to Foucault, there is no superior or more truthful knowledge that would finally help us to break out of the vicious cycle of being dominated through improved designs. Accordingly, to critique specifically does not mean to refute old or established objects and methods to change them according to new insights.

Critique therefore has to strive to subvert the very essence of governing, «as both partner and adversary to the arts of governing,» as Foucault has put it (2007a: 44). Critique is a «way of thinking» that succeeds as «the art of not being governed quite so much» (Foucault 2007a: 45). At issue is an effort to no longer accept the power of objects and the knowledge that works its power through them without criticism. What is called for is resistance. As Foucault has determined: «Critique would essentially insure the desubjugation of the subject in the context of what we could call, in a word, the politics of truth» (Foucault 2007a: 47).

Turning to design, the question then arises: Can the practice of designing effect a desubjugation as defined by Foucault? Could there be a design that would not govern users, but emancipate them? Could objects in and of themselves therefore effectuate criticism? This approach would be new, as cultural discourses have traditionally clung to the idea that works of art are critical by definition: That the arts produce their works for the very purpose of offering criticism – criticism being the purpose of their existence. We object to this convention and maintain that design is still a kind of commodity that has

35

1   «Critical Design,» Wikipedia, https://en. wikipedia.org/wiki/Critical_design.

to be subject to criticism out of principle. A range of criticisms can apply, including: critiques of media and technologies and critiques of consumerism and capitalism. To sharpen the point: only artworks are tools of criticism – commodities can never have that quality. But does this idea really hold true today?

Critical design in the context of definitions of criticism

Today, a new, international movement in critical design is looking for answers to this question, thereby stirring up the teaching of design in academia. This school of thought goes head-to-head with established design theory, questioning the basic premises of the discipline: to be relevant, design theory would have to define concepts of criticism that could serve as a basis for the design of objects that can be tools of criticism. This turns out to be a topic of wide concern. Even Wikipedia is offering a perspective in its entry on «critical design,» starting with the assessment: «Critical design takes a critical theory based approach to design.»[1] But why does the actual practice of designing need a theoretical foundation at all?

I would like to show that the critical properties of critical design ultimately come down to critiquing the theoretical foundations and the methodological toolkit of the discipline. At the same time, calls for a critical theory to ground critical design tend to provoke references to the «critical theory» as defined by the Frankfurt School. But does that framework really provide an answer to our question? Further inquiry seems to be in order here, too.

One argument for this is provided by the two most prominent exponents of critical design, Anthony Dunne and Fiona Raby. They explicitly reject hitching critical design closely to the philosophy of the Frankfurt School: «When people encounter the term *critical design* for the first time, they often assume it has something to do with critical theory and the Frankfurt School or just plain criticism. But it is neither» (Dunne / Raby 2013: 35). Dunne and Raby stake out a much wider framework for critical design by simply stating: «All good design is critical» (Dunne / Raby 2013: 35). We therefore need to identify qualities of objects that go far beyond the ideas of the current movement in critical design. According to Dunne and Raby, critical design could well have occurred in earlier times. They conclude that critical design «is critical thought translated into materiality» (Dunne / Raby 2013: 35).

But does critical theory even provide the ideas to think in such a fashion? As I would like to show, the Frankfurt School refutes the concept that material things have the capacity to serve as media for

Annette Geiger

critical thinking. We therefore have to tackle a twofold misunderstanding. On the one hand, it is unfair to presume that critical design is a product of the theories developed by the Frankfurt School. Secondly, one cannot blithely assume that critical theory can conveniently serve to create innovative methods of design. On the contrary, as a basis for further inquiry we have to establish who can legitimately offer criticism of anyone else.

But it gets even more complicated: Critical design has itself already become the target of criticism, presumably resulting from misconceptions of what constitutes a critique. Those practitioners and theorists critical of the new movement do not necessarily share common ground and present arguments that are too diverse for a concise overview. But they share a common thrust by charging critical design with overly focusing on cynical and dystopian scenarios prioritizing fears and worries plaguing the rich Western world. Furthermore, these critics hold that critical design indulges in the production of art-like projects that mostly turn out to be politically irrelevant gadgets and gimmicks, while lacking any perspective on realistic planning and design. Critical design has thereby supposedly betrayed the original goal of improving the world as it exists by instead indulging in egotistical navel-gazing. In the end, according to critics, critical design has already become incapable of making any real difference.[2] These voices push for recharging design theory with utopian concepts. They want at long last to realign intellectual emancipation and political activism as a foundation for work in design. These utopian concepts are supposedly readily available as a legacy of the ideas proposed during 1968, critical theory being the most important contribution to that revolutionary period.

But does this critique concede any new or different ideas to critical design? Critics revert once again to traditional concepts of design that in ever pragmatic fashion should be focused on problem solving and making the world a better place with new things and technologies. In this sense, «criticism» would amount to nothing more than the introduction of a few feedback loops to achieve improved results for all stakeholders by additional participation and discussion, as well as a more comprehensive mediation of the totality of divergent interests at play. But this is exactly the approach that critical design is opposed to: a prioritization of solutions is seen as affirmative and insufficiently critical. The dystopian and the grotesque, and even the bizarre, monstrous and ambivalent are at the core of critical design. Ignoring the function of these qualities can only result in a failure to understand the fundamental shift from a design that solves problems

to a design that generates problems. That shift is pivotal to this new attitude towards the field.

As I endeavor to show, such an effort can be explained in a much more vivid way by applying the concept of criticism proposed by Michel Foucault rather than that of the Frankfurt School. Then critical design can become a critique of the epistemological certainties of knowledge – meaning as a practice and not as theory. That said, I would first like to explain the concept of criticism developed by the critical theory and how the concept would apply to design.

There are quite a number of parallels between Foucault and Adorno, to pick one name from the Frankfurt School. Both would likely have agreed that criticism has to be something different from the definitions proposed by the critics of critical design mentioned above. A truly critical attitude is by no means so innocuous and naive that it could easily be converted into the pragmatic rationality of visionary design as a practice.

Critical theory as criticism of design

Published in a revised edition in 1947, *Dialectic of Enlightenment* is considered a core work of the Frankfurt School. Authors Theodor W. Adorno and Max Horkheimer identify a technocratic rationality as the key driver of the self-destructive processes that now threaten the very existence of mankind and nature. The same intellectual approach is at the heart of a design education overly focused on practical solutions. According to Adorno and Horkheimer, enlightenment always reverts to mythology as its opposite and thereby turns into political and social oppression. Adorno has applied this dialectic explanation to design practice in his essay «Functionalism Today» (2005), where he shows how a utilitarian rationalism in planning and building has resulted in a new barbarism, a process that became increasingly evident in the icy inhumanity of postwar architecture. Adorno and Horkheimer point to the idealized objectivism inherent in positivist philosophy and absolutist claims of truth according to an ideology of knowledge as the main drivers for this thrust to optimize utility and efficiency. A critique of ideology therefore cannot be reduced to developing a counter-ideology to correct the errors of their precursor and again claim superior knowledge. In the *Dialectic of Enlightenment,* knowledge itself becomes the problem.

One should not forget that Adorno and Horkheimer came out publicly against the rebellious movement of 1968. Even as young intellectuals claimed them as father figures, the elders of the Frankfurt School refused to show solidarity with the movement (Rath 2018). Adorno and Horkheimer saw the students and their newly fashioned

counterculture merely as acolytes of yet another lie of the cultural industry. As the protesters celebrated alternative or even critical consumer products, Adorno and Horkheimer always maintained that these items were still commodities in the first place. «Wrong life can not be lived rightly,» as Adorno famously concluded in his «Minima Moralia» (1978: §18).

Only a total departure from the world of material commodities into an immaterial sphere of intellect could promise a legitimate salvation, or a «Gegenglück,» an alternative existence of true happiness, as the poet Gottfried Benn has put it. According to the Frankfurt School, there can be no critical objects.

Up to this point there are certain parallels between critical theory and Foucault, who has identified a «furor of power» (Foucault 2007a: 54) as a product of the rational utilitarianism inherent in enlightenment philosophy. Whomever claims to pursue a utopian effort to make the world a better place by the might of their designs therefore cannot build their pretenses on the thinkers of the Frankfurt School. Adorno would also clearly have steered away from the identity politics of our day on the terms of race, class and gender. He would merely have recognized these strategies as substitutes for traditional ideologies of power and domination. According to Adorno's critical perspective, individuals cannot claim a legitimate identity at all. The only possibility of achieving a righteous existence as a non-Ego in a dialectical sense would be in a deep dissonance, if not a schizophrenic attitude towards oneself. As we will see, Foucault took another position on these issues. But in our quest for an appropriate concept of criticism we can already point out that the Frankfurt School proposed radical ideas that stand in the way of an activist approach to design cloaked in erroneous claims of enlightenment.

This background further complicates the relationship between critical theory and critical design. Both approaches certainly agree in their opposition to the traditional concept of design that prioritizes the optimistic pursuit of practical solutions. But they fundamentally diverge in their attitude towards the role of the arts and design in society. Here the Frankfurt School was much more conservative and never really departed from old-school European thought going back to Hegel. Only the arts supposedly could provide a realm to legitimately lead a critical existence. And only an artwork could transcend the quality of objects as commodities because it works towards dissent and dissonance instead of trying for consensus and material satisfaction. Art therefore was seen as departing the comfort zones of life that design always has to cater too. According to Adorno and Horkheimer, design by definition has to be based on normalization and common standards to produce optimal solutions as craftedforms

for the needs of everybody. This consensus is inherently understood as needs determined by a society as a whole. This also means that not every individual wish has to be necessarily fulfilled: there is a larger, comprehensive rationality at work. As design sets out from a superior knowledge that already has determined what is good and rational, designing material objects inevitably produces ideologies. Critical theory could only reject this dynamic as a whole.

Their position could be illustrated with the example of a regular chair. According to critical theory, there can be no such thing as an innocent object or piece of furniture. The dialectic of enlightenment is present in every item designed by mankind. The invention of chairs not only allowed us to sit more comfortably, but also enabled people to perform new kinds of work. Chairs enabled us to achieve education and culture, progress and technology. For without sitting down to read, write and think, we would still be hunters and gatherers. However, critical thinking not only looks at the bright side of progress in civilization but also at the damage done to body and soul by all this sitting down. And there is more. Our intellectual labors done in a sitting position have had dramatic consequences for our environment. Applying critical theory and the dialectic of enlightenment, one could even say that as mankind moved to sit down on chairs, we also launched the Anthropocene that has succeeded in wreaking wholesale changes and devastation on our planet since the year 1800. One must assume that every technological-industrial invention has been devised by sitting people. And therefore, chairs must be regarded as a tool of mankind to perpetrate domination. However good the intentions behind the creation of material things might be, critical theory always has to regard them as problematic.

This leaves only the arts as an avenue of escape from the world of commodities, true to the words of Hegel. He stated that the artwork provides the medium for absolute thought to transcend the material qualities of things (Hegel 1971: 48). Therefore it would even be possible to rise to a purely intellectual level of the world-soul, free from any trace of materiality, because matter is not able to absorb critical knowledge. As the state of objects as commodities or matter itself becomes the problem, improving objects by critical thinking no longer provides a solution. The Frankfurt School rejects all shades of an epistemological optimism or discourse on feasibility in current thought on design – including the tradition of American pragmatism, the school of Bruno Latour and his actor-network theory (ANT) as well as the fundamental ontology proposed by Heidegger.

A negative dialectic, according to Adorno, therefore cannot serve as a bridge to critical design, as critical design is explicitly devoted to shape material objects. Seen from the vantage of the Frankfurt School,

Annette Geiger

3 As one of the editors puts it in her intro-
duction: «Undesign upsets this symmetrical
relation that assumes design is the very
solution to the very same problems it cre-
ates» (Coombs et al. 2019: 1).

practicing critical design means to willingly give up on the immaterial and discursive qualities of the arts to stay bound to everyday objects. Such objects are being designed to be of practical use even as they germinate as figments of the imagination. One should not ignore this difference to an artwork that is meant for intellectual reflection and explicitly not for material use or consumption. This leads to the conclusion that critical design cannot be critical in the sense artworks are. Critical design therefore is *not* art and demands a fundamentally different concept of criticism.

Yet efforts to salvage the Frankfurt School for theories of design continue unabated. One such interesting enterprise is presented by the volume of essays *Undesign: Critical Practices at the Intersection of Art and Design* (Coombs et al. 2019). The authors plead for *less* innovation in design as our problems cannot easily be solved by an endless stream of new objects. This includes a downright retreat from design as an endeavor.[3] The authors extend their criticism even to the political design activists of the DIY movement and the maker culture, accusing them of continuing to produce objects whereas the only solution would be the renunciation of objects (Coombs et al. 2019: 3).

Following this line of reasoning, the authors call for a «de-progressive design» and recommend an attitude of «I prefer not to» modeled on the tragic protagonist in Herman Melville's short story «Bartleby» (Tonkinwise 2019), who refuses to follow the demands and pressures of the modern workplace. In this way, a refusal to design should become a new attitude towards design. Hegel provides a convenient basis for such a concept. Some 200 years after «the end of the arts» that the philosopher had defined as overcoming material works of art via absolute ideas, we are here met with «the end of design» – as an «undesign» that has given up on creating objects.

This stance might well concur with critical theory, but not with critical design. Critical design continues to confront us with material objects. Refusing new things would also hardly resolve the power issues we already have. Design as a desubjugation, according to Foucault, therefore has a different meaning than a revocation of the practice. I propose that in critical design the theory does not criticize the practice (to the end that theory now even gives the command to desist from design), but that the practice is engaged in criticizing the knowledge at the heart of theory. We therefore encounter material things here, and not only immaterial intellectual musings.

Critical practice as criticism of knowledge

As I see it, critical design rests on one core idea: practical experience does weaken the epistemological value of philosophical theory. Whether a design has a critical or an affirmative effect, whether it works in the ideological service of domination or for an emancipatory «desubjugation,» all of these issues have to be discussed around the objects themselves. Otherwise, we would grasp neither their value nor their critical potential. To phrase criticism in the shape of objects, critical design has to abstain from usable objects for commercial markets. These would only serve to again discipline consumers via their norms and standards. Among others, Paola Antonelli (2011), the curator for design at the Museum of Modern Art (MoMA) in New York City, has suggested this as the crucial characteristic for critical design as a movement.[4] Usable, utilitarian objects would be consensual and thereby affirmative. Switching over to speculative objects is therefore not some arbitrary postmodern ploy of critical design. The move into the fictional proves to be necessary to formulate criticism. We meet imaginary objects that are presented as a model or prototype, as series of sketches or illustrations to clarify a specific point that we would reject if we came across it in our everyday lives. Even if one had such critical objects functioning and readily at hand, one might not really use them. The lighters developing tumors on their surface, designed by Jackson McConnell, only exist as a series of digitally rendered images (Fig. 1.1), but they provoke us to think seriously about our expectations from objects. We want them not only to work properly; objects should also satisfy us on a symbolic level. And the lighters refuse to provide exactly this service by producing a dilemma in communicating the exact opposite of their supposed use. Critical design creates dissonance. Matt Malpass grasped the essential quality of these designs when he described them as «post-optimal» and «para-functional» (Malpass 2017: 47).

Fig. 1.1 Jackson McConnell, lighters as critical objects, 2011.

The iron-clad law of user-friendliness has been rooted out completely. Critical objects are «user-unfriendly». They confront us with bizarre emotions. Ratio and mind get confused and lose their grip. We run into a grotesque incapacity to make decisions. In this respect – and only in this respect! – objects created by critical design are truly critical and non-affirmative: they rule out unreflected use and throw our needs and desires, our expectations

and convictions into a profound confusion. Knowledge itself loses its footing at this point. Another project creates similar, ambivalent feelings. In 2016, in «Sea-Meat Seaweed,» designer Hanan Alkouh experimented with the future of our diet in a «post-meat-world» (Fig. 1.2).[5] She foresaw a civilization that had overcome the consumption of meat after a diet based on animal protein had become unsustainable for our environment. Alkouh wanted to combine innovative research into materials with traditional crafts: butchery should not become extinct as a profession and we could also preserve our passion for a slice of meat and the sophisticated culinary culture built to cater for it.

Hanan Alkouh therefore developed an alternative meat made from a red alga called «dulse alga.» If you fry it, this seaweed tastes just like bacon and it can be called a «superfood» as it is rich in vitamins, minerals and so on. Supposedly there is an ample supply of it in the oceans, just waiting to be harvested. Once the «meat» has been packed into a pigskin made from plastic, it can be butchered and prepared according to time-honored rules of craftsmanship. While obstacles remain to the realization of this vision, the idea alone is fascinating, as it is repulsive and attractive at the same time. Rational minds can be duly excited about taking giant steps towards the utopia of a world without meat.

Fig. 1.2, Hanan Alkouh, Sea-Meat Seaweed, 2016.

Yet the envisioned substitute animal is not that easy to swallow. Everyone has to ask themselves: Will I go along with this? Am I ready for a new world of surrogates that has been made necessary because we are too many people on earth and cannot sustain our current lifestyles? In this case, criticism means to essentially question everything we want to hold on to whatever may come: our individual choices, our cultural identities and the ideas we hold as certainties.

Critical design talks about this fundamental crisis. Knowledge is powerless in the face of practical problems, as we practice lives that are more ambivalent than the rationality of a thinking focused on everyday solutions allows. In this sense, critical design provides a tangible archeology of the future: fictitious remnants of items that either do not exist or cannot be manufactured yet force us to imagine a coming civilization. What will remain of our current culture if future

43

needs demand a restriction of human influence on nature? This might just sound dystopian, but only because we still refuse to believe that such a course of history could be upon us.

The traditional concept of design focused on unambiguous solutions is failing at this point as we are entering situations that are critically undecidable. «Critical» means here: a fundamental lack of knowledge. And this is just what, according to Foucault, desubjugation aims for: the governing mechanisms controlling objects cease to dominate us as the knowledge underlying their power fails. How could a critical chair look in this context? As pointed out above, given that sitting itself is our problem, there can be no innocent chair. Accordingly, Dunne and Raby speculated in their conceptual design «Faraday Chair» from 1995 (Fig. 1.3) that chairs might have to take over the mission to protect people from the fruits of their own labors. For instance, a kind of couch or lounger could incapacitate our ability to perform any kind of work and instead keep us away from an active life. The radiation emanating from our permanently wired gadgets could reach such an intensity that we would be forced to retreat into special shelters to rest. At least that was their vision.

Fig. 1.3 Antony Dunne, Fiona Raby, Faraday Chair. Photographer Lubna Hammoud, 1999.

But why should such an expectation be only speculative and dystopian? Thousands of pilots and flight attendants already run «radiation accounts» to monitor their exposure to cosmic radiation while they are airborne. If they reach dangerous doses, they have to stay on the ground. This is already a reality. Could we all meet such a fate? And how would we deal with it? The dialectic of enlightenment has caught up with us before civilization could offer solutions. And how, indeed, would we feel using the lounger conceptualized by Dunne and Raby? Would it be like being buried alive, squeezed into some kind of coffin; or rather like being an unborn, cozy in a fetal position in the mother's womb? The object does not provide answers. It was devised to remain ambivalent. It primarily serves to demonstrate an epistemological crisis.

I would therefore like to suggest a definition of what makes a critical object: it is a thing that does not try to resolve a dilemma that it exposes. The wound that the dialectic of enlightenment is inflicting on us is being kept open. There is no way around the dystopian dimension of critical objects – or else there would be no reason to doubt our knowledge or our cognitive faculty. Critical design is a design of crisis given the shape of practical objects. Anyone who

deems this definition too negative or overly dialectical, in the way of Adorno, should turn to Foucault in order to develop a version of criticism that could provide a better basis for everyday life.

Life as criticism

Human-centered design has failed to make the world a better place by offering solutions focused on users, because the human factor typically is the problem. Should humankind therefore start to learn to think against humans and plan «inhumanely» to get beyond merely satisfying their own wishes and rather save all actors and elements on our planet – plants, animals, the air and water, our whole environment? Today, anti-anthropocentric ideas are enjoying a revival. Some pursue technological and posthuman visions. Others wish to take humanity down a few notches and seek to integrate our kind into a complex network of actors or a «parliament of things» (Latour [1999] 2009), as one voice among many. These thinkers only allow schemes that subordinate humanity to higher causes. But to get there, new forms of power and governance will have to be deployed. Under such an order, individuals would be even more repressed than ever before and would lose any control over their own lives. Despite these obvious risks, design theory currently is accepting many aspects of these ideas with enthusiasm. It is just too hard to resist the promise to achieve practical solutions through the application of more technology and progress. Supporters are seduced by the prospect of reestablishing the validity of solutions-oriented approaches via a newly accomplished legitimacy of the purposes of design. Yet they are completely blind to the fact that pressure to innovate and apply technologies always ends in a maximization of domination. Technologies can never be free of ideology, as they inherently do not permit the choice to decline participation in progress.

Desubjugation, according to Foucault, does not mean submitting oneself to the better proven knowledge of technologies of superior functionality. Foucault wants us to cease submissiveness. To this end, the approach developed by Foucault needs humanity and the individual more than ever before. Only an individual subject can practice criticism as a critical attitude towards any form of domination – for example by the way they live their lives in regard to objects (Foucault 2007a: 56). Building on Kant, Foucault argues that a critique of knowledge can only succeed as a performed practice – otherwise it would just be another form of knowledge accompanied with a respective discursive power. For Foucault, only an individual who is aware of their own perceptions and reflects on them can be the legitimate locus of a critical practice. And such an existence has to prioritize a critical

interaction with objects. The design of objects can be of assistance here by not forcing a subject into standardized actions. Design can also help us to question the resulting objects. And this is exactly what critical design aims for.

This movement is centered on designing objects that do not appear to provide solutions for problems. On the contrary, critical design strives to create problems or at least to pose questions. Critical objects are not ready for easy consumption. They do not reflect a dubious consensus that Adorno has warned us about. Rather, critical objects in and of themselves prevent user satisfaction. Only at this point does a critical use of objects turn into desubjugation.

Contrary to Adorno, Foucault therefore did not regard a retreat from the world of objects and commodities to the arts as a necessary condition to practice a critical attitude. The place for desubjugation is indeed an everyday practice of «the art of living» or an «aesthetic existence.»[6] What is meant here are not the visual arts or esotericism employed to enhance individual wellbeing but a *techné* in the sense of craftsmanship and practical application, as an exercise to handle objects without succumbing to dependency on them. In this instance a self-governance takes over the helm that is understood as a resistance against the automatism of objects and habits, as well as against the optimization of uses and utilitarian exploitation. As Judith Butler (2011) explains in her essay on Foucault's deliberations in «What Is Critique?,» he meant a virtuous, practical existence: «existential arts» as defined by Foucault shape the whole existence as a creation if not as a work of art (Foucault 2007a: 9). This includes the liberty to refrain from doing something. Voluntary self-control therefore is at the heart of self-creation.

Designers are no longer necessary in this existence. But Foucault also developed perspectives on the ways the designs of objects and places could help us to practice a critical attitude. Places and objects are needed that do not predetermine how they are being used. In his early writings, Foucault developed the term «heterotopy» or «other places» for these requirements, defining them as:

> real places – places that do exist and that are formed in the very founding of society – which are something like counter-sites, a kind of effectively enacted utopia in which the real sites, all the other real sites that can be found within the culture, are simultaneously represented, contested, and inverted. Places of this kind are outside of all places, even though it may be possible to indicate their location in reality. (Foucault 1993: 39)

Heterotopy functions as a site of crisis; it reveals and practices an in-between, an ambivalence, an abstinence from defining order and domination shaped as transition and ritual (as in fairgrounds or processions), as passages through time and space (such as ships), of knowledge and ignorance (libraries, museums), utopia (gardens) and dystopia (hospitals, prisons, colonies). Life and death, peace and violence, fantasy and the law, freedom and norms are clashing here without any resolution in sight. There are only upheavals and interplay. These objects and places do not prevent or cover up the crisis of knowledge; they reveal it and open it up for us to experience. An individual can take a critical position on this or experience the crisis inherent in objects and places in the first place. Openness and freedom come into view, but also the hopelessness for decisions and resolutions. Foucault described heterotopies as «the greatest reserve of the imagination» (Foucault 1993: 46) in society; this looks like a suitable term comprising the simultaneously utopian and dystopian potential of critical design.

Current critics of critical design have not yet sufficiently appreciated this elementary function. Design is not only devoted to the mission of offering good solutions for our practical routines. Design must question these very routines. Critical design sows confusion in the world to curb the overwhelming powers of the status quo. Critical objects make evident for us that there are no solutions in the form of objects, as objects themselves create the problem. Only by realizing this crisis of objects can we begin to throw off their yoke.

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The vitality of the negative:

critical design

between social philosophy and

conceptual art

Emanuele Quinz

I

It is possible to identify a genealogy of the critical paradigm in design, a sequence that begins with the Italian Radical Design of the 1960s, continues with the Dutch Conceptual Design of the 1990s and the Critical Design promoted by Anthony Dunne and Fiona Raby in the UK in the 2000s, and goes on into a multitude of current practices, engaged as well as experimental.[1]

In order to get a clear sense of this attitude that traces its contrasting paths within the history of design, it is crucial to consider the individual episodes of its genealogy from the broader perspective of intellectual history. By defining themselves as *critical*, all of the different design strategies underpinning these various episodes adopt an explicit theoretical orientation that is at once *positional* and *oppositional* within a specific context, engaged with social, political, but also philosophical tensions.

Thus, the debate surrounding *function*, which is the primary arena in which critical design intervenes and expresses its opposition, must be read in the broader context of a debate regarding *functionalism*, understood as the *logic* and *morality* on which the system of production and consumption is based in the socioeconomic context of Western capitalism.

In the same way, it is important that we juxtapose the emergence of the critical paradigm in design and its conceptual framework with the *critical turn* that led to the emergence of the conceptual paradigm in the history of art. Just as conceptual artworks, to borrow Joseph Kosuth's formulation, «express definitions of art» (Kosuth [1969] 1991: 21), so the projects of critical design embody singular definitions of design or, more precisely, *anti-definitions*, which draw their force from their opposition to a traditional model of design that seeks the broadest possible appeal, and their tactics from the systematic negation of the (formal but above all functional) strategies on which that model is based.

Moreover, by introducing the historical density of the specific theoretical context in which these projects identify themselves as critical, we also become able to assess their impact and, by that same token, to delineate a (history of the) *critique of critical design.*

II

Reconstructing the theoretical context of these critical positions is no easy matter for design historians, since it means taking into

account a wide range of sources that lie outside the boundaries of their field.

For example, mapping out the positions of the Radical constellation in Italy in the 1960s and 1970s, between the economic boom and the socio-politically tumultuous Years of Lead, presents a formidable challenge. Rarely has theoretical ferment produced such density and complexity, with manifestos, essays, magazines, and productive interdisciplinary collaborations. So much so that, in some cases, theoretical production gradually invaded the field of the design project itself, replacing the object.

While the ground has already been laid for a reading of the ties between certain theories of radical architecture and *operaista* political thought in the context of Italian neo- or post-Marxism (see for example Aureli 2008), other chains of influence, other stratifications, filiations, and ramifications still remain to be explored.

I will confine myself here to highlighting one of the many threads that go to make up this complex web; it involves borrowing the analytical perspective developed by the social philosophy of the period, interwoven with the constellation of theories that guide political action. This perspective is primarily drawn upon for a definition of art, which the Radicals then extend to architecture and design, where the *critical* dimension expresses itself as *negation* – a position, I suggest, which then goes on to constitute a fundamental theoretical framework for the critical design strategies developed in the following decades.

From the perspective of the social philosophy of the 1960s, the attack on modernist idealism, which is the first major battle undertaken by the Italian Radicals, must be seen in conjunction with the diagnosis of the transformation «of an architectural civilization [*civiltà architettonica*] into a commercial civilization [*civiltà merceologica*]» (Branzi 2014: 18) – a view that regards the progressive industrialization of systems of production and the mass distribution of goods as converging in a political project of domination. Within the general framework posited by Marxist materialism, the analysis developed by the various representatives of the Frankfurt School – in particular Marcuse, Adorno, and Horkheimer, whose translated texts were widely influential in Italy at the time (see Clemente 2001; Galli 1973) – supplies the basic theoretical notions and perspectives, linking the development of the technical apparatus of production and distribution to a general transformation of the social sphere. The evolution of industrial culture can no longer be isolated from its social and political effects. The mechanization and rationalization of the processes of production, the *serialization* of the products themselves, and the *standardization* of their forms have their counterpart in a similar serialization and standardization of values and behaviors.

Emanuele Quinz

The imperative of production and consumption tends to fill the entire space of individual and collective life as a now-dominant, even totalitarian system, dictating not only occupations but also needs and aspirations.

The notion of function, which is central to our reflection on the role of design, must therefore be read from this systemic perspective. It assumes the role of the cornerstone of a new form of rationality that Horkheimer defines as *instrumental reason* (see Horkheimer 1947; Jay 2016). Combining the objectivity of science with the operational empiricism of technology, this rationality is not organized around the territory of the real but on the contrary *organizes it*.

In this process of advancing rationalization, in which «technological reasoning, which tends ‹to identify things and their functions›» (Marcuse [1964] 2002: 90; here Marcuse cites Gerr 1942: 156), spreads to all levels, from the design of objects to the organization of society and the shaping of the rhythms of work and everyday life, that reasoning loses its purely circumstantial dimension, becoming instead an abstract mechanism that dictates the conversion of qualities into quantities, objects into instruments, and behaviors into operations: «technological rationality has become political rationality» (Marcuse [1964] 2002: xlvii).

With its aim of transforming society into a highly regulated, stable, and linear mechanism, the system tends to implement practices that absorb all contradiction. The free play of philosophical speculation and artistic imagination is reduced to the material goals of satisfying material needs. The controlled regulation of the spaces of conditional freedom (freedom of action, thought, speech, and conscience, as well as creativity) ensures the maintenance of a peaceful status quo, a standardized form of social cohesion. By promoting forms of material and intellectual comfort and apparent satisfaction, the system is able to eliminate any thought of social liberation. In this way, it causes the subject to «interiorize ... coercion» (Horkheimer [1968] 2002: 56, passim), leading it to view functionalist rationality as the morality of a positive and necessary order, that of «modern well-being,» which «promote[s] the art of life» and satisfies the urge «to live ..., to live well, ... to live better» (Marcuse [1964] 2002: 232; here Marcuse cites Whitehead 1959: 5). The result is the establishment of a condition that Marcuse, in a variation on Hegel and Marx, calls the «happy consciousness,» which

> reflects the belief that the real is the rational, and that the established system, in spite of everything, delivers the goods. The people are led to find in the productive apparatus the effective agent of thought and action to which their personal thought and action can and must be surrendered. And in this

See Adorno / Horkheimer ([1947] 2002), particularly the chapter on the *Kulturindustrie* («The Culture Industry: Enlightenment as Mass Deception»: 94–136).

transfer, the apparatus also assumes the role of a moral agent. Conscience is absolved by reification, by the general necessity of things. (Marcuse [1964] 2002: 82)

In a famous passage of *Dialektik der Aufklärung* (*Dialectic of Enlightenment*, 1947), Adorno and Horkheimer had already described the fate of art under advanced capitalism. When the work is replaced by the product or service, when meaning is supplanted by function and truth by necessity, art loses its speculative power and becomes absorbed by industrial logic; it becomes the *culture industry*.[2] An idealist vision of art survives in Adorno and Horkheimer's analysis but also in Marcuse's, albeit filtered through dialectical materialis and Nietzsche, a vision in which critical tension is not just art's mission but its nature. Art is alienated *by nature* because it is rooted in a position of antagonism, of consubstantial alterity, not just with respect to the social sphere but also vis-à-vis the reality principle it establishes. Moreover, when faced with the threat of its own destruction by the positive logic of industry, it is forced to radicalize its negative impulse, negating the system's forms to negate its values.

In *One-Dimensional Man* (1964), Marcuse suggests a number of different approaches, which are precisely those that will be adopted by critical design, beginning with the Italian Radicals. One involves responding to the passivity demanded by functionalist rationality with critical detachment, on the model of Brecht's *Verfremdungseffekt.* Another involves using systematic strategies of ambiguity to thwart that rationality's mechanisms.

This was the approach already taken by the artistic avant-gardes of the early 20th century and systematized by Dada and Surrealism, that of a *revolution internal to language.* In poetry it proceeded by deviating from syntactical norms and the binary logic of the bond between signifier and signified in images and objects by freeing signs from their functional economy in order to restore their symbolic power, transforming them into «objects with a symbolic function» (Giacometti), «objects of affection» (Man Ray), or «poem objects» (Breton). As Marcuse points out, this approach leads to a situation where political revolt is expressed as «poetic subversion.» Not only does art become critique, but (political) critique occurs through artistic action. Seen from this theoretical perspective, critical practices appear as guerilla operations which attack the instrumental function of objects in order to strike at the oppressive normativity of the project of functionalist rationality itself. Thus, for the Italian Radicals, the choice of design seems to be motivated by a negative impulse. They confront the luminous triumph of positivism with the

3 «The Vitality of the Negative» is the pro-
grammatic title of an exhibition of the time
(Rome, Palazzo delle Esposizioni, 1970,
curated by Achille Bonito Oliva).

giddy or uncanny resonance of the negative. Rather than viewing design as a specific ans self-contained field, they regard it as a middle path between architecture and art. From architecture, it inherits the existence of a tangible social impact, while condemning architecture's inevitable surrender to the system of power. From art, it borrows its methods (ranging from the montage of heterogeneous elements to the ready-made, from the strategies of ambiguity and Surrealist analogy to Situationist *détournement* or hijacking). Unlike architecture and art, however, design speaks the same language as technology and industry, which enables it to act against the system *from within* by manipulating the very same objects and images that allow the system to condition behaviors and legitimate its values. As proclaimed by Superstudio and Archizoom in the manifesto *Superarchitettura* (*Super-Architecture*, 1966), the strategy of radical ambiguity «accepts the logic of production and consumption and works for its demystification» (Archizoom / Superstudio [1966] 2016: 4). The radical object functions as «a ‹Trojan horse›» (Branzi 1984: 54), which insinuates itself into the domestic sphere, the protected domain of the bourgeoisie, and exploits its forms and rituals in order to overturn its values. Design as a means of infiltrating the fabric of everyday life – *against design: counter-design* (see Sottsass [1972] 2002: 225–226).

The strategies adopted by the radical constellation are varied and deserve to be analyzed in their diversity. While they expand the project of design beyond the object itself to a wide range of different supports – installation-based, audiovisual, narrative, or performative – they all reflect the same *vitality of the negative.*[3]

This choice of the negative is vehemently criticized by architectural historian Manfredo Tafuri, who condemns what he views as the project's slide into utopianism. For Tafuri, by abdicating design's true mission, its legitimate place at the helm of the cycles of production, and instead proposing models of counter-design which are speculative, dysfunctional, theoretical, and utopian, the radical avant-garde assigns «a ... persuasive rather than operative role» to design (Tafuri [1969] 1998: 30), in which the «desacralization of values» becomes «the new, unique value» (Tafuri [1973] 1976: 55). For Tafuri, the critical dimension can only be judged in light of its «operativity,» its capacity to instigate an actual transformation. Reaffirming fears already expressed by Marcuse, Tafuri insists that the capitalist system always succeeds in metabolizing the most advanced artistic positions, neutralizing their subversive charge. Be that as it may, the radical constellation establishes the negative and dysfunctional model derived from the dialectic of 1960s social philosophy as the matrix and model for

the critical design and counter-design of the following decades, which defines itself as a «form of social research to integrate aesthetic experience with everyday life through ‹conceptual products›» (Dunne 1999: 20).[4]

III

As for Marcuse, so for Tafuri, analysis is incapable of stepping beyond the horizon of the modern, and critique is essentially *consciousness of the crisis*. In *Le système des objets* (*The System of Objects*, 1968), Jean Baudrillard shifts the focus of social critique. While it is true that in advanced industrial society the logic of the system of objects is based on a functional rationality that is becoming increasingly abstract, for Baudrillard this abstraction shows that the system of objects is now defined as a *system of signs*. The advent of consumer society replaces the material economy of needs and satisfactions with an immaterial economy of signification. The values defined by the economy of the sign are no longer tied to use. Nor are they linked to the economic logic of exchange value, based on the equivalence of goods and products. Rather, they are tied to a system of symbolic exchange based on the ambiguity and reversibility of symbols, a differential logic that permeates the entire sphere, from objects to behaviors. In this transition from industrial to consumer society, function is replaced by *functionality*, understood as the confluence of the object's primary, instrumental functions and its secondary, symbolic ones.

Compared to the analytical models of the Frankfurt School, Baudrillard shifts not only the perspective but also the focus. Faced with the triumph of determinism and functionalist positivism, he seeks to concentrate on its effects rather than its causes, on the social transformations associated with the technical evolution: «how objects are experienced, what needs other than functional ones they answer, what mental structures are interwoven with – and contradict – their functional structures» (Baudrillard [1968] 1996: 4).

The terrain of analysis now becomes the private home and in particular the «modern house,» the center of the bourgeois world of the postwar economic boom and design's privileged field of application, where the organization of furniture and furnishings reflects the organization of social structures and that of the political economy of signs, which gives expression to the *morality of functionality*.

After establishing the theoretical framework and describing the new incarnations of functionalism, Baudrillard turns his attention to certain categories of objects which elude that framework, strange

5   The term «parafunctionality» is later adopt-
    ed by Dunne (1999: 42).

and useless objects that represent «func-
tional aberrations,» dys- or «parafunctional»
objects such as gadgets or *objets trouvés*
(Baudrillard [1968] 1996: 113).[5] But he focuses
on other objects as well – eccentric, primitive, baroque, folkloric, ex-
otic: marginal objects that represent survivals of an anachronistic
symbolic or mythological order and fulfill functions of witness, escap-
ism, symbolic intercession, the evocation of faraway places, and
poetic suggestion in the private sphere, and closely resemble certain
forms adopted by critical design, from the Italian Radicals to the Dutch
Conceptual Design of the 1990s and beyond. In their redundancy,
elusive complexity, and anachronism, these objects upset the balance
between functionality and signification, positive and negative.

Baudrillard's analysis gives new life to Umberto Eco's syllogism,
dear to the Radicals, which showed how reducing the object's pri-
mary, instrumental function to a minimum or intentionally suppressing
it makes room for expanding its secondary, symbolic ones. At the
same time, it emphasizes the *surrealist paradigm*, critical design's
adoption of the strategies of ambiguity employed by the artistic
avant-gardes, as already noted by Tafuri. Like the surrealist *objets
trouvés*, the objects of critical design are not *objectively* but *subjec-
tively functional.* In revolt against «the new reality principle of the
object» (Baudrillard [1972] 1981: 194), they oppose «the rational cal-
culus, which ‹liberates› the object in its function,» and champion
an approach «which liberates the object *from* its function, returning
it to free associations from which will re-emerge not the symbolic
(in which the respective crystallization of subject and object does not
take place), but subjectivity itself, ‹liberated› in the phantasm»
(Baudrillard [1972] 1981: 194).

But this strategy, which seeks, by transgressing functional norma-
tivity, to reintroduce individuality (that of the objects but also that
of the subjects) in the face of massification and standardization,
seems unrealistic to Baudrillard, since on closer examination it turns
out be based on the same process that guides functionalist determin-
ism: the *reductio ad absurdum.* If functionalism can seem surreal
with its abstract logic of an «extension of the functional (and seman-
tic) calculus to the whole field of everydayness» (Baudrillard [1972]
1981: 193), surrealism, by reducing the object to its opposite pole,
dys- or parafunctionality, serves as a negative confirmation of func-
tionality as the object's moral law.

«É importante pensare a uno sviluppo per negativo del progetto, dove l'ipotesi sia quella di togliere anziché accumulare, quella di essere effimero invece di incrostare, di non contribuire alla saturazione costruttiva e alla distruzione per eccesso» («It is important to think about taking a negative approach to the project, in which the premise is to remove instead of accumulate, to be ephemeral rather than enduring, to avoid contributing to constructive saturation and destruction through excess») (Mendini [1979] 2004: 66).

IV

In the late 1970s, at the threshold of post-modernism, sociologists began to ponder the phenomenon of kitsch, which marks the appropriation by the masses of the forms and objects of art and design that were previously reserved for the elites, from decorative sculpture to handcrafted furnishings to replicas of streamlined furniture in the Bauhaus style: «kitsch is art applied and adapted to the life of ‹everyone,› to ‹everyday› life» (Mendini [1979] 2004: 68).

Alessandro Mendini borrows the elements of this sociological analysis to propose a reformulation of the negative strategy of critical design. Observing that «all design methods are essentially marking time» (Mendini [1979] 2004: 67) – not just functionalism but the surrealistic and radical strategies of ambiguity as well, which are also absorbed by the logic of consumption – Mendini advocates «taking a negative approach to the project» («uno sviluppo per negativo del progetto»).[6] Rather than producing deviations in a standardized landscape through the systematic use of strangeness or dysfunction, he suggests expanding the idea of the mimetic and subliminal infiltration of the bourgeois domestic sphere – of the object as Trojan horse. Faced with the banalization of design, he advocates responding with *banal design,* which uses the same forms as consumer culture. Like a Duchamp readymade, a Warhol Brillo Box, or Pierre Ménard's Don Quixote in Borges' fiction, the critical object is indistinguishable from the object criticized. The *Poltrona Proust* (*Proust Armchair,* 1978) is as kitschy as kitsch, if not more so. But while the form is identical, the function is no longer the same. Concealed behind the instrumental function is the critical one, which reverses the perspective from which the object is interpreted from positive to negative. In this procedure of reversal, which Mendini does not hesitate to call «amoral,» design moves closer to the protocols of conceptual art's «transfiguration of the commonplace» (see Danto 1981). The banal object no longer attempts to conceal its banality by pretending to be noble. On the contrary, it fully assumes the regressive stigma of that banality and thus becomes a tool of consciousness and social critique. In a nutshell, «we practice hyperrealism on the banal, that is to say, we make it conscious» (Mendini [1980] 2004: 267).

The awareness of the impossibility of an aesthetic hypothesis that would extend to the masses leads to the formulation of the opposite hypothesis, the anti-aesthetic one. Banal design and stylistic amorality may thus be regarded as a revolutionary

idea. Indeed, they give rise to a radical reversal of the prevailing tendency in design projects, because they represent the non-consenting, courageous, and contradictory acceptance of the concrete, limited condition of reality, in which every thing, act, or project involves a finite and determinate constraint and is the banal echo of a transcendent which is inoperative and inaccessible. (Mendini [1979] 2004: 69)

V

In *Les usages sociaux de l'art* (*The Social Uses of Art*, 1999), sociologist Henri-Pierre Jeudy observes a banalization of the «surrealist method» favored by critical design. While British Critical Design, which developed in the 2000s under the impetus of Anthony Dunne and Fiona Raby, turned its back on industry and production and took refuge in the protected domains of the academic and museum worlds, the strategies of ambiguity and dysfunction were picked up by marketing as a means for differentiating products in a fully saturated commercial space.

Jeudy cites the example of Philippe Starck, who elaborates a design approach that incorporates aspects of critical design into highly successful commercial objects. A detailed knowledge of the codes of communication, of the sociocultural stereotypes that guide the interpretation of the signs inscribed in these objects, enables designers to target their deviations with surgical precision. According to Jeudy, in Starck's method the perfectly calibrated proportion of strangeness and dysfunction, the deliberate employment of the useless within a highly structured utilitarian framework, and the irreverent exultation at transgressing functional morality no longer respond to a critical project but rather to a *demagogic* one.

In his analysis of one of Starck's earliest projects, *Prototype 1* (1967), a chair with a missing leg, Jeudy explains how the mere presence of an object like this in a domestic space not only *naturalizes* but *banalizes* its deviant form:

> [W]hen the chair's own essence transcends its function by denying it, the chair itself becomes more banal than it was when it had its missing leg. This game is endless; it could be regarded as trivial if it did not reveal the extent to which the missing aspects or elements in no way compromise the object's function. This is precisely the paradox: the useful and the useless, the strange and the banal can be made so equivalent that the world of objects always seems to triumph over the dysfunctions that challenge it. (Jeudy 1999: 59)

The banality can no longer be reduced to the indistinguishability entailed by the seriality of production, by the principle of repetition. Rather, as Marcuse and Baudrillard had explained, it is the very *nature* of the system of objects. Hence, as Mendini had suggested, the only possible way to generate difference is to heighten that banality, which produces a breach in the system *from within.* The formula of the (no longer *formal* but *functional*) deviation developed by Starck in the 1980s is no longer *amoral* or *immoral,* as in the radical or postmodern strategies, but rather, as Jeudy writes, «moralistic» (Jeudy 1999: 67). What Starck terms «correctness [*justesse*]» refers to the exact proportion of ambiguity, of a never excessive eccentricity which indicates the precise point of equilibrium between individual expressive freedom and the constraints of the system, between *détournement* and reaffirmation. The ambiguity is no longer the means for provoking friction, for causing a split within the normative realm of the economy of signs that would make it possible to step outside it, but rather a rhetorical form of empathy, of willing cooptation, which reaffirms that economy's absolute power.

In the same way, the use of dysfunction is no longer the index of a critical position that distances itself from the system but the sign of an «irony that can be shared in by everyone» (Jeudy 1999: 75), thus ensuring the *ecumenical character of difference,* which replaces the functional rationality of the industrial age and its standardization of forms in the hierarchy of values. In this sense, the principle of correctness (*justesse*) promoted by Starck goes far beyond the framework of formal strategies to evoke the eminently political idea of a social *justice* that legitimates not just the object or design project but design itself more generally, as a practice: «the social vocation is the new utilitarian vocation» (Jeudy 1999: 55). Function is no longer the morality of the object; rather, *morality becomes the function of the object.*

Jeudy cites Starck's own discussion of a vase he designed for Venini:

> Of course, the functions are always the same, and the least one can demand is that the object fulfill its function. Invention lies in discovering a new way of looking at things and designing an object that conveys that new way of looking. So what was a vase? It was morbid to accept that it was a coffin for dead or dying flowers. ... So I designed a vase like a shroud, a horizontal vase, a glass coffin. This as an example which shows that there is no fatality of function. (Philippe Starck, as quoted in Jeudy 1999: 72)

«Meaning,» counters Jeudy, «is never given once and for all; it is constantly diffracted in its effects» (Jeudy 1999: 73).

The meaning of the parable of critical design resides in this logic of diffraction, this play of tensions which opposes it to the system of production and consumption: the effort to show, not that the object is reducible to its function, but, on the contrary, that it is never *purely functional.* While there may not be a fatality of function, there is nevertheless a fatality of signification.

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Ask what can be!

can be!

Modal critique
and design

as drivers

of accidence

Bruno Gransche

Introduction

Critique and design both share a special relation to the sphere of the possible. This sphere comprises all the phenomena, events or entities that are neither necessary nor impossible; this sphere contains all entities that (a) *are, but could not be*, (b) *are not, but could be*, and (c) *are, but could be otherwise.* The possible is one modal sphere besides the necessary and the impossible and it is put forward here as the sphere of *accidence.* Critique loosens the dominant structure of modal beliefs; design hardens new forms of otherness; early phases of conceptual design have loosening effects, critique might evoke defence movements that have hardening effects in turn. This chapter discusses the modal effects of critique and design, their modal transformative power and their specific relation to *accidence.*

  Critique challenges the status quo. To criticize a phenomenon presupposes that it can be different. No one would criticize gravity for instance. Design, on the other hand, explores, reveals and develops possible differentness. Imagining and shaping different forms presupposes the belief that they are possible. No one designs a round square. As two dynamics of the accidence sphere, *critique* and *design* describe two different yet connected human–world relations and they reveal our worldview, our modal judgements about this world – that is what is deemed possible, impossible, or necessary. To criticize something means to reveal its accidental character – its possible differentness – which opens it up to design efforts in the first place. On the other hand, designing something – trying and finding other forms – shows the designer's conviction that new forms are not only possible, but worth the actual designing efforts, and therefore not just different, but better. Exploring and actualizing better forms is in itself a way to criticize present forms. Understood as accidence dynamics, one can be critical by design or enable design by critique. Concrete actions, i.e. practices of critique and design, possess a modally educative power; they help determine whether something could actually be otherwise. In addition to that, critique and design have transformative power over the structure of modal spheres; they work as drivers, challenges, and consequences of accidence. The transformative effects of critique and design on the modal structure can be – and mostly are – unintended side effects, but can also be strategically positioned as the actual objective. Actions oriented in the latter sense can be called *modal critique* and *modal design.*

The modal spheres

The structure of the modal spheres is highly dynamic over time, depending on each actor, and is especially prone to misjudgements: what is possible today does not have to be possible tomorrow; what is possible for me does not have to be possible for others; what one deems possible does not actually have to be possible. The modal spheres and the modal dynamics have to be further investigated in order to draw conclusions concerning critique and design as modal factors.

The modal spheres are divided into three large areas (see Table 3.1).[1] In Table 3.1, *X* stands for a phenomenon, event or entity that stands to be modally judged as being *possible, necessary*, or *impossible*.

Firstly, there is the modal sphere of the *possible* – that is, all those phenomena that (a) can be, (b) cannot be, or (c) can be otherwise; secondly, the modal sphere of the *necessary* – that is, all those phenomena that are and cannot be different; thirdly, the modal sphere of the *impossible* – that is, all those phenomena that are not and cannot be. The sphere of the possible can again be subdivided into the areas of the merely hypothetically or *potentially possible* and the realizable possible (real-possible). The *real-possible* comprises those phenomena that our actions can aim to *realize* – for example, the preparation of a dinner by hand, if the appropriate means are available. The *potentially possible* comprises those phenomena that our actions can aim to *make real-possible*, i.e. primarily technical inventive action – for example, the preparation of a meal via a «replicator»[2] (as in Star Trek), for which the development of the corresponding means («replicator» technology) represents an enabling condition and goal of inventive action.

The distinction between the two areas of possibility depends on the modal judgement by which the real or potential possibility of a phenomenon or event is assessed in the first place. Only with assumed *feasibility* (i.e. being able to bring something about) is a corresponding normative judgement of *desirability* or *imperative* due (i.e. being obliged to bring something about). Only the combination of feasibility and desirability demarcates the set of options that could be pursued. While the dimension of desirability must be considered relative to a given normative orientation as a question of ethics, the assessment of feasibility is an epistemological endeavour. Modal judgement must, therefore, consider two binary levels. On a first

MODAL SPHERES			SUPPOSEDLY	ACTUALLY
POSSIBLE	Receptive to being true	X is real-possible (X can be realised).		
		For oneself	X is supposedly real-possible for me.	X is actually real-possible for me.
		For others	X is supposedly real-possible for others.	X is actually real-possible for others.
	Receptive to being receptive to being true	X is potentially possible (X can become real-possible).		
		For oneself	X is supposedly potentially possible for me.	X is actually potentially possible for me.
		For others	X is supposedly potentially possible for others.	X is actually potentially possible for others.
NECESSARY	Not receptive to being false	X is necessary.		
		For oneself	X is supposedly necessary for me.	X is actually necessary for me.
		For others	X is supposedly necessary for others.	X is actually necessary for others.
IMPOSSIBLE	Not receptive to being true	X is impossible.		
		For oneself	X is supposedly impossible for me.	X is actually impossible for me.
		For others	X is supposedly impossible for others.	X is actually impossible for others.

Table 3.1 Modal spheres

3 «Objective» and «actual» are put in quotation marks in this context because they cannot refer to a metaphysically objective truth but to what is commonly considered or recognized as not falsified or «proven» (see also footnote 10).

4 For an in-depth discussion of *accidence* including its semantic and etymological field see Gransche (2015: 313–353).

5 For a discussion of the term in the Aristotelian sense see Liatsi (2003).

6 The corresponding principle, coming from Roman law, is: *ultra posse nemo obligatur* (beyond one's abilities no one is to be held responsible). This *ultra posse* dictum holds for first-level actions: no one is obliged to do something that they cannot. Second-level action orientation can circumvent this dictum because you can be obliged to become able to do something (learn new skills) that you are not able to do (yet). And if people do not change their skills – refuse to learn or practice – they can very well be considered responsible for not being able to do something that they should (be able to) do. But this is limited to learnable skills or potentially possible aspects, which introduces a modal constraint even on the second level. People cannot be held responsible for not talking French in a given situation if they cannot (first, *ultra posse* level), yet they can be held responsible for not learning French and then not speaking it in future situations (second level, potentially possible type). However, they can never be obliged, for example, to be younger or older than they actually are because they are not and they cannot possibly be (second level, impossible type).

level, there is the difference between subjective and «objective» or epistemological and ontological dimensions of all modal spheres. This level shows that one can err in one's modal judgements and that what one conceived as possible, for example, turns out to be actually impossible or vice versa. The difference on this level can also be understood as *supposed* versus *«actual»* (see respective columns in Table 3.1).[3] On a second level, the plurality of the existential futures – future as a unique personal possibility space – must be taken into account: the relatedness of possibilities to a person, to their abilities and options in contrast to those of other persons. The difference at this level can be understood as *for oneself* versus *for others* (see respective rows in Table 3.1). What is possible for a specific individual is not inevitably possible for other individuals and vice versa. Correspondingly, one cannot easily conclude from the ability-to-X of a collective that an individual can be obliged to do X within that collective skillset. Both the oneself–another and the supposed–actual levels must be cross-classified for each of the modal spheres, resulting in the variety of modal judgements, as shown in Table 3.1, such as *X is supposedly real-possible for me*.

With the Stoa founder Zeno of Citium it can be formulated that: *Possible is what admits of being true or is receptive to being true* (Diogenes Laertius / Hicks [1925] 1972: 7.1 75–76). Accordingly (see second column from the left in Table 3.1), *necessary is what is not receptive to being false* and *impossible is what is not receptive to being true*. It follows that all phenomena within the realms of the necessary and the impossible – the *not receptive* spheres – cannot be changed, for only what can be different can be changed. Originally, the term *accidence*[4] goes back to the Greek term *symbebêkos*,[5] which literally means what *goes with* or what is *present with* something, but *not necessarily or as a rule* (Aristotle, *Metaphysics V*, 30, 1025a). Therefore, the accidence sphere is also, literally, the sphere of change, of action – what would action be if not change? – since *accidere* means to occur, to happen. It entails every event that can occur, every entity

7   Note that the term *necessary* is used in a modal sense here, meaning *not possible not to be*. This is not the everyday language sense of needing something, as in: «In order to keep the office, an apology would be necessary.»

8   From a philosophical point of view, action includes doing nothing, like the act of omission or the act of nonfeasance.

that can be encountered. It is the sphere of praxis, thus the sphere of critique and design – and the *only* one where human action and decision-making is possible; it is, accordingly, the sphere of normative claims, of law and ethics – because obligation implies ability.[6] What you should do is always a subset of what you could do. With the accidence perspective, a special modal dynamic can be put into focus. Throughout the history of ideas – ontology, metaphysics, physics, etc. – a general tendency towards an *accidence expansion* – i.e. expansion of what could be otherwise – appears. This career of accidence shows that almost everything that has been deemed inalterable or necessary[7] at some point actually is differently possible, such as matter (e.g. $m=E/c^2$, radioactive decay), nature (e.g. evolution), social order (e.g. caste, class), etc. Thus, it is obvious that what is considered as necessary, possible, and impossible today will most likely change in the future as well; there is no reason to consider the modal dynamic terminated. The modal structure is not as solid as it seems to be: it could itself be otherwise, and the accidence sphere (including our modal beliefs) is particularly significant to us as the sphere of *future*; as Robert Musil quite famously put it: «this structure is not as solid as it pretends to be; no thing, no self, no form, no principle, is safe, everything is undergoing an invisible but ceaseless transformation, the unsolid holds more of the future than the solid, and the present is nothing but a hypothesis that has not yet been overcome» (Musil 2002: 250; my translation).

Modal design – modal critique

Against the backdrop of this cross-classification appears a specification of possible transformational acts as *modal critique* and *modal design*. Actions[8] that deliberately transform the modal spheres do not aim at a certain real structure, but at the structuring of a possibility space, at rearranging sets of options. Changes to this structure are indirect consequences of *any* action, but they can also be made the direct objective of an action. To give an extreme example: one can kill a person with the direct objective to end this person's life (first-level effect) – an extreme way to express one's critique or to design the social relations with that person. However, such a killing could be done as a means to a modal restructuring (second-level effect), so not primarily in order to end that person's life, but to ensure, for instance, that this person can no longer reveal sensitive information.

In the second case, one could be indifferent to the person's life, yet terminate it to ensure secrecy. The killing in the modally oriented action is a means to an end, whereas in the directly oriented action it is an end. As an indirect consequence in both cases, one has to deal with several other modal rearrangements besides the impossibility of this person talking, such as the impossibility of threatening to kill the person, which was possible before, etc. Therefore, the distinction between directly and modally oriented actions is heuristic: every action always has direct *and* modal effects. «Modal actions» would primarily focus on the modal second-level effects, directly intending modal restructuring, and indirectly accepting the corresponding first-level effects as means. First-level actions in turn directly intend the first-level effects and (indifferently) accept the possible modal second-level effects. The problem with modal actions is uncertainty, the second-level effects are largely unpredictable and potentially endless (butterfly effect). Killing a person radically ensures the end of all effects connected to them; it closes a possibility space, but you never know what effects would have been actualized within that possibility space.The fact that the actual results of the action tend to show greater and unforeseen diversity than the intended results means that actions of the modal design type are less certain and more surprising than actions of the artefact realization type. This is only logical because modal design addresses the medium of concrete options for action. However – and this complicates the matter considerably – we can never act modally, but always only concretely; though we can direct our action either towards concrete realization or towards the always evoked modal effects. The latter is an action that realizes a real objective in an instrumental or accepting way, so to speak, in order to restructure the space of possibility of action. Modal design is not a targeted concrete design but intentionally changes the possibilities, even if the effect of change is to some extent uncertain.

On a merely ontological level, the only entities that qualify as possible action goals are those inside the sphere of the real-possible; only real-possible entities can be brought about. But if action orientation were to stop there, there would be no deliberate progress, no enablement, no expansion of the accidence sphere. However, there is this other set of entities that can be objectives for enabling actions, which aim at a modal relocation. Enabling actions tackle potentially possible entities and develop suitable means, transform conditions, etc., thus moving them from the realm of the potentially possible to the realm of the real-possible. Research, as a classic enabling practice, has to deal with this uncertainty and special

enabling responsibility. Accidence phenomena tend to be normatively ambiguous. With a scientific discovery like CRISPR/Cas[9] – a revolutionary genome-editing method – you could potentially cure diseases or build sophisticated bioweapons. Which of these potential actions is going to be actualized cannot be foreseen, but can be taken care of in two different approaches corresponding to the two levels of action mentioned. Firstly, one could either allow the CRISPR-related phenomena to become real-possible, and then try to fight every actualization that is judged bad – with obvious problems like lack of enforcement or normative-ambiguity in relation to the judging position. Or, secondly, one could modally design the possibility space in such a way that CRISPR-related phenomena stay or become entities of the region of the «impossible», which modally correctly speaking means the «potentially possible» or «impossible to realize now». The enforcement problem would then be relocated on the level of enabling actions that aim at transferring entities from the realm of the potentially possible into the realm of the real-possible, which in scientific contexts is typically done with research moratoria. Of course, this can only be applied to the entirety of related phenomena, both «good» and «bad».

Considering the difference between the epistemological and ontological levels, entities of the impossible and the necessary can also be transformed into entities of the (initially potentially and then real) possible. With such a transformation, those very entities would then be revealed as merely *supposedly impossible* or *supposedly necessary* and as *actually (potentially or real) possible*. Therefore, this does not represent a transformation of the ontological boundaries of the modal spheres, but rather one of the epistemological, i.e. correction of erroneous modal judgements. This does not simply eliminate errors, but rather transforms specific structures of the spaces of possibility in the beliefs of the actors. Decision and action planning always take place within the medium of ideas and beliefs, i.e. depending on the structure of the individual modal judgements. Epistemic-ontological differences and thus revisions of modal judgements arise only from the difference between intended and actually realized phenomena or events. Only if one tries something «impossible» does one reveal – by succeeding – its supposed impossibility and actual real-possibility (for oneself); by failing, one does not prove the actual impossibility though, but only that one failed. Only on the basis of the difference between intended and actually realized outcome can it be concluded that there were and are errors in the assessment of possibilities, of the feasibility of purposes, of the suitability of means, of the role of external disturbances in the implementation attempt, etc.[10] The dimension of the time specificity mentioned above comes in

10 How do people determine that something is «actually» or only «supposedly» «possible / necessary / impossible»? Every actualization of an action purpose reveals its actual ex post possibility independently of any supposed modal judgements. Everything that is, was possible. If someone mixes charcoal, potassium nitrate and sulphur and it explodes, then that person knows it is a possible explosive, even if they did not intend to «design» gunpowder. In contrast to Popper's falsification thesis, due to the problem of induction, possibilities can be «proven to be receptive to being true» by actualization. This is no contradiction to Popper since it is not about the verification of hypotheses – which are simply not yet falsified – but a phenomenon is explained ex post causally. This always has theoretical bases (e.g. causality, explanation), which can never be «objectively» verified as such, but they are recognized by individuals and collectives as time-specifically valid (until falsifying events occur). In this respect, the actual ontological modal structure (even in a snapshot, since it actually changes diachronically) can never completely fall into line with the epistemic – supposed – one. Individual modal judgements, however, can be recognized as epistemically wrong – e.g. only supposedly impossible – if, for example, an actualization reveals it to be possible. So, if gunpowder explodes once, it is shown that it is possible for this mixture to form explosive power. On the other hand, if someone thinks it is possible, for example, to create a Christmas tree out of sausages and the insufficient statics of the sausages shows the impossibility of this undertaking during actualization attempts, then this does not yet prove that sausage Christmas trees are actually impossible – one could simply be incapable (for oneself vs. for others) or one would just have to use frozen sausages, put the dog on a leash, etc. This is a sort of experimental or life-world clarification of supposed modal judgements which can then be recognized as actual, depending on the scientific theoretical understanding that determines, say, what counts as an experiment or as falsification (e.g. sufficiently controlled boundary conditions, repeatability, «Did you see that too?» etc.). How a hypothetically objective, ideal world with ontological ultimate truth would relate to those levels of supposed and actual modal judgements is neither metaphysically interesting nor pragmatically a useful question.

as another variational level, which was not included in Table 3.1 for complexity reasons. It means that for each time t, $t+1$, $t+n$, a separate set of modal judgements has to be compiled, just as each individual has to judge the oneself–another dichotomy differently. Another layer further complicates the picture: not only have modal judgements to be made for each time t and for or by each individual following the proposed classification, but the difference between *imaginable* vs. *not imaginable* can be applied (also not included in Table 3.1 for complexity reasons). Imagination is particularly important in relation to modal design. Not only are futures – future differentness – per se ideas or beliefs with regard to their ontological status, but the ability to imagine is a special force that constantly shifts what is considered possible in comparison to what is ontologically possible, i.e. clarifies errors of modal judgement or falsely changes actually adequate views. In principle, there are entities within all modal areas that are either imaginable or unimaginable. Supposedly impossible events, which are however imaginable, have the potential to motivate and orient intentional modal design in such a way that their supposed impossibility proves to be actually a potential possibility and can finally be transferred into the real-possible and, at will, even be realized. This process of traversing the modal spheres can be described as *modal migration* and figures such as the Minotaur or a unicorn experience an unprecedented modal drift against the background of dynamic tendencies such as genetic engineering and thus transgenic organisms; today, the Minotaur and a unicorn are not only hypothetically imaginable but also ontological modal migrants.

11 «These are defined as ‹human admixed embryos› and include: Cytoplasmic hybrids (Cybrids): embryos created by techniques used in cloning, using human gametes or cells and animal eggs. The embryos would be mostly human except for the presence of animal mitochondria ...; Human–animal hybrid embryos: any other embryo created using a human egg and the sperm of an animal, or an animal egg and a human sperm or by combining a pro-nucleus of an animal with a human pro-nucleus ...; Human transgenic embryos: embryos created by the introduction of animal DNA into one or more cells of the embryo ...; Human–animal chimeras: human embryos, altered by the addition of one or more cells from an animal» (UK Parliament, House of Commons 2008: 1).

12 NB: To adequately judge whether Minotaur actualization is actually or just presumably real-possible today or in the near future requires a much deeper expertise in genetic engineering than that of the author.

13 Besides, the unicorn is the national animal of Scotland with whose «taming» the United Kingdom struggled through time.

Modal migrant Minotaur

As examples of modal migrants – across the spheres of the (supposedly) impossible to the potentially possible, real-possible, and finally actual – the mystical figures of the Minotaur and the unicorn might serve.

The Minotaur, the mythical figure of a mixed creature with a human body and a bull's head, is very well imaginable. It is present in Greek mythology and until today in many areas of cultural imagination (e.g. in many of Picasso's drawings). The possibility of actually encountering a Minotaur, however, would generally be denied, the figure thus regarded as an inhabitant of the sphere of the impossible – imaginable, but not even potentially possible.

So where does the modal drift come from? In its *Human Fertilisation and Embryology Act of 2008*, the United Kingdom Parliament made research on transgenic embryos legally possible.[11] Chapter 22 of the Act deals with human–animal hybrids, chimeras and human–bovine embryos. The fact that this is not a mythical narrative or a fairy tale, but a valid legal text regulating current research, and that in the United Kingdom research is carried out on human–bovine embryos – i.e. they actually exist – suggests that human–animal hybrids such as the Minotaur are about to leave the sphere of the impossible. Accordingly, this means that a Minotaur is or was only supposedly impossible, but actually potentially possible, and, depending on its desirability, it could even be made real-possible.[12]

The United Kingdom's coat of arms shows beside a crowned lion also a chained unicorn, another mythical creature and quite impossible. Mythologically, in contrast to today's toy industry, the unicorn is an evil and dangerous creature, which is why it is depicted in chains as a sign of the King's taming power.[13] Analogously to the Minotaur, to genetically create a unicorn seems not only imaginable now, but also potentially possible. Such a modal unleashing could succeed – in a genetically naïve perspective – via the transgenic combination of a horse and a narwhal, which seems far less fantastic if one recalls ANDi (Chan et al. 2001). ANDi – the name comes from the inversion of the acronym of «inserted DNA» – was a transgenic monkey into which the green fluorinating protein (GFP) of a jellyfish was inserted.

14 Once such a phenomenon is known as supposedly real-possible, the attempts to actualize the real-possible follow closely (Cyranoski 2019b, 2019a).

15 In 2018 the former actress Meghan Markle married Prince Harry and thus became Her Royal Highness Meghan, Duchess of Sussex.

Almost two decades ago he was the first transgenic primate, with whom was demonstrated that «Genetic engineering creeps up the evolutionary ladder» (Adam 2001).

Along with which, transgenic hybrids of said evolutionary ladder creep up the modal ladder as well. Humans, too, are in the focus of attempts to make things possible that were previously considered impossible. For example, genetically engineered AIDS-resistant twins are said to have been born in China in 2018 (Cyranoski / Ledford 2018);[14] and there are people with three biological parents now (Hayden 2013). Those are examples in which technology appears as an enabling factor and Ernst Cassirer concisely described that relationship between technology and the possible:

> Technology does not initially ask what is but what can be. ... In this sense, every truly original technological achievement has the character of both a discovering and an uncovering. A certain state of affairs is in a sense extracted from the region of the possible and transplanted into the actual. ... Pure theoretical natural science can, of course, never know the actual without constantly reaching out into the realm of the possible, the purely ideal. ... Technological work, however, never binds itself to this pure facticity, to the given face of objects; rather it obeys the law of a pure anticipation, a prospective view that foresees the future, leading up to a new future. (Cassirer 2012: 44–45)

However, technology is not the only force of accidence expansion or modal transformation; social, political, and cultural development are modal drivers as well. For example, for a long period of time it was considered de facto impossible for an actress to marry a prince, but Meghan, Duchess of Sussex, showed this real possibility in 2018.[15] The notions of women, barbarians, and slaves being able and entitled to equally participate in society and vote was similarly «impossible» for quite some time and women's suffrage or the Universal Declaration of Human Rights marks a significant yet ongoing success story of modal migration. These examples show that the epistemological-ontological difference is decisively historical. Yet it would be a cliché to automatically assume an ever closer matching of the supposedly and the actually possible; this is indeed the figure of thought of progress optimism. In addition to the propagated enabling (accidence expanding) effects of new technologies, the always accompanying impoverishing effects are often disregarded. Thus, the idea of literally

16 Other prominent parts of the objective spirit are language, history, custom, state, law, art, religion, science or economy: in other words, *culture*. Hegel defines the objective spirit as «a form of reality as a world that was created and has to be created by man, in which freedom is a present necessity» (Hegel 1986: 32; my translation). The phenomena of the objective spirit therefore fall between the modal spheres of possible and necessary depending on the collective or individual level and depending on usually large timescales.

17 With respect to the social sciences this was recently claimed by Nowotny and Schot: «One of the main – and decidedly normative – tasks of the social sciences is, as it has ever been, to open up towards the realm of possibilities: to show in scientifically plausible ways that *it could be otherwise*» (Nowotny / Schot 2018).

«shaping one's future» might seem plausible, whereas complex modal influences are actually to be considered.

«Shaping one's future», and with it the idea of modal design, cannot mean shaping or designing something that *exists* in some way, but rather changing certain ideas (modal judgements) and changing the structures of what is possible (the modal structure in general). These ideas are far-reaching, but cannot be changed at will. They share the structural characteristics of the *objective spirit*, which means – as Hegel puts it – that they are *manmade*, so they are changeable, could be otherwise, and are thus part of the accidence sphere, but they appear to the individual as *necessity* (Hegel 1986).[16] Phenomena of the objective spirit (or changes thereof) are not possible first-level action objectives, but individuals can engage in modal transformation efforts that aim at enabling changes of the objective spirit: philosophy, science and art make up the triumvirate that liquefies ideas and constantly adjusts supposed modal judgements.[17] The consequences of this change are new possibilities. This is not a change of a fixed set of sphere inhabitants, but a change of the accidence sphere itself.

The dimension of *for oneself* versus *for others* introduced above has further and specifically ethically relevant effects. As shown above, possibilities are always *someone's*, i.e. person-related or related to the respective instance of action. However, every action generally affects the futures, the options, the modal structure of *others*, both as a (first-level) attempt to realize objectives as well as a (second-level) modal influence. From an ethical point of view, this means that there is a special kind of responsibility for enabling actions and their modal consequences. One is not only responsible for doing something but, particularly, for enabling something, for transferring events or entities from one modal sphere to another – or for failing to do so. This is far-reaching because it means that one is partly responsible even for every subsequent actualization within a possibility space one brought about. With regard to modal design, the task is not only to use one's own possibility space responsibly, which means to responsively realize real-possible ends while considering the actions of others. More importantly, the challenge is to structure one's own possibility space responsibly, which means to responsively transform one's modal structure while considering the transformation of the modal structure of others.

18 Who exactly is that? All individuals that are present in a certain context of action – so, all who are actually there? All potential attendees – so, all who could have participated? All those living at the time of action (*morituri*)? Or all potentially living ones (*nascituri*)? Then among them how many generations: the next three in front of whom one could possibly have to justify oneself? Or ten, or ten thousand? This last aspect is an essential but so far unresolved and probably hardly conclusive question in the context of today's sustainability debates. Sustainability includes the possibility of decision and above all the possibility of re-deciding of «future generations», but how many? That would be crucial.

It means to accordingly include the effects not only on the actions but especially on the options of others into one's decision-making. This becomes rather complicated, for instance by the vagueness of the term «other».[18] When influencing the modal structure, it is important to ensure a certain balance between widening and narrowing the possibility spaces. Actual acting requires a finite set of options that one is cognitively able to consider and to choose from, while goal-setting and decision-making require a minimum degree of variety to be able to choose at all. The fact that the epistemological and ontological levels of the modal spheres are in constant movement enables phenomena such as the Minotaur or women's suffrage to migrate modally first and foremost.

Conclusions

First, beware of the Minotaur and other modal migrants, because they challenge the coping strategies and skills that have been developed in orientation to the (supposed) real or to the (supposed) real-possible and can actually overstrain them. We generally do not prepare for what we assume to be impossible.

Second, not only primary (first-level) objectives of action, but also the (second-level) modal sphere of accidence itself can be the goal of intentional transformation efforts, albeit to varying degrees, with greater uncertainty, and with different detailed ideas of objectives.

Third, modal design requires modal criticism. In order to make something the objective of changing efforts, its changeability must be presupposed. This means that something that exists – including the modal judgements – has to be criticized as possibly different. This process of critique and design is an ongoing and indispensable effort to keep the supposedly ontological and time-specific epistemological levels dynamic. It is indispensable in order to enable normative evaluation, since normative evaluation is only reasonable within the realm of the possible. From an ethics of technology point of view, in addition to the question «What should I realize how?» or «Which options should I make technically possible in which ways?», the question arises of which structure or transformation of the accidence sphere should be imperative or prohibited. The modal dynamic is further indispensable for shaping change, i.e. either to prevent stagnation or to enable stability – depending on whether the development would

be normatively judged as progress or decline. The areas of law, politics, ethics, etc. are strongly dependent on the clarification of supposed necessities or supposed impossibilities in order to prevent dogmatism and fundamentalism, which both modally argue mostly in the spheres of necessity and impossibility. Eternal truth is receptive neither to being false nor to being true. True power belongs to those who can define and then dictate to others into which modal sphere a phenomenon falls. In contrast to the claim «You shall not change that!», the claim «This cannot be otherwise!» has an immunizing effect against critique and does not entail any normative obligations of justification in the mantle of factual compulsion. From a democratic, humanist perspective, this power is to be negotiated in its full breadth in the forums of accidence awareness like science, philosophy and art.[19] After all, the effort of modal critique is indispensable in order to enable normatively oriented transformations of the accidence sphere itself, since the mere unintended effect on the structure of the modal spheres, which every action always has, in contrast to the intended manipulation – despite all uncertainty and vagueness – cannot be subjected to any normative orientation.

Fourth, acting is mostly acting *with others* and modal manipulation, therefore, has to consider two opposing instances of orientation: on the one hand, we owe others the preservation of the possibility of action in general as well as a certain variety of options in order not to (recklessly) transform the modal structure in a way that the spheres of the necessary and impossible become hypertrophic in contrast to a shrinking sphere of the possible. Such an imbalance would force others (future generations) to merely react and be confined in short-term crisis-management instead of «shaping their futures». On the other hand, we do not want to leave every effect of action – normatively expressed: not every progress – open to possibly problematic revisions by others (in the future); in some cases, there are good reasons that some options were transferred from the region of the real-possible to the region of the only potentially possible or – at least to some or most – actually impossible. This means that some modal fluidity is owed to others, but some modal allocations have to be defended against possible relocations. To determine which ones are of which sort is a permanent challenge to society. With an adequate accidence awareness, those changes in question can be made subject to debate instead of just being unintentionally actualized (on a second level) while trying to pursue other first-level objectives. For example, in the sense of a legacy, most people today would

77

probably not want to – and no one should – open up to reversion the fact that all human beings possess untouchable human rights – «without distinction of any kind, such as race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth or other status» (hence *Universal* Declaration of Human Rights, Art. 2, UN). Against this backdrop, it seems necessary not only to design things, processes, relations, etc. on a first level but also modally on a second level. Especially designers or engineers, among others, have an extensive impact on both levels. They have to be aware of and made responsible for the second-level consequences. Therefore, explicit modal design is an obligation today, «firmly anchored in the normative belief that *it can be otherwise*» (Nowotny / Schot 2018). For modal design, however, modal critique and accidence awareness are imperative.

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What are the politics of ontological design?

A critical reflection on the mutual becoming of «the human» and «the world»

Michaela Büsse

At least since the third Istanbul Design Biennial in 2016 the impact that design objects have on the self-conception of humans has moved into the focus of theoretical investigations within the discipline of design and beyond. By stating that «Design is what makes the human» (Colomina / Wigley 2016: 12), curators Beatriz Colomina and Mark Wigley popularized an investigation into the nature of design which they no longer conceive as serving human needs; instead, they think of design as a practice that cannot be disentangled from what «we» understand as «the human». Centuries of designing not only brought forward objects but these objects, in turn, also affected the development of the human. Their approach can be seen in continuation with a constant broadening of the concept of design taking place since the second half of the last century, – from the crafting of an object, to the design of processes, systems and alternative futures, to the agency of the designed (see Krippendorff 2005). To the same effect that design gains more and more scope, it is assumed that, by means of design, «existing situations» can be turned into «preferred ones» (Simon 1996: 111) – a more comfortable chair, a more inclusive education system, a new human. However, what is preferred and by whom is usually assessed by the designer(s), thus carrying an implicit political statement which only becomes reinforced through the design output and thus should be treated with caution. In this chapter I intend to challenge the unspoken political assumptions that come with an exclusively evolutionary reading of design. The way design is shaped and shapes – its political agency – requires further analysis.

In the publication accompanying the Biennial titled *Are We Human? Notes on an Archaeology of Design* (2016), Colomina and Wigley compare design to evolution, utilizing Darwin's example of the stone tool which has, as anthropologists recently suggested (Lycett / Key 2011), affected the evolution of the hand. Accordingly, the develoment of cutting utensils coincides with the evolution of the hand from locomotion to alternative functions, such as cutting (see Leroi-Gourhan 1993). Taking this example as a starting point, they continue their investigation by assigning the mutual becoming of humans and objects to modern design practices, such as architecture and product design, with the attempt not only to claim that design defines «the human» but also to indicate that «we» can redesign ourselves:

> The human is inseparable from the artifacts that it produces, with the human body having the extended shape of all the artifacts it has made and each artifact being an intimate part of its biology and brain. But also, and more important, the human emerges in the redefinition of capacity provided by the

artifacts. In a sense, the artifacts are more human than the human. Artifacts are therefore never simply the representatives of human intentions and abilities. They are also openings, possibilities of something new in the human, even a new human. (Colomina / Wigley 2016: 24)

The search for the human here becomes a design inquiry, something that is constantly redefined through design practice and therefore, as indicated in the quote, can be willingly redirected. The capacity for the human to become, as provided by the artefact, is an interesting aspect which unfortunately is not further elaborated. Notably, Colomina and Wigley, when they talk about «the human», never specify which humanity they address. However, the examples they use are mainly related to the Bauhaus movement, and thus tend to favour modern architecture and design history and its almost exclusively male protagonists (Le Corbusier, Gropius, Loos and Mies van der Rohe are among the architects discussed). Whether one lives in one of the Bauhaus villas or works at a sand mine where the sand for the construction of such a Bauhaus villa is mined changes capacity drastically. It appears that in their ontological equation the figure of the human relates to what John Law calls the «one-world world» (Law 2011) – the gesture of modernity to ignore parallel histories and worldviews which carry alternative self-images. An abstraction and generalization of design, as implied in this gesture, thus runs the risk of obscuring the infrastructures on which it is based:

> Without the technological advancements linked to the industrialisation of Europe which occurred due to the wealth of the colonial economies; without massive extraction of mineral resources from colonies needed to create new building materials and techniques; and without colonies as sites of experimentation, «modernist architecture» would not have occurred. (Gillett / Pereira 2014: 112)

If the design artefacts Colomina and Wigley are talking about are indeed irreducibly human, then they are human to such an extent that they reflect a historically specific humanism, namely that of the human sciences. And if this is, in fact, connected to biological and cognitive capacities, then with every new design artefact separation and negative capacity on the side of those who are excluded is reinforced. Their description allows the authors to stretch an allegedly timeless argument from stone tools to modernist architecture to smart phones. Whereas the example of the co-evolution of stone tool and hand refers to research in evolutionary biology, transferring a similar logic onto a system of global mass-produced artefacts which

are developed by a privileged few at the expense of a majority of the world's population leaves out other forces at play that led to the proliferation of design in the first place. In the same manner as evolution is a process implicated with the violence of extinction, design cannot be separated from the exploitative and extractivist structures on which it is based, thus drastically limiting or opening possibilities depending on who is considered human.

Even though it is briefly acknowledged by the authors that design and the distribution of inequality go hand in hand, this logic does not become further entangled and instead appears to be an absolute term: «It is not that there is a privileged world of design and an unprivileged world outside design. Design is not simply concentrated where wealth is concentrated. Rather it is everywhere, and it engineers concentrations of wealth and privilege» (Colomina / Wigley 2016: 70–71).

Towards the end of their book Colomina and Wigley introduce the iPhone and social media as the biggest and most invasive design projects, the ultimate tools for «self-design» (Colomina / Wigley 2016: 239–273). They are describing how everyone is glued to the phone, depicting an image of a family of colour looking after a herd of cows while checking the screen next to a white couple lying in bed with one partner staring at his device. The description reads: «The cell phone provides new senses of both protection and vulnerability to rich and poor alike» (Colomina / Wigley 2016: 243). Not addressed here is the huge discrepancy between the worldview promoted by brands such as Apple or Facebook and the kind of struggles in other parts of the world and how they are occupied by Western design fantasies. A design project like the iPhone not only creates new cognitive behaviour – Colomina and Wigley emphasize nomophobia (no-mobile-phone phobia) as a newly developed human response – but at the same time reinforces exploitative structures.

Claims towards an ontological design

Even though Colomina and Wigley do not explicitly mention *ontological design,* there are many parallels to the concept first brought up by Fernando Flores and Terry Winograd in 1986 and later popularized by design theorists Tony Fry (2012) and Anne-Marie Willis (2006). Ontological design is based on the definition of design as prefiguration: the unique human capacity to prefigure the outcome of an action before taking it is what separates the human from other species and as such grants a unique relation to the artifice. As he frames it in *Becoming Human by Design* (2012), for Fry, this relationship is called design. In continuation, the relationship between human and the

artificial is a co-evolutionary process in which both «human» and «thing» are shaped in their interaction with one another. This reading is related to Heidegger's phenomenology according to which knowledge about a thing (Heidegger's famous example is the hammer) does not result from the description of its properties, such as weight or composition, but in the use of the thing (see Heidegger 1962). Thus, humans do not encounter something *in itself* but in how it acts in the world. And in this encounter, it is the thing which acts back, changing the capacity of the one who interacts with it. Being, therefore, should be regarded as relational, for it is made sense of through interaction. In Fry's and Willis' interpretation of Heidegger, it is not only tools, such as the hammer, that become a way of mediating between humans and the world, but the design of systems and organizations as well, making design the discipline of correspondence (Fry 2012; Willis 2006). Willis concisely describes design as a double movement: «[W]e design our world, while our world acts back on us and designs us» (Willis 2006: 70). Within ontological design «neither object, process nor agent is granted primacy» (Willis 2006: 86), shifting agency away from the designer and promoting a mutual process of becoming. Based on a summary of her work with Fry, she deducts three meta-categories of design (Fig. 4.1) which she describes as interrelated: design object, design process and, referring to ontological design, design agency. She sees ontological design as a vehicle to move beyond object and process of design and to take a closer look at the conditions in which design takes place or those that design brings about.

However, I argue that too flat an ontology of «design designs» tends to eradicate difference where, in fact, an unequal distribution of power is constantly re-engineered. Although there are instances of acknowledging inequality in the work of the authors mentioned, unpacking these dynamics is not part of the project of ontological design. For instance, in *Design in the Borderlands*, Fry and Kalantidou reflect on the colonial matrix (Mignolo 2011) as an «ontologically designing instrument» (Fry / Kalantidou 2014: 186). Still, they do not challenge design's own entanglements with establishing and enforcing colonialism, thus «designing» the colonial matrix which then subsequently designs inequality. Whereas it is interesting to think of the agency of the designed as something that is shaped and shapes back, and thus adding a new layer of reflection to objects and processes of design, neglecting how relationships between different humans and objects are preconditioned ignores the politics of designing. Within ontological design (as within Heidegger's work) the terms «human» and «world» do not seem to need any further explication in favour of making an ontological argument. But what might hold on a phenomenological level cannot easily be scaled up without taking into consid-

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(a) The material or immaterial outcome
of designing.

(b) The designer, design instruction in
any medium or mode of expression
and the design object itself as it acts
on the world.

(c) The system, organisation, conduct
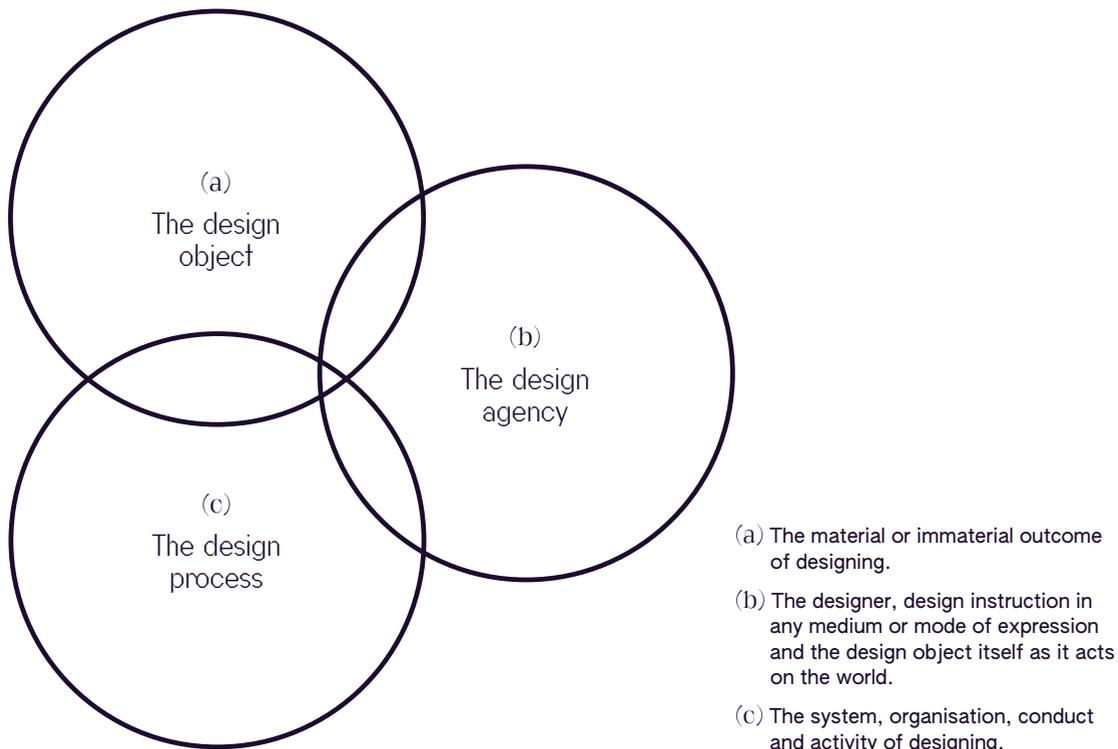and activity of designing.

Fig. 4.1 Meta-categories of design.*

*According to Willis' reading of Fry design comprises of three meta-categories
which cannot be thought of in exclusion of one another (Willis 2006: 85).

eration social, cultural and economic processes. It then happens
that design extends to all human activity and leads to statements
such as «we are all designers» (Fry 2012: 42). The result is both a
generalization and mitigation of the extractive dimensions of design,
putting everyone and everything on one level with design as a neutral
facilitator of interaction.

Without referring to Heidegger, Colomina and Wigley put it simi-
larly by stating:

It is precisely the lack of a clear line between human and world
that provokes or energizes design as the attempt to draw such
a line, our forever incomplete attempt to fashion a self-image
and the forever unsatisfying attempt to come to terms with what
we see in this continually reconstructed mirror. (Colomina /
Wigley 2016: 25)

The category of the human in this constellation seems open-ended
and stripped bare of any social, material or political dimensions so

85

that design as an abstract negotiator can give shape. It stays open who the «we» is that designs and in which world this design plays out, but it is implicitly suggested that there are no constraints from both sides. In reality, however, those who have the power to design and shape this ideal of the human are in the minority, with the majority of people being left out of the equation.

The evolutionary impetus that drives *Are We Human?* can also be found in Fry's writings. Whereas once there was enough time for biological adaptation, with the rapid rate of today's change we are only left with adaptation by artificial means. According to Fry, this includes not only biosocial engineering but also the reframing of «our» ontological relationship to the artificial. Animating the same example of the stone tool, in *Becoming Human by Design* (2012) Fry spans an overarching argument from the Stone Age to contemporary post-human discourses:

> Not only is the lineage of ontological designing of the human unbroken from the age of stone tools to the present, but to understand this is to realize that human being, nonhuman being and the being of inanimate things are all relationally bound in (our) Being. We are of the stones, the animal and the human. (Fry 2012: 105)

Fry's line of thinking seems to resonate with the current more-than-human discourse which challenges the centrality of human agency. In the face of the environmental crisis, human-centred design, as it has been proclaimed widely by design thinking, seems to have reached its limitations. To the same affect that Fry acknowledges design's complicity in the ecological crisis, he believes that a re-directive (ontological) design practice can move beyond unsustain-ability and towards what he calls *sustainment*. This argumentation for an ontological design eventually leads to a call for social change because «[d]esigning with knowledge of the thinging of things will be qualitatively different from any kind of design which doesn't know this. Thus, a move can be made from ontological designing as the naming of something to ontological design as practice» (Willis 2006: 82). What this practice could look like is unfortunately not specified; thus ontological design stays largely in the realm of the abstract.

Describing design not by its processes and objects but the way it acts in the world is crucial for understanding design's entangle-ments with other spheres. The work of Fry and Willis has been funda-mental to widening the understanding of what can be considered designed. What has not been addressed so far are the specifics of how these activities unfold, how they are informed by and address different bodies differently. Ontological design carries a certain

86

baggage that cannot be resolved on the level of theory but requires a radical anthropological, cultural and historical reframing of design as an inquiry into the manifold instances and temporalities that shape human–material relationships. My main observation is that there seems to be a particular reading of «the human» underlying the ontological argument which does not account for different life worlds. When reflecting on the concept of the human within anthropology, Tobias Rees summarizes concisely the problematic use of a universal concept of the human:

> the general, abstract concept of «the human,» understood as a category under which all humans of all times and places could be subsumed as if they were members of a single collective – «humanity» – can hardly be taken for granted. «The human» – just as well as the category of «humanity» – is not a universal, a timeless ontological category that has always existed. Instead it is a recently invented concept that emerged in Europe about 250 years ago and that became subsequently universalized. (Rees 2018: 40)

A cultural study of design therefore should not only analyse how design objects act in the world but at the same time challenge the assumptions that are at the basis of a design and thus enable particular ways of acting over others. In *Designs for the Pluriverse* Arturo Escobar (2018) tries to shift design towards sustainment, taking his clues from ontological design and transition design (Irwin et al. 2015) while being well aware of design's modernist baggage. What he labels *autonomous design* is «a design praxis with communities that has the goal of contributing to their realization as the kinds of entities they are» (Escobar 2018: 184). His theory is grounded on community-building examples from Colombia which describe non-liberal forms of politics and social organization, such as commoning and community economies. Central to his argument is the concept of autonomy – that is, the capacity for self-creation. In his view, indigenous communal forms of living offer alternatives to capitalist economy. He conceptualizes the different forms of economic, democratic and cultural organization as autonomous design while acknowledging that it is a specific political ontology – that is, «capitalism, corporate coalitions, expert institutions, repressive and police states, and dualist rationalities» – which defines the negative space these communities occupy. It is not until the conclusion of the book, and despite his attempt at the possibility of an autonomous design, that he wonders whether it is not that design designs ways of being but design itself is an expression and proliferation of *one* particular way of being: «In other words, is *nondualist design* not an oxymoron, for is design not always about

human projects and goal-oriented change, about an analytics and ethics of improvement and an inescapable ideology of the *novum*, that is, of development, progress, and the new?» (Escobar 2018: 213; original emphasis) Escobar's example shows that it is not that easy to imagine sustainment, to create other frameworks for design to unfold, without paying attention to its inner logics which tie design to neoliberalism (see Julier 2017).

Against the backdrop of Escobar's concern, ontological claims made in the works of Fry, Willis, Colomina and Wigley, and their respective call to action, it becomes even more crucial to untangle how design is implicated in systems of power and how these implications in turn shape the possible relations different people can have with objects and environments. Because the agency to design and thus to change is distributed unequally to begin with, the acclaimed universalism that humans design and are designed by the designed will show very different means and capacities once brought into action. The generalizing truth of an ontological design clashes with the material reality of design in which the relationships between humans and objects are messy rather than straightforward. Thus, how design designs can only be understood by untangling its «onto-epistemic formations» (Escobar 2018: 54) – that is, the situated and specific entanglements that unfold around a design object and defy any generalization.

Design politics as what pervades object, process and agency

Whereas ontological design provides a framework to reflect on the agency of the designed, it either tends to reproduce one-world worlds, as in the case of *Are We Human?*, reinforcing the dominant Western mode of thinking and acting, or remains opaque due to an alleged flatness which produces dehistorized and depoliticized subjects. In order to make ontological claims applicable, the politics of design requires further attention. I argue that design is already always political since it demarcates who is considered to be its subject and what a preferred situation looks like. By designing an object, the designer intentionally but often unconsciously draws on labour and resources from elsewhere. How these resources were made available, e.g. through extraction of resources and exploitation of labour, thus is an integral part of designing. Already a separation happens here between who designs and who and what provides the support for these design activities. These asymmetries then are further enforced and carried along with the design objects, thus

defining who and what has agency to interact and how this interaction is shaped.

The three meta-categories introduced earlier thus require to be framed and extended by another category: design politics (see Keshavarz 2016). Design politics refers to the epistemological violence ingrained in the object, process and agency of design. It makes visible the sociomaterial conditions that bring about design and further proliferate upon and within it (Fig. 4.2).
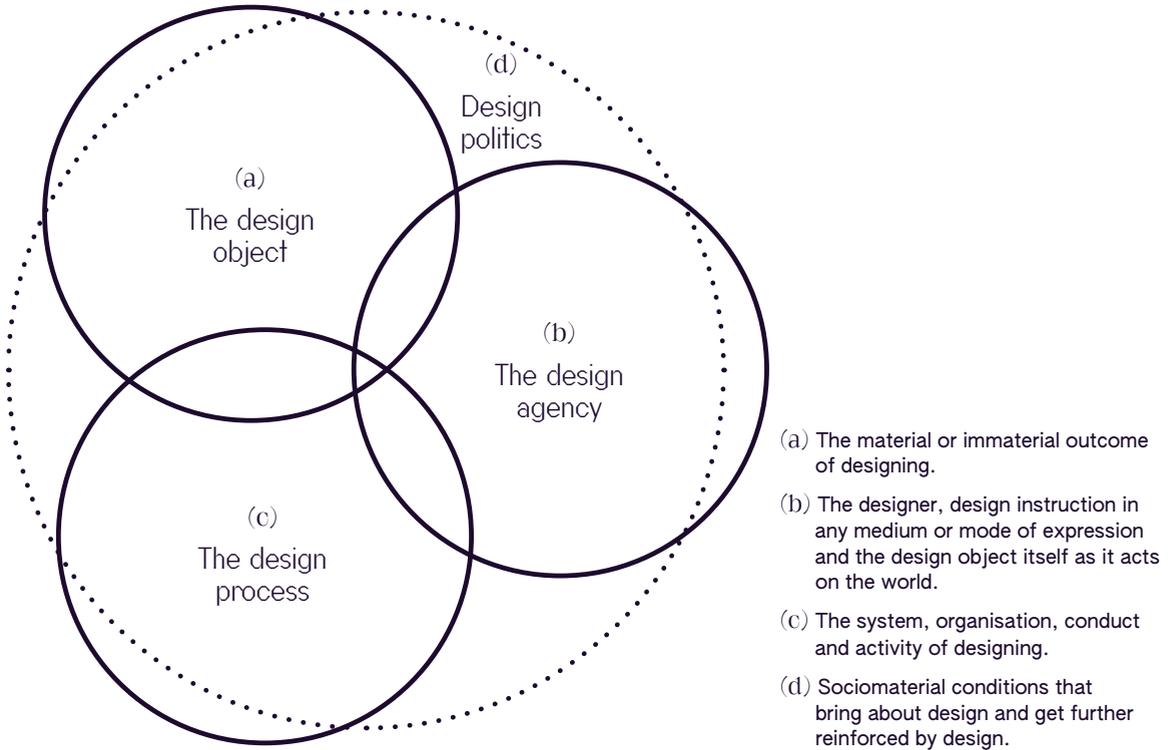

(a) The material or immaterial outcome of designing.

(b) The designer, design instruction in any medium or mode of expression and the design object itself as it acts on the world.

(c) The system, organisation, conduct and activity of designing.

(d) Sociomaterial conditions that bring about design and get further reinforced by design.

Fig. 4.2 Adapted version of meta-categories of design.

In the following I introduce two examples which address design politics. The first is the work of Mahmoud Keshavarz (2016), who analyses design politics through an inquiry into passports, camps and borders. Keshavarz, who is also part of the Decolonising Design platform, is interested in untangling the politics of *undocumentedness*, the condition «in which certain bodies are deprived of specific political rights due to the lack of recognition within the current dominant nation-state regime» (Keshavarz 2016: 24). In his research he frames the passport as an object that is designed to facilitate both mobility and immobility by indicating who has the right to access and who does not. Above

this, and through the process of forgery, the passport, or rather passport making, can become a critical design practice by which current modes of belonging are challenged. What becomes apparent, especially through the appropriation of the passport by those who are oppressed through its mobilizing/immobilizing agency, is how design articulates relations. In Keshavarz's words: «these material articulations are not the mere outcomes of either design or politics, but rather a part of the complex relationships brought into being by how design and politics are always already interconnected» (Keshavarz 2016: 361). Here the focus lies not only on the external relations that the designed objects facilitate (e.g. a passport grants access) but how the internal relations of design itself are always implicated with its political agency (e.g. a passport separates bodies into citizens/non-citizens in the name of a state authority). In his investigation, which draws on anthropological work with the undocumented and passport brokers alike, Keshavarz reveals the messy reality that ontological design leaves untouched. Contradictory structural conditions are more often the norm than they are the exception. The design of the passport is a materialization of unequal distribution of power and the critical design practice of forgery reveals this disposition.

Resonating with Keshavarz's line of thinking, I suggest that design politics is engaged with revealing the articulations that design materializes, the way it organizes bodies, spaces and capital. Instead of assigning universalist or neutral claims to design, the example of the forged passport shows that in the situated and specific one can trace how design politics unfold. Mobility/immobility becomes a matter of design and vice versa, with the passport as a materialization of this conflict.

In my ongoing PhD research, to mention a second example, I am analysing design through the lens of human–material relationships, specifically through those unfolding around sand. Sand is one of the five resources with the highest global demand, being in the centre stage of political, economic and ecological warfare. In the form of quartz and silica, it is essential to the technological infrastructures shaping our everyday lives; as cement and steel it acts as the literal building block of modernity; in the form of land mass it demarcates the poor and the rich – those who mine and export land and those who import and «recover». My fieldwork-based approach traces sand in places where it is transformed the most: Singapore and the Netherlands. By applying an *interscalar* perspective (Hecht 2018) my work registers the various entanglements between different bodies and sand: from the mine worker to the engineer; from those who lost their homes because of erosion as a consequence of heavy dredging to those enjoying a newly renaturalized beach; from the granular

nature of the material to geological rifts caused by large-scale infra-structure design. The manifold life worlds, places and temporalities become part of the same planetary design project: the commodifica-tion of matter into material and thus the subsumption of «nature» into the logistics of capital. Decontextualization and dehistoricization of sand violently reorganize both organic and non-organic life in order to press it into the generic form of global logistics or concrete-based skylines – from Rotterdam to Singapore, artificial land is strategic land housing container ports, petrochemical industries or business units. Whereas design in my observations emerges as a neoliberal structuring element of human–material relations, it unfolds differently in the different contexts. In Singapore, the design of the territory follows an ambitious plan to locate the nation state at the economic forefront of Southeast Asia. In a tabula rasa manner, not just Singa-pore but Southeast Asia were transformed in order to meet its material needs. Singapore's urbanization and thus its need for sand stretches far beyond its boundaries, affecting Malaysia, Vietnam, Cambodia and Indonesia, to mention just a few. Because of geopoli-tical tensions, both illegal mining activities and the stockpiling of sand emerge in the shadow of largely restricted trade relationships, leading to ever more violence.

In the Netherlands, however, the design of new land follows an ambivalent relationship of denaturalization and renaturalization under the guise of sustainable design. While matter is initially transformed into fungible units of material, once remade into artificial land the greening of this land should compensate for the loss. The subsequent attempts to «restore» nature by no means challenge the capitalist logic that precedes it, inevitably linking design to its extractivist origin. What comes to the fore when taking a material-based view on design are the unspoken politics implicated in design and the unequal distri-bution of agency, human and other, that comes with it.

In both examples presented, it is not the design object, process or agency that are in the focus of the investigation but what pervades them. The examples introduced help to understand how design is entangled with exploitative structures, how it is never just universal or neutral. They also show that there is a specificity to each local context and that design politics show different proliferations in differ-ent places and with different bodies involved. In the face of a con-stant widening of scope of design and with many well-intended at-tempts to overcome design dualisms, it is crucial for designers and others to understand the politics ingrained in design.

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Engaging in epistemic disobedience:

on the decolonialization of design discourses

Mara Recklies

Colonial-critical reflections on the basic principles of Western academic disciplines are a necessity that has attracted growing attention in the past few decades – mostly in postcolonial studies, but also in other disciplines and discourses. This is shown, for example, by the lively discussions in German sociology on cosmopolitical thinking and cosmopolitical studies (see Köhler 2007: 68). Ten years ago, the German sociologist Ulrich Beck and the political scientist Edgar Grande emphasized that, if consideration was given to the historical circumstances in which Western thinkers of the past laid the foundations of their disciplines, the academic identity of the research establishment – rooted in impartial work and objective scientific principles – clashed with «implicitly existing partiality» (Beck / Grande 2010: 208). After all, even if their universalist claims suggest otherwise, many theories of modernity are based on a «limited range of early modern national experiences» (Beck / Grande 2010: 189), which were acquired against the backdrop of the political rule over foreign territories, their economic appropriation, and the exploitation of their resources and populations.

The modern sciences and academic disciplines emerged in imperial conditions that continue to influence them today. This is clearly articulated in the decolonial discourses of Latin America, in which the entire Western episteme, as defined by the Peruvian sociologist Aníbal Quijano, is described as colonial (see Quijano 2000). In this context, «colonial» refers to the structural reproduction of specific colonialist patterns in culture, the economy and politics. Having survived colonial rule, these patterns continue today to determine interpersonal communication, social orders, thought, and perception (see Kastner / Waibel 2012: 11, 19). In Quijano's work, the critique of a form of coloniality that has been reproduced for centuries is accompanied by a fundamental critique of modernity. From this perspective, modernity and coloniality are not independent or successive, but mutually determinative (see Rath 2014: 99).

But what about a critical examination of the epistemic foundations of design? Is such an examination not urgently necessary, especially in relation to the academic disciplinization of design? And would it not be particularly important and influential in the field? After all, it could address the two different levels connected by design. The first is the practical level – design practice, the related production and distribution of goods, as well as their marketing, sale, use, and disposal. The second involves the theoretical examination of design that takes place in research and teaching in design studies, design theory, and the philosophy of design. Compared to

1   Examples include the conference Beyond Change: Questioning the Role of Design in Times of Global Transformations, organized by the Swiss Design Network and hosted by the FHNW Academy of Art and Design, Basel, March 8–10, 2018; and the symposium Intersectional Perspectives on Design, Politics, and Power, organized by Decolonizing Design and hosted by the School of Arts and Communication, Malmö University, Sweden, November 14–15, 2016.

2   See, e.g., Designs for the Pluriverse by the Colombian-American anthropologist Arturo Escobar (2018). Escobar has been involved in joint research projects with Walter Mignolo, whose work is the focus of this chapter. (See, among others, Escobar / Mignolo 2013; Escobar 2018).

3   For example, the research group Decolonizing Design, founded in 2016.

4   Unless otherwise noted, all English citations of passages from this work are translations from the German version Epistemischer Ungehorsam: Rhetorik der Moderne, Logik der Kolonialität und Grammatik der Dekolonialität (Mignolo 2012).

other disciplines, design philosophers and theoreticians began taking an interest in colonial-critical analyses of design practices and perspectives at a relatively late date. Even today, in design-related discourses, there is often a remarkably uncritical use of theorems whose foundations date to the late colonialist period. This would not always pose a problem if these theorems were handled with care and an awareness was raised for all they reproduce. While it is true that various studies have addressed the historical conditions in which many fundamental assumptions emerged, certain inhibitions seem to exist – particularly in German-speaking countries – about resolutely tackling the coloniality of design. At the same time, there are a growingnumber of signs that this is changing. A variety of conferences,[1] publications,[2] and research groups[3] are devoting themselves to the entanglements of design and coloniality and to the decolonization of design (see Fry / Kalantidou 2014; *Design Philosophy Papers* 15/1 [2017]; *Design and Culture* 10 [2018]).

The aim of this chapter is not to examine the colonial practices of design in an application context, but to engage in colonial-critical reflections on the episteme, or knowledge culture, of design (see Mareis 2011). This is a highly relevant topic because the episteme determines the concept and (self-)identity of design as a discipline. Consistent with its (Western) cultures of knowledge, design uses rational principles to create functional, new and innovative artifacts and practices, thereby contributing to human progress and global developments.

Epistemic disobedience

It is particularly interesting to examine the reflections on the episteme of design in relation to the demands made by the Argentine literary scholar Walter Mignolo. In his work *Desobediencia epistémica: retórica de la modernidad, lógica de la colonialidad y gramática de la descolonialidad,*[4] Mignolo explores how the dual concept of modernity / coloniality dominates and controls all forms of knowledge and cognition. He focuses not only on epistemology, but also on the Western appropriation of hermeneutics (comprehension) and *aisthesis*,

5   Initial efforts are currently being made in German-speaking countries to define the basic features of a design aesthetic that will hopefully take the historicity of aesthetics into account. After all, a number of scholars – including the postcolonial feminist philosopher Madina Tlostanova – have identified the aesthetics of design as colonial in the sense that design has had a universalist, homogenizing effect from its very inception, prescribing rigid aesthetic principles and rejecting others (Tlostanova 2017: 3). Examples can be found in design manifestos ranging from the Bauhaus to functionalism as well as in the aesthetic trends and design principles of the present day, such as minimalism.

6   In another passage, Mignolo uses an axiom whose aim is to decentralize aesthetics: «You are and feel where you think» (Mignolo 2012: 99).

7   Here Mignolo also draws on Quijano's work (see Mignolo 2012: 52).

or aesthetics (perception). He identifies these three fields as the pillars of a «colonial matrix of power» (Mignolo 2012: 49), which continues to be reproduced today. In his view, for example, *aesthesis* was transformed into a «sense of the beautiful and sublime» through the appropriation of imperial thought in the 18th century; in the process, the sublime increasingly receded into the background and the beautiful formed an aesthetic that «remained limited to the Western concept of art» (Mignolo 2012: 50). The introduction of strict principles governing what is beautiful and sublime, what is functional, and what is useless ultimately culminated in normative Western ideas about cultivated taste that always otherized «anything that fell through the coarse sieve of the normative Western / Northern aesthetics while presenting its local affective experience as universal» (Tlostanova 2017: 8; see also Sonderegger 2016; Leeb / Sonderegger 2016; Gikandi 2011).[5]

As a strategy for resisting the colonial matrix of power, Mignolo calls for «epistemic disobedience.» This is more than just an epistemological project directed against academic discourse. It is a form of disobedience that questions the established «regulatory systems and contexts of justification, as well as their power-based validity» (Kastner / Waibel 2012: 7). It is thus also directed against everyday Eurocentric thinking rooted in social institutions. Truth should be decentralized – this is the key idea expressed in Mignolo's dictum «I think where I am,»[6] which he juxtaposes to the Western Cartesian axiom of «I think, therefore I am» (see Mignolo 2012: 122). Such decentralization transforms epistemic disobedience into a kind of «border thinking» that forms a «border epistemology» and is intended to facilitate a «delinking» (Mignolo 2012: 67) from the Western foundations of modern thought.[7] However, there is no «ontological exterior» or «purity untouched by modernity» at the center of border thinking; rather, there is an «exteriority that is conceived as both difference and dissent in relation to hegemonic discourse» (Kastner / Waibel 2012: 15).

97

The archive

But how can this model of epistemic disobedience be applied to design – or, more precisely, to the study, theory, and philosophy of design? And how can we engage in epistemic disobedience? This chapter does not practice epistemic disobedience itself. Rather, it attempts to outline what the target of epistemic disobedience in design might be. For this purpose, I will draw not only on Mignolo's episteme concept, but also on Foucault's. In this context, what Foucault describes as an «archive» in his work *Archaeology of Knowledge* (Foucault 1972a: 128) can be taken as the equivalent of the episteme.[8] After all, like the episteme, Foucault's archive describes a kind of «‹higher› unity» (Frank 2004: 146) from which discourses spring and which determines what can and cannot be said and thought in them. Hence, the archive is always located «at the very root of the statement,» defining in advance «the system of its enunciability» (Foucault 1972a: 129). For this reason, Foucault labels the archive «the general system of the formation and transformation of statements» (Foucault 1972a: 130). Discursive formations can only be contextualized by considering the episteme or the archive, because these define the formations' «conditions of existence» (Foucault 1972a: 28).

Thus, applied to design, epistemic disobedience as defined by Mignolo involves considering the colonially influenced origin of discourses. Although several recent philosophical studies of design have emphasized that it is only possible to understand design in terms of the modern design discourses from which it has emerged (see Feige 2018: 41ff., 86ff.; Parsons 2016: 54ff.), these modern discourses are often viewed and analyzed in an overly isolated fashion. Scant attention is paid to the colonial archive that determined their «conditions of existence.» However, if we consider the fact that both modernity and modernism are formations whose developments and worldviews would not have been possible without colonialism, the rule over other peoples, and the oppression and exploitation of these peoples, it is only logical to conclude that we cannot understand design only against the backdrop of industrialization and the rise of capitalism, but also need to consider colonialism and the imperialist ideology that constituted design's fundamental convictions, practices, and modi operandi. At the same time, the necessity to raise awareness of the archive of design discourses underscores the fact that decolonization is not – as is sometimes assumed – a question of decolonizing the colonized, «but also (and perhaps fundamentally) of decolonizing the colonizers» (Mignolo 2012: 65). Decolonization is

In my opinion, the following three studies give focus to the discussion: Mareis (2011), Feige (2018), and Parsons (2016).

10 Feige also makes an ontological distinction in order to separate design from fields such as art. However, his design concept is much narrower than Fry's (see Feige 2017).

11 An extremely interesting examination of the isms of design from a postcolonial perspective can be found in Boehnert / Onafuwa (2016).

thus a «dual activity» (Mignolo 2012: 77) that affects not only the oppressed but also the elites, who have thus far enjoyed an «epistemic privilege» (Mignolo 2012: 78).

The isms

However, before taking a closer look at the epistemic coloniality of design, I would like to address a few possible conceptual ambiguities. The different understandings of design make it enormously difficult to speak of the coloniality of design or its knowledge culture without clarifying the term «design.» After all, design can be grasped as a two- or three-dimensional fashioning of things or as an «aesthetic practice,» as the German philosopher Daniel Feige (2018) and the cultural sociologist Andreas Reckwitz (2012) have suggested (even if their views are not identical). Others have defined design as an almost universally applicable planning and drafting discipline – a view that has frequently been encountered in design research since the 1970s (see Rittel 1992).[9] Further complicating matters is the concept of ontological design introduced by the philosopher Tony Fry[10] and widespread in the discourse on decolonization. Fry describes ontological design as «a way of understanding the dynamic designing relations between the world, things and human beings» (Tlostanova 2017: 52). This concept of design is often informed by the idea of the control over and disciplinization of human perception and interpretations of the world. It transforms design into a «set of specific ontological, epistemic and axiological notions imposed forcefully onto the whole world, including its peripheral and semiperipheral spaces in which alternative versions of life, social structures, environmental models or aesthetic principles have been invariably dismissed» (Tlostanova 2017: 3). In *Local Histories / Global Designs: Coloniality, Subaltern Knowledges, and Border Thinking*, Mignolo (2000) advances an equally broad concept of design. He stylizes the dual principle of modernity / coloniality into a «global design» (Mignolo 2000: ix) that shapes and determines the relationship between the world, things, and human beings. In my opinion, though, we do not need such an expanded concept to grasp the coloniality of design. A more conventional understanding of design, centered on, say, the fashioning of objects and interfaces, can be used to illustrate the colonial impregnation of the episteme. Unfortunately, there have been few design studies to date that clearly identify themselves as epistemologies and focus not

12 When distinguishing the different paradigms in Kuhn's work, Fallan refers to Masterman (1970), who identifies a total of 22 different Kuhnian paradigms. Fallan's discussion is limited to the abovementioned metaphysical paradigm and to the «sociological» and «artefact paradigms» (see Fallan 2010: 134; and Kuhn 1967).

on the practice of design, but on the question of the knowledge it employs (see Parsons 2016: 35ff.).

One exception is a study by the Swedish design historian Kjetil Fallan, who emphasizes the difference between the episteme of design and the «isms» crystallizing out of it.[11] Even though this study does not operate within a postcolonial or decolonial analytical framework, it is extremely helpful, as it allows us to develop an understanding of the target of disobedience. Fallan is yet another scholar who draws on the episteme in a Foucauldian sense, which does not refer to knowledge, scientific findings, or the truth they contain, but rather to the conditions in which they emerge – to those things that determine the potential for producing knowledge and findings. In the process, Fallan emphasizes the significance of the episteme for the formation of «isms»:

> The epoch's slowly but ever changing episteme both restricts and affords what is possible to say, think, comprehend and do at any given time. This is where the rules that constitute people's action come into being. Here, the situations in which institutions are embedded arise. This is the background against which every new ism takes shape. (Fallan 2010: 114)

Applied to design, this means that its isms (e.g. functionalism, constructivism, postmodernism, and minimalism) emerge from the episteme. According to Fallan, they reflect the values and worldviews of the episteme, but may also enter into a dialogue with, or even rebel against, these values and worldviews, because their relationship is marked by reciprocity: while the conditions for the isms are determined by the episteme, the episteme itself may be changed by the isms' development.

An important feature of the isms is that, while they have a dogmatic and manifesto-like character, they are detached from the objective logic of scientific theories. They have a normative effect and «tend to propose or dictate how art / architecture / design *should* be» (Fallan 2010: 116). Even if the isms of modern design pretend to be – or are even viewed as – rationally based theories, they differ from such theories. In fact, they are disguised ideologies. Fallan suggests that a few of the isms that produce particularly potent ideologies should be seen as metaphysical paradigms as defined by Thomas Kuhn (1967).[12] In fact, they have many common characteristics: «The metaphysical paradigms correspond to isms [that describe] a world view, a set of beliefs, a metaphysical speculation, a new way of seeing or an organizing principle.» The isms with the power to

become worldviews are primarily those affiliated with the grand epochs of the past, especially «the dominant world view of the twentieth century – modernism» (Fallan 2010: 134).

This passage makes clear that the isms correspond to what Mignolo has described as the «colonial matrix of power» – namely, «a web spun of beliefs, against whose backdrop action is taken and rationalized» (Mignolo 2012: 50). But it is precisely to these modernist ideologies that scholars such as the Canadian philosopher Glenn Parsons assign a leading role in shedding light on contemporary design. «Modernism supported a rational conception of Design ... it offered a reinterpretation of some of the key criteria of design – the functional, the symbolic and the mediating – and rejected certain other interpretations of them as irrelevant» (Parsons 2016: 54).

This raises the question of why certain, non-rationally based ideologies and theorems are able to continue to exist in design and why they are not later exposed and cast aside as ideologies. Fallan believes that they are not recognized because they are not articulated. Not only the artifacts themselves, but also the practice of design and its theoretical reflections conceal them as «cultural modes» (Fallan 2010: 117). In summary, the entire culture of design can be understood as the «co-production of ideology and practice» (Fallan 2010: 118).

The new

The preference for functionalist, sleek, emphatically industrial design began at the turn of the 20th century. Even today, it ensures that functionality and efficiency are seen as crucial aspects of design. However, contrary to common assumptions, this focus is not based on rational, calculative considerations, but aesthetic-ideological ones. Several years ago, this was pointed out by the German design historian Gert Selle, who stressed that the sleek style of modern mass-produced products was a manifestation of «the rationality of industrial production and capitalist value creation» (Selle 2007: 107). These relations had far-reaching consequences for design because in the period that followed, anything that was «directed against the principle of functional aesthetics» suddenly seemed «irrefutably backward» (Selle 2007: 108). Leading manufacturers no longer regarded themselves as producers, but as social and cultural political institutions that engaged in an aesthetic pedagogical practice. «Current aesthetic-cultural and educational questions, as well as questions regarding the social aspects of art, are being discussed against the backdrop of industrial development,» Selle summarized. «Functional, material-compatible design» is presented as an act of «truthfulness»

13 Translation by Adam Blauhut. For more on rhetoric in the work of Loos and his contemporaries, see Makiuika (2010).

14 English translation from Mignolo (2007: 477).

and, even more, as «a moral achievement» (Selle 2007: 115).

However, one can only understand the conceptual superiority of the rationality expressed in design, as well as the primacy of the «new,» if it is examined in relation to the late colonial view of the world and the accompanying hierarchies of modernity. After all, both the new and newness are «key rhetorical concepts of modernity» (Mignolo 2012: 138). The idea of the superiority of the new embodies the spirit of modernism, which went hand in hand with – and was practically rooted in – an unconditional belief in progress and development. «Modernism can be seen as a constant quest for modernity, or the wish to establish an anti-traditional tradition,» writes Fallan (2010: 111). In this passage, though, Fallan does not mention that the modernist devaluation of the «traditional» involved a segregative devaluation of colonized societies, which were seen as traditional. In the logic of modernity, «traditional» signifies nothing more than «backward in comparison to their European and American counterparts» (Beck / Grande 2010: 189). Here, «backward» and «underdeveloped» are not meant only in an industrial and economic sense, as Mignolo emphasizes, but also «intellectually and epistemically» (Mignolo 2012: 125). The self-understanding of modernity as progressive would not have been possible without assigning «primitives» and «barbarians» to the realm of the traditional, thereby establishing a chronological «before» (see Mignolo 2012: 121–122).

Such a segregative approach to modern design is clearly evident in Adolf Loos' racist essay «Ornament and Crime» (1908), which Parsons, among others, has described as constitutive of the self-understanding of design (see Parsons 2016: 59ff.). One of the more influential sentences in Loos' text reads: «The evolution of culture is equivalent to the removal of ornament from everyday objects» (Loos 1962: 277).[13]

This primacy of the new, which is dependent on a separation from what is purportedly outdated, continues to be reproduced in consumer culture today. In it, quality is always assessed or promoted as «the first or the best in a specific category,» as Mignolo puts it; or it is based on the idea of «producing or buying the best in a specific product line» (Mignolo 2016: 138). Even today, it remains problematic that «the celebration of newness and change» – which applies particularly to design, but is not limited to it – *«shadows the consequences of such changes»*[14] (Mignolo 2012: 139; original emphasis).

However, colonial thinking is perpetuated not only by the primacy of the new, the idea of the superiority of progress, and the devaluation of everything «old» and «non-Western,» but also by

15 The failure of these models in practice shows the strong opposition to forced collectivity: the occupants of the constructivist housing developments remodeled almost all of what remained of them. They refused to spend their lives in predesigned public spaces such as communal cafeterias and washrooms, and often installed private bathrooms, kitchens and balconies in their units (see Tlostanova 2017: 3).

16 This subheading is taken from Dilnot et al. (2015: 122).

design's universalist claim that it can optimize any object and thus contribute to the development of the world and to continuous progress.

From the start, design's colonial hubris was reflected in the fact that it repeatedly served modern utopias or played a key role in producing them. Both Russian constructivism and the Bauhaus were driven by providential, messianic motives. They promised new social forms, lifestyles, and even the development of new human beings, which shows their proximity to the ideas of social and biological engineering (see Groys / Hagemeister 2005). An early example is Soviet constructivism, which sought to create an ideal collective environment that through a series of controlled rituals aimed to form a perfect human who enjoyed a predetermined happiness[15] (see Tlostanova 2017: 3). Modernity's supposed progressiveness finds correspondence in the teleological narratives of design, which were written by scholars such as the design historian Nikolaus Pevsner (see Pevsner 1957). According to these narratives, design underwent a strict development that contributed to the continual development and bourgeoning of society. Although these narratives have since been exposed as hair-raising constructs (see, among others, Breuer 1998: 14–15), the tendency to glorify or «black-box» (Fallan 2010: 127) the isms at work in design has lived on to the present day. A tragic example can be seen in the large number of well-meant but counterproductive design projects that seek to provide aid to the formerly colonized regions of the world and have raised the much-debated question of whether humanitarian design is not the new imperialism (see Nussbaum 2010).

«Another history, another designing?»[16]

Yet how can or must Mignolo's demand be fulfilled using colonial-critical archaeological analyses? Is an explication of design's modern and thus late colonial origins all that is needed to uncover the «liberating perplexities of the identity-related process of self-affirmation» (Kastner / Waibel 2012: 40), which is said to characterize decolonial thinking and its corresponding practices? Is it possible to «disobey» the episteme of design?

There is often little agreement on this question, especially because the concept of epistemic disobedience is itself seen in a critical light. It has, for example, been pointed out that the different

17 However, in other passages – e.g. with re-
    spect to demanded «delinking» – Mignolo
    refers to Foucault: «Delinking and changing
    the terms of the conversation means, among
    other things, to fracture the naturalized
    assumption that links words and things, as
    Foucault taught us» (Mignolo 2007: 505,
    n. 27). Köhler describes such approaches as
    a «paradoxical appropriation of the West,»
    in which «Eurocentric institutions and meth-
    ods of rule» are «used by subalterns as a
    weapon against Western hegemony» (Köhler
    2007: 113).

18 English translation from Mignolo (2007: 485).

forms of epistemic disobedience are not new or unknown (see Aster 2014: 106). Social struggles for liberation and the corresponding historiographical narratives have always intervened in existing orders of knowledge, their representational logic, and their modes of subjectivation. In addition, argue critics, it is problematic to speak of Western thinking as if it were a «homogeneous entity» that «has hardly been questioned in terms of its Eurocentric content» (Aster 2014: 106). A similar objection is that the construction of a dichotomy between European / colonialist knowledge systems and non-European / colonialized ones is in fact a characteristic feature of European modernity (Blome 2014: 110–111). Finally, the critiques of Mignolo's thinking often emphasize that a certain skepticism about (re)essentializations of «other» formations of knowledge is in order, because, as Donna Haraway explains, there is a «serious danger of romanticizing and / or appropriating the vision of the less powerful while claiming to see from their positions. To see from below is neither easily learned nor unproblematic (Haraway 1991: 191).

Does this mean that epistemic disobedience is a concept that cannot be implemented in theoretical and philosophical practice? In recent years, a growing number of design publications have examined indigenous ways of knowing and learning and juxtaposed these to Western concepts (e.g. Tunstall 2013). Occasionally, they have also developed design concepts that make cosmopolitical claims (e.g. Yaneva / Zaera-Polo 2017). Furthermore, a form of history-writing is underway that is not Eurocentric in focus and is attempting to arrive at a more conscious way of dealing with nationalisms (e.g. Fallan 2010; Dilnot et al. 2015). However, even if all of these endeavors ultimately bring about a paradigm shift, Mignolo doubts that an epistemic break or a paradigmatic turn in Kuhn's sense could ever lead to decolonial thinking.[17] «The de-colonial shift belongs literally to a different space,» he writes, «to the epistemic energy and the lack of archive that has been supplanted by the rumor of the dis-inherited» (Mignolo 2012: 170).[18] This is one reason, he concludes in another passage: «It is not enough to condemn the rhetoric of modernity and its complicity with the logic of coloniality» (Mignolo 2012: 168).

That said, Western philosophy and its disciplines should not be condemned in a rash, blanket manner, even if – viewed against the backdrop of Western philosophical practice – it does in fact seem impossible for us to find our way out of the colonial matrix by our

Mara Recklies

19 Apart from these obstacles, a discussion in *Design in the Borderlands* (Fry / Kalantidou 2014) emphasizes the great difficulty of reaching an understanding in this discourse, despite all the good intentions. Addressing Mignolo, the editors ask, «Border Thinking and border epistemology assert the imperative of ‹thinking the other›. Does this ‹taking a position› presume an existence, or possibility, of ‹betweenness› as the locus of (both) the one and the other?» (Fry / Kalantidou 2014: 173). Mignolo denies this, explaining, «The ‹in-between› is a concept of modern and postmodern epistemology, not of border epistemology» (Fry/Kalantidou 2014: 174). Under the heading «Are we talking about the same thing?» Fry then responds, saying, «certainly we do not share the same understanding of ‹betweenness›; it is not the same as ‹in-between› but an ontology of non-binary oscillation (movement within the contradiction rather than between contradictory positions)» (Fry/Kalantidou 2014: 185).

own efforts and methods. If the demand for decolonization leads to a decolonialism with a universalist claim, its ideologies and worldviews will merely replace the established isms with new ones. And if the appeal for epistemic disobedience results in the expectation of obedience to disobedience, it will lose credibility. The frequently entrenched divisions and oppositions in postcolonial studies and decolonial thought suggest such tendencies. They often result in inhospitable discourses in which the strict rejection of colonially impregnated terms, structures, and concepts restricts thinking and makes communication difficult or even impossible.[19] At the same time, it is frequently overlooked that the conventions of the research system call for «new knowledge to be linked to existing bodies of knowledge» (Schmidt 2012). If the power of such conventions is not realized or taken into account – which can of course mean their violation, subversion, or instrumentalization – the concept of epistemic disobedience will remain nothing more than an appeal.

However, Mignolo was also aware of all of these difficulties. In his eyes, the task of identifying the complicity of Western research and disciplines with coloniality was thus «necessary,» even if «insufficient» (Mignolo 2012: 168). So, even from Mignolo's perspective, the above criticism is no reason to reject a deeper engagement with his work or, more importantly, with the idea of decolonial epistemic disobedience. At the least, a colonial-critical examination of the episteme of design can help ensure that Western theories are finally viewed in a global context – that is, that modern / colonial history-writing is reappraised and, if necessary, reinterpreted (Fuchs 2014: 109). This is urgently needed, as the decolonization of the episteme is not a problem that is confined to intellectual elites or specific disciplines in cultural studies and the humanities. If decolonialization were viewed in this way, it would be robbed of its «cognitive explosiveness» (Schmidt 2012), and the power of colonialism over current global conditions would be underestimated.

So what tasks are linked to showing that the episteme is colonially impregnated, as I have outlined in this text? Mignolo writes that the aim of decolonization is to eliminate the «monoculture» of modern thought, by which he means «the totality of the grand narratives of Western civilization» (Mignolo 2012: 67). Thus, epistemic disobedience

could entail developing other understandings of design – for example, imagining a type of design whose superiority does not arise from exaggerating the new, the innovative, or the efficient, which allows for a pluralist aesthetics and abandons its universalist claims and messianic gestures. We are currently just beginning to discover and negotiate how this type of design can be imagined and practiced.

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by   ?   Social

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Unsettling individualized design practice through collaboration

Anja Groten

Introduction

The notion of something *done by design* highlights an aspect of design: that it is a practice of exclusion and inclusion, guided by intentions, personal preferences, and assumptions. Coming from a visual communication background, I experience modes of designing as processes of deciding what qualifies – through organizing of information, but also by deciding about tools, technologies, materiality, and forms of interaction. Encountering design as a practice that in its essence is a discriminating practice – a practice of prioritizing, classifying, and selecting – brings up questions of accountability. Drawing from experiences as a designer organizing collaborative situations for designing with and through technology, this text follows up on my presentation about critical collaborative design practice in May 2018 as part of the «Critical by Design?» conference. Seeking approaches to design that address and maybe counteract assumptions made within individualized design practices, I further aim to problematize methods and models of designing *together.* Rather than sustaining promises of design as a practice of solving problems and resolving contradictions through consensus-driven means of collaboration, I question whether designerly modes of collaborating could help us in differentiating the plurality of positions and voices inherent in designed artefacts as well as habitual processes of design. Can collaborative approaches to design unsettle normative, individualized design practice and offer modes of sustaining – rather than overcoming difference?

Confronting habits and assumptions

A concrete example of such a collaborative environment is the Amsterdam-based collective Hackers & Designers (H&D). H&D currently consists of seven core members[1] who initiate and host coding and design workshops while putting forth experiments in (self-)education. Through self-initiation and collaboratively learning and unlearning about technology design, H&D aims to challenge predetermined hierarchies in work relations and learning environments. While investigating the socio-technological implications of technology design, H&D explores the possibility of critical inquiry through acts of making. The term «making» is often used by H&D to describe the modes of production of workshop participants, who come from different fields such as design, art, and computer engineering. At H&D, workshops become test sites for exploring processes of co-designing technology.

The hands-on approach is important in that context. Fixing bugs, breaking, repairing, and repurposing hard- and software are considered means of acquiring new knowledge and skills, confronting assumptions, dogmas, and enchantments of technological constructions. A recurring topic of workshops is the way we process, publish, and disseminate information. H&D experiments with unusual, sometimes impractical tool combinations, and workflows such as HTML to print, speech-to-text technology, or automation scripts for producing video edits or page layouts, to question our reliance on expensive proprietary media software and other closed systems that inform our work. One example is the Momentary Zine installation, a publishing karaoke machine that leverages the voice as a main mechanism for creating content and designing a publication. When speaking into a microphone, speech will be recognized and transformed into text. Another part of the script will execute an image search according to the text. By using only the voice a publication can be «written», «designed», and «printed» (Fig. 6.1). By promoting a very practical

Fig. 6.1 Interactive publishing installation, The Momentary Zine

(sometimes impractical), self-determined, and collaborative approach, H&D aims to reframe the discourse about what is often described by tech-optimists as innovation. Every new prototype poses new questions, challenges common habits of how things are made, and demands further exploration.

In *Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective*, Donna Haraway argues against various forms of «unlocatable and irresponsible knowledge claims» (Haraway 1988) that cannot be called into account. By posing the question of «Who is technology?», Haraway touches upon three aspects of knowledge production that become crucial to highlight when discussing sites and situations of collaborative making: the aspects of (1) the *unknown* in relation to technology design; (2) the *maker* – the person that can be held accountable; and consequently (3) the (im)possibility of an *actual encounter* with technologies and their makers.

I would argue the potentiality of a collaborative making situation is the space and tolerance for «not-knowing». Makers with different backgrounds, frames of reference, and experiences meet each other in a *new* situation.[2] The contingent nature of such an encounter brings about possibilities for asking naive but confronting questions, for instance: «Why would you do that?«

114

2   Ethymology of the verb encounter: 1. to come upon or meet with, especially unexpectedly: *to encounter a new situation*, 2. to meet with or contend against (difficulties, opposition, etc.), 3. to meet (a person, military force, etc.) in conflict (https://www.dictionary.com/browse/encounter).

3   https://hackersanddesigners.nl/s/Publishing/p/Counter_Interfaces.

A concrete example of a collaborative making situation is a Hackers & Designers workshop with the title «Control the Controller.»[3] During the workshop, participants are asked to translate interactions with digital Graphical User Interfaces into interactions with battery-powered toys. Participants learn about simple circuitry through hacking (opening up and deconstructing) toys and connecting them to a digital interface. The workshop starts with the participants looking at the digital tools they are most familiar with. As a graphic designer and image maker this could be, for instance, the media software Photoshop. The participants are asked: «What are Photoshop's strategies of mediation? How does the Photoshop interface translate binary computational processes into user–computer interaction? What does the interface communicate to a user and to the machine?» By translating intuitive interactions with software interfaces into slow or clunky interactions with physical toys, participants enter a mode of estrangement and defamiliarization – breaking with the habits embedded in their everyday, ordinary making processes.

In *Designing Engineers*, Louis Bucciarelli draws a crucial distinction between a user's and a maker's encounter with technology:

> The way in which one sees how technology works is very much a matter of the nature of the encounter – whether it is in passing, intense in bricolage or dictation, or lay-political. Our relations to and hence our perspectives on technology may vary, but in general, as user, traveler, player, viewer, or tender, we do not have the same connection to technology that its makers have. (Bucciarelli 1994: 11)

Sites of collaborative making bring about the possibility of actually encountering technologies, their makers, and their ways of making things. Those sites introduce the possibility for second-guessing and confronting habitual ways of making.

The possibility for confrontation that lies in the nature of such encounters and the potential for a change of perspective points at the question: Does the frictional potential of encounters within collaborative making situations signify critical conditions for making? In *The Limits of Critique*, Felski delineates critique as a state of suspicion, which springs from a lack of knowledge: «To suspect something, after all, is not to know it for a fact» (Felski 2015: 38). Collaborative making situations bring about states of suspicion. Taking into consideration the origin of the term «encounter» – a meeting of

adversaries, an undesirable or challenging occurrence – collaborating makers potentially become temporary adversaries – «sharp-eyed and hyperalert; mistrustful of appearances» (Felski 2015: 33).

Are we still designing?

Shifting the focus away from designed objects to processes of design is not new in the domain of design. Socially and politically engaged designers from fields of urban planning, architectural design, and software development propose participatory or user-centred design in order to counter detached and individualized design approaches. Rather than approaching end users and citizens as consumers, participatory designers include non-designers in the design process. «In most cases, designers' status as experts confers relatively greater authority in decision-making than lay persons» (Hirsch 2008). Although there are examples of participatory and user-centred designers actually succeeding in democratizing design processes, participatory approaches to design run the risk of limiting lay persons' participation to passive roles, including filling out surveys and joining focus groups (Groten 2019). Unlike the above-mentioned collaborative design situations, participatory design methods are result-oriented – working towards designerly approaches to solving «real» world problems, informed by «real» needs of the end user. Encounters within collaborative design situations might draw from ideas of participatory design in the sense that they are opening up processes of technology design. However, distinctions such as between the user and the maker are barely challenged in participatory design practices. Processes are designed in ways that guarantee an outcome. The question «What is a successful participatory design process?» is answered by evaluating the final results, which may take the shape of an actual prototype or product, or a resolution of a conflict. But what can we learn from the processes themselves? What are the implications of a designer's doings while they are still taking place?

In *Sad by Design*, Geert Lovink delineates: «In a design context, our aim should be to highlight ‹the process in which a designer focuses on the consequences of the current situation instead of dealing with the causes of a particular problem›» (Lovink 2019). In order to focus on the consequences of a current situation, makers would actually need to become vulnerable. Only then could they potentially be challenged while they are making. A horizontal approach to collaborative making opens up possibilities for collective understanding of inner workings of technology, including their intersocial implications. According to Carl DiSalvo,

4   «It just works. Seamlessly.» Video edit of Steve Jobs introducing Apple products as flawless (Moisescot 2009).

a distinction needs to be made between the prototype, as an object, and prototyping, as an activity ... The object is crucial, but it is a product of the social process of conceptualizing and expressing the wants and needs – the conditions, expectations, and values – of those participating in the activity of prototyping. ... The activity of prototyping, then, is dialogic in that its structure is one of exchange and its purpose is the discovery and elucidation of the conditions or factors of a design. (DiSalvo 2014: 96–105)

The process of tinkering becomes more important than the solution or product this process might or might not bring about.

Can reflections on design really be calibrated – and instead of looking at finished works pay attention to conditions in which work is produced? If achievements are not granted by designed objects, if we designers produce *disposals* rather than proposals, can we then still speak about design?

The designer as a host

As accomplices to the innovation economy, designers are accountable for the narratives that inform common understandings of technology. Instead of questioning the conditions that bring about technology design, those narratives still promote objects of technology design as icons and glorify charismatic (often male) lead designers, artists and developers, who still occupy central positions in public representations of technology.[4] As an attempt to antagonize individual «genius» star designers, design practice can be articulated more explicitly around the accumulation of social entanglements. Design operates in close relationship with social, cultural, economic, and technological conditions. However, utterances of design processes will always disregard the complex nature of processes and conditions they are informed by. We are, however, lacking tools for articulating and evaluating design *in context*. As an attempt to approximate a possible articulation of design as a practice that brings about situated encounters, I would like to propose the idea of the *designer host.* By moving into focus social relations inherent in design, the designer host acknowledges and negotiates complexities and dilemmas of design processes such as power dynamics, contestation, unresolved conflicts, and contradictions that speak to embodied and tacit knowledge.

A designer host could be one person or a group of people who ensure an environment that – under certain conditions – can be

inhabited by others. Drawing on Bruno Latour's description of design as a modest practice (Latour 2008), the designer host is invested in, and differentiates processes of genuine collective making from singular, strongly individualized design practices. However, the notion of «modesty» in the more common understanding as subordinate needs to be reconsidered. Besides determining the temporality of an encounter (a host–guest relationship is temporary, it has a beginning and an end), a designer host implicitly introduces rules and forms of control over the guests. By taking on the role of the host, the designer *makes* the other the guest (Locher / von Bismarck 2016). Nonetheless, the designer host is not merely output-oriented, does not solely create objects, artefacts, or hermetic concepts, but instead allows for a reframing of design towards a practice that gives space to encounters that might be ordinary, eventful, confusing, or confronting.

The false promise of collaborative making

The workshop has become an important format for initiatives organizing extracurricular bottom-up collaborative making situations.[5] Yet the workshop format as such has hardly been examined critically. In the article ‹The Workshop and Cultural Production› (Groten 2019), I accentuate characteristics, objectives, and specificities of different collaborative making situations to investigate if workshops can create critical and constructive conditions for working with technical objects. *Workshopping* as a popular mode for cultural production offers a framework for social gatherings, for producing and sharing of knowledge. However, there seems to be a lack of specificity in articulating the premise of the workshop format, including its characteristics and objectives. Interrogating other regular workshoppers, I started to wonder about the *workshopization* of cultural production. Is there a «workshop market» and is that market exhausted? Is there a general disappointment in what workshops are actually capable of?

One branch of the workshop is the *hackathon*. The hackathon draws on hands-on iterative prototyping and usually focuses on a specific technology or programming language. Participants are unpaid and work towards concrete solutions in a short space of time, and in a competitive setup. Hackathons have been criticized for exploiting the willingness of participants to perform free labour (Griffith 2018). Deriving from the domain of software development, the hackathon aims at producing prototypes quickly (rapid prototyping).

Hackathon-like workshops, which also became popular in cultural and artistic domains, exemplify a dilemma of workshops I frequently encounter. There is a general notion of the workshop being a highly productive space and workshops being successful only if a tangible result has been produced: a product or prototype that can be presented to a wider audience.

I would argue, however, that situations of collaborative making should not be measured by the products that are produced. Instead they need to be seen as social prototypes nurturing discussions and disagreement about the implications of the technology they are dealing with. Engaging with open, yet potentially confronting approaches to collaborative making may incite «socio-technical literacy that is necessary to reconnect materiality and morality» (Milestone 2007: 175–198). If situations of collaborative making are seen as social prototypes that require attention and iteration, we (makers) will be provoked to re-evaluate and calibrate our perspectives on accelerated design processes and their entanglements in society.

Social prototypes

The explicit collaborative approach, as put forward by many art and design initiatives such as Hackers & Designers, implies that being limited to one's own perspective, education, skills, and jargon, a single maker is incapable of thoroughly exploring the many facets of technology design on their own. Through sharing processes of making things, (mis)understanding about technology design may come to the fore.

According to Donald A. Schön, makers tend to draw on their tacit knowledge (Schön 1988). They have learned how to do something well, how to undertake sequences of skilful judgements, decisions, and actions, a process he terms *knowing-in-action*. They are able to make things «without thinking», so to speak. During encounters in collaborative making situations this tacit knowledge is made public. Habitual means and skills suddenly become subject to attention and critical examination through a partaking in each other's ways of doing. Hence, by exposing the making process to others, the maker might be disrupted and challenged. That disruption might be pleasantly surprising, or unpleasantly disturbing.

Schön calls the surprise effect of errors and disruption while executing a skill *reflection-in-action*. When this reflection happens during the collaborative making process, the makers involved do not reflect on something that happened in the past. Instead, reflection happens while something is being produced and therefore has immediate consequences for what is being made. The *thing* that is being

made is shaped and reshaped, but also the maker's consciousness will be transformed by these contingent disruptions.

It would of course be too simplistic to suggest that solely the presence of a multiplicity of perspectives in a collaborative making situation could eventually result in recognition and sustaining of those positions. However, the suspicion about the presence of difference and the awareness of the possibility of difference to be expressed creates an expansion of self-awareness of one's own limits. The suspicious collaborator will have to acknowledge that «[t]he knowing self is partial in all its guises, never finished, whole ...; it is always constructed and stitched together imperfectly» (Haraway 1988: 586). However, according to Haraway, pronounced partial perspectives open prospects for positioning – locating oneself and the other, situating encounters, and acknowledging the limitations of one's own and the other's perspective. The seeking of knowledges «ruled by partial sight and limited voice – not partiality for its own sake but, rather, for the sake of the connections and unexpected openings situated knowledges make possible. Situated knowledges are about communities, not about isolated individuals» (Haraway 1988: 590).

Situations of collaborative making hold the potential to turn into sites for exercising and challenging positions: opposing, contradicting, and confronting. According to Lilly Irani, assistant professor of communication, science studies, and critical gender studies at the University of California San Diego, «subjects and social orders are reproduced and valorized in practices of technological production. These forms of technologically productive social life emerge at the intersection of systems of gender, economy, and politics» (Irani 2015: 799–824). Encounters within collaborative making situations are social prototypes that emphasize technology being human-made and inhabiting social orders. Social prototypes thus need investigation and iteration.

Sites of contestation

Situations of collaborative making can create distinct conditions. Encounters within situations of collaborative making might invoke allies; however, such an environment could also turn into a site where adversaries question and disrupt each other's design processes. By exposing the making process to temporary suspicious publics, tacit knowledge might be called into question through reciprocal challenging of assumptions ingrained in disciplinary habits of how things are done. The political theorist Chantal Mouffe proposes a pluralist approach to political processes as a way to resist generalizing notions of neutrality

and the common good. Design researchers such as Carl DiSalvo and Tad Hirsch are building upon Mouffe's theories about agonism and articulate specific lenses and branches of critical design practice. Hirsch coined the term *contestational design*, which refers to activities that are strategic and «engage in advocacy work in collaboration with and/or on behalf particular players in adversarial political processes» (Hirsch 2008: 11). He depicts the term contestation as an approach to design that privileges antagonistic political processes as mechanisms for social change. The similar notion *adversarial design*, which Carl DiSalvo (2012) termed in his corresponding book, also draws on Chantal Mouffe's theories about pluralism and agonism, and proposes strategic use of conflict as part of design processes.

In *Adversarial Design*, Carl DiSalvo investigates the political implications of concrete technology design projects. Contestational design, as Hirsch proposes, follows a more holistic approach – cutting across designers, artefacts, and processes. Where DiSalvo focuses on agonistic approaches to design, as potentially creating awareness of a plurality of positions by tolerating an adversary as someone or something to learn from, Hirsch speaks about conflict in design in more radical terms and more often about antagonism (relationship of enemies) than agonism (transformation of antagonism to agonistic pluralism). Hirsch proposes a conflict-driven approach to design – an «imperative for design as a politically engaged, partisan practice» (Hirsch 2008: 27). Hirsch sees design as «an openly partisan affair, less concerned with building consensus than with winning over opponents» (Hirsch 2008: 26).

Hirsch's and DiSalvo's proposals for agonistic or antagonistic design approaches challenge many conceptions of design as a practice and propose a problem-creation rather than a problem-solving approach to design. However, Mouffe highlights a «pluralist democracy [as one that] requires the creation of collective identities around clearly differentiated positions» (Mouffe 1998: 17). That is to say, agonism and notions such as the adversary seem to presuppose already established positions, which can only be opposed if they are articulated. However, processes of making things are inherently messy and positions not always explicit or apparent. By proposing agonistic and contestational means as design strategies do we not presume a privilege and ability of taking a position and/or oppositions? What about the indecisive, less informed, and uninformed? What about those who were not invited to participate? When we talk about an agonistic approach to design and design processes, are we not taking for granted a formalized situation, while many design decisions are made in an informal context, intuitively and without explicit articulation?

From the perspective of messy collaborative design practices, a frictional lens might offer an entry point to those unresolved questions, decisions, and dilemmas that come about during moments of encountering technologies and their – potentially adversarial – makers. Considering the adversary as a suspicious companion, whose wariness derives from a lack of knowledge rather than a clearly defined position, introduces an important emotional and affective dimension to the articulation of a collaborative design process. The potential for disruption of the making process paired with contingency and the possibility of dissension provokes socio-technological literacy informed by human incompatibilities.

   In conclusion, notions such as *friction* or the *adversary* will not repair the image of participatory design – a practice that has been mainstreamed and commercialized. Nor are these notions offering an alternative recipe for efficient, consensus-based decision-making models for design processes. On the contrary, the problematization of collaborative design approaches should unsettle and complicate making processes, including the possibility for non-resolution and never-endedness.

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«Ci concimiamo a vicenda»:

building support structures

as   part of design practice

Interview with
Bianca Elzenbaumer
by Meike Hardt

1 Precarity Pilot, https://precaritypilot.net.

2 Brave New Alps,
https://www.brave-new-alps.com.

3 The term *interdependence* is referring to
the multi-local alliance The *Interdependence*.
Entrepreneurs and organizations associated
with The Interdependence add the abbre-
viation idt. to their names. Following the
approach of Community Economies, mem-
bers of The Interdependence express a clear
posture towards sustainable economies,
solidarity and interdependency with others.
Bianca Elzenbaumer actually proposed to
use the description *in(ter)dependent* instead
of *independent* designer. The Interdepen-
dence, https://www.community
economies.org/interdependence.

Designers and design researchers are in-
creasingly facing insecure living and working
conditions. Today's cultural and creative
industries within the Western context consist
not only of many large and small companies,
but also of an array of projects that are
characterized by short-lived, fast-changing
activities. With the rise of neoliberal deregu-
lation and flexibilization, secure working
conditions have been deprioritized. Austerity
measures and low-wage work are common-
place, as are cutbacks in the cultural and
public service sectors. The related precari-
ous working conditions are marked by a lack
of security, demand for high flexibility, and
competitive behavior. The mechanisms
that cause precarity manifest themselves both in the organization of
work (the way it is structured and practiced) and in working tools and
working environments (the material form work takes). Such mecha-
nisms represent a political-economic problem that has become insti-
tutionalized and socialized.

In order to practice design critically, it is essential to reflect on
the methods and strategies of critical work. Furthermore, consider-
ation should be given to the economic structures and conditions
on which this critical design practice is based. Precarious economic
structures have an effect on the abilities of design and its produced
and established normalization mechanisms, as they often lead to
inequality and repressive power relations. The Italian design re-
searcher Bianca Elzenbaumer examined these research topics as
part of the Precarity Pilot[1] online platform, the Brave New Alps collec-
tive in the Italian Alps,[2] and her PhD study «Designing Economic
Cultures: Cultivating Socially and Politically Engaged Design Practices
against Procedures of Precarisation» (Elzenbaumer 2013). From
an activist, autonomous, feminist perspective, Elzenbaumer regards
the design economy as a field that needs to be challenged and
redesigned.

The interview was conducted by Meike Hardt, an *in(ter)depen-
dent*[3] German designer and design researcher who engages with
sustainable, equitable, and inclusive (design) economies and who
researches about organizational forms and working tools that involve
an expanded feminist understanding of (design) economies.

In this interview, Bianca Elzenbaumer provides insight into her
engagement with precarious mechanisms in the design industry and
design schools. She opens new vistas on an array of methods and

tools that can provide a structural foundation for various critical and caring design practices.

MH   I'd like to begin the interview with Carol Hanish's statement: «the personal is political» (Hanish 1969). This was not only an important source of motivation, but also the guiding principle behind the interviews you conducted for your PhD work: «Designing Economic Cultures: Cultivating Socially and Politically Engaged Design Practices against Procedures of Precarisation» (2013). In the late 1960s and during second-wave feminism, «the personal is political» and the essay so titled attracted a great deal of attention. As a political concept, it emphasizes the relevance of personal experiences and their link to broader political and social issues. With this statement in mind, I'd like to ask you about your own experiences in this area. How did your experiences lead you to your research topic, what motivated you, and what has changed over the years?

BE   «The personal is political» is the foundation of my design practice and the practice of the Brave New Alps collective because we question our structures on a daily basis and view efforts to change them as political. Like many designers, at the start of our working lives we had difficulties surviving with our political and social design practice. My partner and colleague Fabio Franz and I didn't know if we could afford to practice design with a critical approach. As a result, during our master's studies at the Royal College of Art in London, which we financed with a scholarship, we attended professional development courses that we pinned a lot of hope on. However, we realized relatively quickly that what we learned in these courses didn't go with what we wanted to achieve. We wanted to work collectively, with collaborators who usually have only very small budgets. With the tools from the professional development courses, we faced limitations because the courses taught a «survival of the fittest» mentality and generally focused on an individualized practice that was based mainly on the designer's own interests. Based on this observation, we developed a research project with the help of a grant from Goldsmith College, University of London. We learned that precarity in the field of design was a structural problem and affects not only the designers who work critically, but also those who work commercially. The field is structured such that there is downward pressure on pay and upward pressure on working hours and it is difficult to get a permanent position. For example, statistics show that after the age of 40, designers in Germany either go into business for themselves or rarely work in the field of design (see BDG 2011).[4] Their ranks are filled

by the large number of young designers with «fresher» ideas who can work longer hours because they do less care work. They push the older designers out of the profession. When I see my personal precarity as part of my political engagement and restructure it through collective action, it becomes the «political» in my everyday life. This raises the following question for our design practice: how can we restructure the design economy?

We used my PhD project not only to carry out abstract research, but also to change the way we practice design. We learned that the economy shouldn't only be seen in monetary terms, that it consists of different resources that ensure our existence and survival. We learned to think about success differently, as success became relative to us. We began seeing ourselves not in relation to design practice, but in relation to the projects and people involved in social change. Our peers are not necessarily designers, but initiatives that create housing co-ops or run social centers, as well as the people who build anarchist schools or kindergartens in the forest.

With my work, I contribute to a larger movement that aims to reverse and change precarious working conditions. However, I have the privilege of no longer being in a constantly precarious situation myself. I had a scholarship to do my doctorate, and during this time Fabio started to remodel the attic of his parents' home in the Alps, which shielded us from high costs. We knew we couldn't live on a single salary in a large city and that neither of us wanted to work in a job where others told us what to do. Just after I completed my doctorate, we both got a six-month fellowship at the Akademie Schloss Solitude in Stuttgart (Germany), and ten months later, I received a position as research fellow at Leeds Arts University. In 2016, I took up a permanent position as associate professor there. So, I'm paid a monthly salary and the people I work with like and support my work. It's also worth noting that my research on precarity is done from the positionality of a person who has a European passport, who is white, and who speaks many European languages. Sure, I come from a social context in which I was the first person in my family to go to university – a context that simply does not quite fit in terms of milieu – but I didn't find it terribly difficult to adjust to other spaces. So, I have the feeling I'm no longer the best person to discuss what it means and what a burden it is to live in precarious conditions as a designer in Europe today. On the other hand, based on my experiences and convictions, I'm fighting for a solidarity-based, ecological coexistence, for working conditions and economies that empower people. The goal of my work is to ensure not only that Brave New

Alps survives as a critical and caring collective, but that we create conditions that make critical and caring practices possible on a large scale. Precarity takes various forms and is marked by various «levels of difficulty.» It's complex and separates people. Our concrete goal is to create solidarity in this differentiated landscape.

As part of Brave New Alps and my academic job, we have spaces in which we can think and work critically, in which we can attempt to make our privileges productive for others. How can the structures in which we're able to do critical work be helpful for others? How can we «hack» our resources, making them accessible to others? In Italian we say, «Ci concimiamo a vicenda» – «We fertilize each other.» In other words, how can we organize things, projects and people so that they support one another and care for one another? We're interested in such collective support structures. When we tap into and share resources, it creates cohesion and thus a space where people provide greater support for one another.

MH   The political theorist Isabell Lorey refers to a process of institutionalized and socialized «self-precarization» (Lorey [2013] 2015). The term implies an interplay between subjugation and empowerment: people subordinate themselves to, appropriate, and replicate precarious mechanisms but at the same time have the potential to overcome and change these mechanisms. What «techniques of self-precarization» can be found in design work? How do they differ in the various areas of work – for example, in the work done by freelance designers, at university or in research?

BE   Self-precarization always involves the precarization of others. It is an extremely widespread way of behaving that is sometimes something we learn – for example, when we constantly overwork and neglect our health, social networks, family, and other support structures. It starts during university studies: some design schools are open 24/7, which gives students the feeling that it's totally normal to work late into the night at a studio. This ethos of defining yourself by your work and only living for your work is part of self-precarization. It begins the moment you become involved with structures that create precarious conditions. This form of overwork produces a sphere of work that excludes everyone who cannot overwork, such as people with children or health restrictions or students who must finance their studies or internships through part-time jobs. Under these conditions it becomes more difficult for them to keep up with others. How we deal with time in the field of design is thus an important issue. For example, the conditions associated with «good» projects become evident at university. In most cases, these are the

5   See Feminism and Graphic Design, https://
www.feminismandgraphicdesign.blogspot.
it/2012/03/bare-facts.html. In research, this
phenomenon is known as the leaky pipeline
(see Dubois-Shaik / Fusulier 2015).

projects that require a great deal of time.
It makes a clear difference whether you
invest 800 or 400 hours in a project. This
creates the impression that people need to
overwork to do a good job.

An industry is emerging in which a person gets fired if they can't or don't want to overwork. According to statistics, women make up 80 per cent of students in design programs. Ten years later, however, men dominate the field.[5] In design, we've developed a way of working in which it's totally normal for people who can't or don't want to overwork to fall by the wayside. Design programs need to convey a work ethic that permits people to look after their health, to have free time and a family, and to take care of their family. After all, it's not only monetary resources that allow us to lead a good life.

Another form of self-precarization is the appropriation of symbolic capital at an excessive price. This occurs in the cycle of «cruel optimism» that the theorist Lauren Berlant (2011) describes and that locks people into precarious situations by making them believe that they will soon manage to escape. It can involve accepting unpaid or underpaid work in the hope of getting more commissions or becoming more employable. As a result, precarious structures are replicated and reinforced. This type of behavior is understandable, because we see it in others, but it makes it more difficult for everyone to earn a living. In order to fight it, we need to ask how we can distribute resources equally. We can, for example, imagine economies as «messy» and ask who pays for what, who has enough, and who can give something away. What working conditions can I make possible for others in my privileged position as a professor – conditions that support others instead of creating precarity? There's a lot of scope here, but often it's not used because it means changing habits, which is time consuming.

People's ambitions in design are often homogeneous, which creates the impression that a designer who gets a great job or attracts a lot of attention wins while others lose. There's an impression that a win–win situation is impossible, that only one person can be in the spotlight. For critical and socially engaged design practices to change anything, we must give up the idea that only one critical practice can be successful. Instead, an entire movement must emerge in which we mutually support and care for one another. For this reason, it's important for us – as designers who work critically – to help transform the field of design such that it gives designers more opportunities to help one another, to network with other people or with designers who work socially and politically.

129

6   Adam Smith had a great impact on the modern understanding of political economy, by coining that the core drive of the economy is to make decisions solely based on self-interest. This was published in his book The Wealth of Nations in 1776. Smith counts as a pioneer in modern political economy and is also known as the father of economics. The journalist Katrine Marçal uses this example as an argument on how economies are built of unilateral values. See also her talk «How Economics Forgot about Women» (Marçal 2015).

It's extremely difficult to overcome individualised thinking because in our society we're conditioned to think only about our own success. It's important to turn this individualistic thinking on its head and examine the question of how it can be possible to work less competitively and more collaboratively and cooperatively. In this regard, it has been extremely helpful for us to view our practice not only as critical but as caring.

MH   If we view design practice as caring, we move away from acting in our own interests – which, according to Adam Smith,[6] is the driving force behind the economy – and begin acting in the interests of the community. At the same time, we focus on a part of the economy that is currently marginalized in the mainstream view of economics. Can you describe the aspect of care in your work in greater detail? What constitutes a caring design practice, and what influenced your design practice in this respect?

BE   Care is an important aspect of my research because it follows a non-capitalist logic. Bernice Fisher and Joan Tronto (1990) once said that care is everything we do and repeat on a daily basis in order to live well together. We take care of other people and relationships, we take care of the environment, we take care of things, we try to maintain and cultivate relations. These activities move away from the logic of consumption and competition because their goal is to maintain what we already have. The goal is not, for example, to continue expanding a network, but to preserve and strengthen an existing one.

The Spanish philosopher María Puig de la Bellacasa provides an excellent description of this concept in her book *Matters of Care: Speculative Ethics in More than Human Worlds* (2017). She writes that when we *care* for something, we need to become active ourselves. If we're *concerned* about something, we can keep a critical distance. For example, if I'm concerned about the climate, I don't necessarily need to take any action because I can adopt a detached critical position. But if I care about the climate, it implies that I need to become active. If I care about a person, I support that person and want the person to do well. If I'm only concerned, I can look on from the sidelines and leave it to the person to get on alone with her struggle.

7   J. K. Gibson-Graham is a pen name for
    Julie Graham and Katherine Gibson.

8   Community Economies Collective,
    https://www.communityeconomies.org.

This brings us back to the concept of «the personal is political.» If I really care about something, I fight for it and take a risk. This implies that if designers want to work critically, they need to take a certain risk and take responsibility. With the concept of care, other values come into play that can provide orientation. They can be used to change the practice of design, in the sense of how you organize yourself, how you work, and how you relate to others.

MH   What tools or methods are best suited to changing a person's working conditions and shifting such value-related practices? What methods can contribute to developing an awareness of mutual support and alternative modes of action to self-precarization?

BE   An exciting concept here is that of diverse economies, which was developed in the 1990s by the feminist economic geographers J. K. Gibson-Graham.[7] They see the economy as an iceberg. This model helps us understand that the economy is diverse and multilayered. The part of the iceberg above water represents a small part of the economy. It stands for what is commonly understood to make up the economy, such as wage labor and capitalist firms. The lower part of the iceberg represents what ensures survival in the world. This is a much larger part of the iceberg and thus of the economy. It contains relational exchanges, such as neighborhood exchanges and work co-ops, where workers own their own businesses and can make all the decisions themselves. How do we structure our income, how do we share our work in our close network, and what about the barter and gift economy? From a global perspective, the lower part of the iceberg also contains unjust and cruel areas such as slavery and indentured labor, which continue to exist today. Based on the iceberg model and in cooperation with the Community Economies Collective,[8] J. K. Gibson-Graham coined the term «community economies» to describe the ethical relations and positive values in the lower part of the iceberg – not indentured labor, but neighborhood economies, for example.

At Brave New Alps, we aim to strengthen the lower part of the community economies iceberg. We don't want to restrict the economy to the upper part. The lower part of the iceberg can help us think about the structures and resources that make critical and caring work possible. What supports our lives and how can these structures be strengthened and cultivated? A helpful tool in this regard is resource mapping, where you write down on cards all the material and cultural goods at your disposal and then rearrange the cards.

This helps you discover resources you weren't aware of. Thanks to this mapping, design practice and all the things that support life are transformed into a configurable sphere, and a new economy can be pieced together. If you create an overview of your own situation and resources, it's easier to see how they can be made accessible to others who are in a different situation.

The iceberg diagram (Fig. 7.1) provided us with scope for new solutions, including projects in which budgets were more or less non-existent and we were wondering what could be substituted. My position as professor was also key to many resources, which we identified. The fact that I work at the university opens doors for others. A document I issue can be seen as a resource that allows someone else to access funding, for example.

It became clear to us that people are supported not only by monetary relations but also by social ones. Taking time to listen, help, and exchange ideas about working and living conditions with other people is one way to overcome precariousness. Nor is it ever a waste of time to work with, help, or simply give feedback to others. Besides caring for relations, it also contributes to building a network, through which you get commissions, information about calls for bids, or help in other forms. The lower part of the iceberg is also the part that brings in money, that leads to jobs or makes work possible. The iceberg diagram shows that the economy is highly complex and diverse. This insight makes the economy more malleable, because you can begin your efforts to live a less precarious life in many more places.

Another interesting task is to create a resource diagram with traditional successful designers, or with designers you consider successful. This also makes clear that many of these designers are successful because the lower part of their iceberg works so well. So the iceberg is not only relevant to designers who see themselves as

Figure labels:

wage labor
commodity markets
capitalist enterprise

language · compost · informal loans
barter · gathering · free schools
parenting · soil nutrition
gifts · community gardens · worker cooperatives
grow your own
respiration · DIY · farmer's markets · metabolism
credit unions · housing cooperatives · housework
oral traditions · community financing · gleaning
elder care · intentional communities · non-profit
photosynthesis · sliding scale pricing
fundraising · theft (re-appropriations) · hunting
lending & borrowing · community currency
breastfeeding
collective ownership · fair trade · hunting & gathering
open-source · imagination
family · scavenging
consumer cooperatives
libraries

Fig. 7.1 Diverse economies iceberg by Community Economies Collective is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

9   See Feral Business Research Network,
    https://fo.am/events/feral-business-
    workshop.

precarious, but also to those who are not. Design studios that take on unpaid interns to do part of their work profit from the fact that these interns are supported by their parents. The iceberg diagram illustrates these types of relationships. On the one hand, it makes it possible to create an awareness of your position in the system; on the other, to develop a sense of self-efficacy that can help you restructure your own system over a longer period of time.

MH   Your work focuses mainly on organizational structures – on how people can organize and implement alternative economies and values. At the same time, precarious structures and modes of behavior can manifest themselves in material things – in tools such as business plans that are geared toward competitive behavior, or in the aesthetics of design products that have been created in precarious conditions and replicate precarious structures.
        When it comes to changing precarious structures, shouldn't we also be questioning existing tools, materials, and design aesthetics? For example, what would a business plan based on care look like? What new guidelines and aesthetics could ensure that we don't need to work day and night on a design to achieve the desired results? Where do you see connections and what could such work look like?

BE   That's an interesting question. Last year we joined the Feral Business Research Network,[9] whose goal is to deconstruct and radically rewrite business plans. With the members of our local and translocal network, we drafted a community and co-management business plan to found a community academy at the Rovereto train station in the Italian Alps. In order to deconstruct the business plan, we used the iceberg diagram as a tool and called it a «community economies business plan.» The idea was to formulate a plan that was subject to the «community economies» logic.
        Another important issue is how the aesthetics of products and design work changes if you don't overwork. The moment you have children, for example, you no longer have the time to overwork. If someone is waiting for you at home, you need to finish your work by 5 pm. I think this does influence aesthetics, because you no longer have the time to overworry about perfection. You need to have the confidence that the work you do during this time is perfectly okay. Design education should start by experimenting with restrictions, such as the policy that no one should work in the evening or on weekends. Everyone should write down how many hours they work and then

evaluate the results. This could be part of critical reflections on the way we all work and could ideally teach us how not to wear ourselves out.

Jenny Pickerill – a professor of environmental geography and department head at the University of Sheffield – communicates to the public what work she can or is willing to accept. She rejects work that seems pointless to her, such as checking papers already graded by her assistant. Instead, she'll write a letter to the administration, telling them she trusts her assistant. She then posts these statements on Twitter, explaining that she isn't willing to support overwork. She's also published a shadow CV, which includes all the positions she didn't get. In this way, she makes things visible that are often kept secret or aren't sufficiently transparent.

MH   At the start of the interview, you mentioned that your role models for design work are no longer design offices, but cooperatives and activist organizations. Following other role models, learning from their structures, and transferring these structures to your own work can be seen as another method for identifying alternative organizational structures for design practice. For instance, in your article «Footprint: A Radical Workers Co-operative and Its Ecology of Mutual Support» (Elzenbaumer / Franz 2018), you analyze the Footprint cooperative and its strategies for creating a supportive collective organization. It's quite a radical example of an alternative organizational form. How can Footprint's support structures be transferred to the design economy in the private sector or in a university context? What other cooperatives do you think are good examples?

BE   Over the years, we've asked various cooperatives and collectives how they organize and finance themselves and what goes on behind the scenes. We regard them as designers because their ambition is to shape the world around them. You could say that this understanding of design points in the direction of Manzini's *When Everybody Designs* (2019). They create a framework for themselves and secure all they need. Designers can learn a lot from this attitude.

For example, one thing the Footprint cooperative does that I provocatively propose to introduce at the university is to have people share salaries so that everyone is paid the same amount or with minimal differences. I believe we need to try out such radical restructurings in order to see if they work and to learn what new ways of thinking and acting they make possible.

What's also interesting is that Footprint is part of a national network of activist cooperatives that meet three times a year and support one another in different ways. Problems are discussed, help

10 «Socially Just Waging System»,
http://platformlondon.org/wp-content/
uploads/2011/09/social-justice-waging-
system-dec-2005.pdf.

is provided, templates for administrative tasks are developed, information and contacts are exchanged across generations, and informal loans are granted. Designers can also learn from this work. They could, for example, establish similar alliances for critical and caring design practices, whatever the degree of informality.

Platform London, a group combining art and activism, has developed a Social Justice Waging System[10] based on the principle that everyone should receive the same basic salary and that this salary should be adjusted upward or downward as a percentage of a core rate depending on each individual's needs. For example, if a person has two children to look after, the salary is raised by a certain percentage, and if they've just inherited an apartment, the salary goes down by a certain percentage, because theoretically they need less. The Social Justice Waging System creates a framework in which everyone is required to discuss and share their situation with others. They're no longer isolated. The question of critical work and how people can afford to perform it becomes a collective issue.

When we looked at housing co-ops and lived in one ourselves, we learned that there are very long processes in many of the projects. Before one of the housing co-ops was founded, for example, its members did years of work to create a network and acquire the necessary knowledge. So, the element of time plays an important role in this context as well. In design programs, projects typically have a very short time frame such as one, maximum two semesters. However, there are topics that require more time – mechanisms must be understood, alliances built, and resources mobilized. Because of the time constraints in design projects, there's a danger that more complex issues will be given too little attention or may become impossible to address at all. The insight that some topics require more time is often neglected in design practice and design training.

We've registered Brave New Alps as an association. When you practice design in an association, you abandon the idea that designers are geniuses. After all, everyone can join an association. Brave New Alps now has more than ten members. If you want to practice design in an alternative way, it's important to experiment with other legal forms. An association or a cooperative allows you see what alternatives are possible. Of course, the options vary in every country. At the very least, they show that design is more than just the content of a project. The entire economic and organizational aspect is part of something we can shape.

Resources that supported the (unpaid) work on the interview with Bianca Elzenbaumer

(a) Monetary resources

(b) Non-human resources

(c) Social resources

(d) Politics

(e) Time

(f) Knowledge

(No claim for completeness)
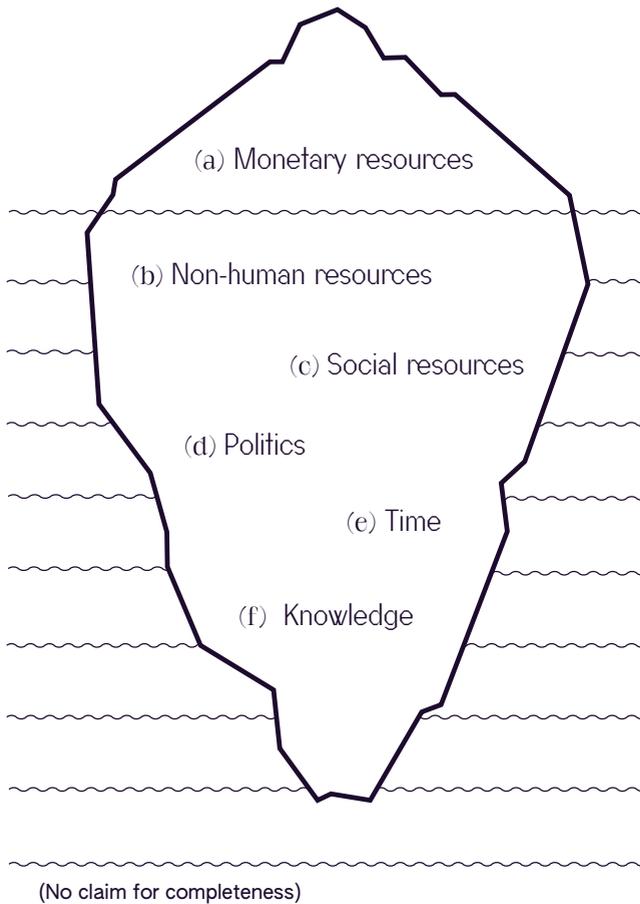
Fig. 7.2 Iceberg diagram that visualizes the resources available to the interviewer for the interview.

(a) Indirect financial support by being co-partner of m—d—buero with a monthly salary; Indirect financial support by payments of FHNW Academy of Art and Design for my freelance work as researcher and coordinator for the «Critical by Design?» project.

(b) A roof over my head and all basic resources for living and working; Gifts; Tomato plant and herbaceous plants at home; Access to food; …

(c) Family support system; Parents and friends inviting for dinner from time to time; Shared lunch at co-working space; …

(d) Living in Germany, a country with a strong social system; Living in a wealthy country; White person with EU passport; Grew up in an upper middle class family; Cis-woman; …

(e) Shared time and knowledge of Bianca Elzenbaumer; Extended timeframes for finishing the interview; My weekends and evenings; Without kids; In healthy condition; …

(f) Long term exchange on these research subjects with friends and colleagues; Support of the editors for providing me with the opportunity to contribute to the publication; Feedback and exchange with the editors and Bianca Elzenbaumer on the article; Translation of the article by paid translator; Two design degrees; Work experience as designer and design reseacher; …

MH   Thank you, Bianca Elzenbaumer, for your time, the interview, and for sharing your research. Your knowledge of how we can question and redesign personal work structures is a great help when it comes to reflecting on and transforming the design economy.

To close the interview, I'd like to share an iceberg diagram that visualizes the resources available to me for the interview (Fig. 7.2). I was only able to conduct the interview thanks to the direct and indirect support of my network, social surroundings and indirect salaries. The interview was made possible not by one, but by many resources – by an interdependent support system. In addition, the visualization of my situation, my social and political positions, and my contextrelated advantages

helped me to become aware of the «relational differences» denoted through precariousness (Lorey [2013] 2015: 19). Visualizing interdependencies makes visible what often remains veiled. However, to include the diagram is meant to be a gesture. It can be read as a thank you to my professional and social network and, following Bianca Elzenbaumers work, as an invitation to share our economic and political structures for politically and socially engaged design and academic work with each other more. To make resources and privileges explicit is an important step for understanding better the structural-economic conditions of our work and to create an awareness of the own situatedness. With this ambition and findings, I conclude the interview by expressing gratitude for this tool and the enriching insights.

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Re-visioning pelvic care

through design

Patrycja Zdziarska,
Jeffrey Bardzell &
Shaowen Bardzell

The authors recognize that not all people who have vaginas are women, and that not all women have vaginas. Where possible, we avoid assigning a binary gender (*women*) to individuals with vaginas. When we do specify *women*, we are referencing the work of others that does so. We use the term *female* to denote matters of biological sex, without intending to indicate gender.

Introduction

Designing for women's health and their bodies is emerging as an agenda in interaction design (Almeida et al. 2016a; Balaam et al. 2017).[1] Fueled by widely acknowledged disparities in health research among genders, researchers in several fields have focused on women's health to improve our understanding of issues such as menstruation, menopause, and pelvic care. In design fields, including Human–Computer Interaction (HCI), researchers are using design methods to broaden the ways in which the public can participate in health practices. For example, by embracing the hacker and maker movement, scholars have experimented with the hackathon format for enlisting broader involvement in the design of postpartum technologies (D'Ignazio et al. 2016; Hope et al. 2019). They have also leveraged fabrication techniques and emerging technologies to explore intimate wearables (Almeida 2015), Internet of Things (IoT) systems (Fox et al. 2018), and alternative conceptions of trackers (Homewood et al. 2019).

Throughout this work, we see the development of a critical stance towards recognizing and incorporating the concerns and needs of individuals in the design process who have been left out in the past, including but not limited to CIS-gendered women. Specifically, several critiques of health information technologies (ITs) have pointed to the issues surrounding how gendered bodies are framed in the design of health ITs. For one, Epstein et al.'s study of menstrual tracking applications highlights the ways in which these applications fail to account for the full diversity of users and their bodies, as well as changes that bodies undergo across life stages (Epstein et al. 2017). Others have reflected on the relationship between the user and the body in the design of self-tracking tools, proposing design strategies for how designs could account for the changing nature of the body (Homewood 2018). Taking a step further, Homewood has questioned the appropriateness of self-tracking in designing for menopause, raising concerns such as how quantification afforded by self-tracking may result in the privileging of numerical representations above embodied experiences (Homewood 2019). Others have examined the relationship between intimate technologies and intimate data politics, calling attention to their specific logics and politics as well as how they might reinforce a type of intimate body surveillance (Søndergaard/Koefoed Hansen 2016; Søndergaard 2017; Fox et al. 2019).

We argue that feminist scholarship and theory can continue to provide insights to support design in addressing the complex challenges

141

of designing for gendered bodies, including CIS-gendered women and LGBTQ+ individuals who might benefit from advances in health concerning female anatomy and related health issues. Feminist scholarship has a long history of engaging with *re-visioning* work, starting with the re-visioning of the basic assumptions regarding knowledge production that took shape during the women's liberation movement towards the end of the 20th century (Callaway 1981).Scholars of interaction design have built upon feminist insights, proposing the ways in which feminism and design can come together towards social change (S. Bardzell 2010, 2018; Rode 2011). Likewise, Science and Technology Studies (STS) scholars have explored how technologies are or can be feminist by design (Layne et al. 2010). We extend the argument that designers possess the tools and means of not only imagining but also creating alternative worlds and that they are well-positioned to materialize feminist insights.

Drawing on Adrienne Rich's notion of «writing as re-visioning,» feminist scholar Helen Callaway considers three senses of re-visioning that characterize feminist research.

> [1] «revision» in the standard sense of correcting or completing the record; then [2] «re-vision» as a deliberate critical act to see through the stereotypes that are taken for granted in daily life and deeply embedded in academic tradition; and, finally, [3] «re-vision» in its extended sense as the imaginative power of sighting possibilities and thus helping to bring about what is not (or not yet) visible, a new ordering of human relations. (Callaway 1981: 34; numerical ordering added for clarity)

In providing these senses, Callaway is not offering a prescriptive framework – a recipe for pursuing feminist goals – so much as attempting to characterize how feminists have intervened upon traditional practices of knowledge production in the past. Such interventions have variously operated at the levels of methodology, theory, and intellectual expression, and have collectively foregrounded subjectivity and the epistemic virtues it brings forward: self-awareness and understanding, the gendered character of human experiences, and the impacts of knowledge production on actual bodies. Inspired by Callaway's synthesis work, in this work we use her three senses of *re-visioning* as a point of departure to ask: how might design *re-vision* gendered experiences of health?

Stated more explicitly: the guiding intuition of the present research is that design activism within HCI and other design disciplines can be read as engaging in one or more of these forms of re-visioning. We therefore engaged in design criticism (J. Bardzell 2009) to develop interpretations of three design cases that are

Patrycja Zdziarska, Jeffrey Bardzell, Shaowen Bardzell

each concerned with re-visioning gynecological health. Each of the design cases we consider is either a redesign – a very literal form of re-visioning – or manifests an attempt at imagining and representing different ways of doing gynecological care. Through our critical readings of the design cases, we hope to explore ways that designing (or re-designing) might constitute a material practice of re-visioning in the context of pursuing more equitable gynecological care.

Re-visioning gynecology

In *Public Privates*, performance artist Kapsalis provides a critical examination of gynecology through which she develops an account of how pelvic examinations construct female agency, sexuality, and bodies. One implication of her work is that gynecology can be reimagined through a deconstruction of the power structures that sustain the performance of a pelvic exam. She contends that new performances of pelvic examinations will require a different cast of characters with new roles, practices, and tools. Moreover, in these new performances, power will need to be distributed through collaborative engagement between patients and doctors, as well as through new configurations of practices that support self-examination and, along with it, the production of self-knowledge that diverges from a strictly pathological understanding of the female body. She writes:

> [The] self-exam can potentially increase a woman's participation in her own care and ensure that she continues to receive care. And, as the many practices, projects, and clinics that arose out of the women's health movement illuminate, the practice of cervical self-exam is about larger issues than simply investigating one's own cervix. It is about imagining a new kind of health care that organizes the female body and its relationship to health and pathology in new ways and therefore reconfigures issues of power and control. (Kapsalis 1997: 170–171)

Following suit, other scholars propose additional ways in which self-examination could be reclaimed in the context of feminist theories. These scholars consider how second-wave feminism (engagement with the body) can blend with later forms of feminism (intersectional critiques / anti-essentialism).

Davis (2007) confronts the challenge of bridging the gap between two disassociated politics of feminist knowledge: the practical politics of knowledge that runs through women's health activism projects, and the discursive politics of knowledge that is at the center of poststructuralist feminist theory. Davis argues that postmodern feminist theory, «despite its concern for possibilities of resistance and

transformation in women's bodily practices,» has offered little in terms of «theorizing collective forms of feminist action in and through the body» (Davis 2007: 54). Davis turns to phenomenological perspectives, which «treat women as embodied subjects who think, act, and know through their bodies» (Davis 2007: 57). For Davis, phenomenology offers a theory of agency that links experiences, the body, and action «that is not abstract but practical. Agency is always embedded in women's everyday interpretive activities» (Davis 2007: 60). Such an approach avoids the pitfalls of second-wave feminism (i.e. essentialism) and third-wave feminism (i.e. a commitment to discourse that is ultimately disembodying).

Davis is not alone in her effort to re-emphasize the role of the body in feminist thought. Gender and health researchers Kuhlmann and Babitsch (2002) make a similar move, proposing «to bring the material body back into feminist theory and to further new concepts that take the living and changing body into account» (Kuhlmann / Babitsch 2002: 433). In their case, highlighting the body is not a philosophical commitment so much as a pragmatic one, given their interest in linking feminism to women's health. More recently, Fahs (2015) has argued that third-wave feminism itself provides new intellectual resources to understand the body: «because of the tools we have been given from the third wave to more meaningfully theorize and understand intersecting identities and intersecting oppressions, we are now in a position to better address the body as corporeal while also thinking deeply about intersectionality and social identities» (Fahs 2015: 396–397).

If the centrality of the body is needed for an emancipatory practice focused on female body parts and functions – as women's health is frequently positioned – then the body should be equally central to design. Designs constitute much of the physical ecologies in which our lives unfold, and practical intention underlies how they get made, why they were acquired, and how they are used. In short, design reflects all of Davis' key elements of a feminist phenomenology: agency, as an outcome of embodied, meaningful, and practical engagements with the world. If gendered health experiences – such as the pelvic exam – are to have new distributions of power, casts of characters, performances, and engagements, as Kapsalis hopes, that is, if they are to be revised, then it seems that design is a material practice upon which any such re-visions hinge. In such a light, we consider three design projects that, in diverse ways, all do such work: Labella, Yona Care, and GynePunk.

144

Design cases

We examine the following three design cases, each of which proposes a re-visioning of gynecology in the contemporary moment through advances in technology and design. These design cases were selected because they express worthwhile design aspirations grounded in diverse sets of commitments, ranging from Interaction Design's techno-interventionist approach of Labella (an interactive self-discovery tool), to the Experience Design approach of Yona Care (re-designed experience of pelvic exams), and the transfeminist approach of the Gyne-Punks (critical making and hacking of a collection of tools and practices for self-care). Thus, each case offers a contrasting view of how re-visioning can take place, allowing us to map the space of possibility and collectively expand the technological and social imagination of possible future designs.

Labella

Labella (Almeida et al. 2016b, 2016c) is a technology probe about vaginal self-examination. The design includes a smart phone app and specially marked underwear that allows people to examine vagina anatomy virtually. It was developed in part as a response to research showing that only half of women in a recent survey could correctly locate the vagina on a diagram of the female reproductive system (Almeida 2016). As a technology probe (Hutchison et al. 2003), the intention behind Labella was not so much that it be offered on the commercial market, but rather to explore an ill-defined design space and to understand how potential users would respond to such a device were it available. Though it is not available for commercial purchase and is not on any app stores, its creators have published two scientific articles about it, and it has also been written up in popular media, including The Conversation (Almeida 2016) and *Glamour* (Weiss 2016).

More specifically, Labella (Fig. 8.1) is an augmented reality pelvic fitness system consisting of a mobile phone application and a pair of augmented underwear that guides users through situated embodied self-discovery (Almeida et al. 2016b, 2016c). While all interactions using Labella take place with the underwear on, the system invites users to «look down there» by pointing the camera of the phone at the visual marker on the accompanying underwear. The app then presents illustrations and 3D models of female anatomy, in addition to simulations of its physiology, to help users locate and understand the functioning of their pelvic muscles (Fig. 8.2). After this learning occurs, the app engages users in a series of timed pelvic exercises, where

145

they respond in a physical manner by contracting or releasing their pelvic floor muscles to exercise their pelvic floors. Vaginal examinations are often uncomfortable experiences, whether performed by a medical professional or oneself. Reasons range from the power dynamics of being subjected to an objectifying gaze, in the context of medical practice, to taboos and a shroud of mystery about genitals, female in particular (Kapsalis 1997). Labella's use of the vocabularies of contemporary interaction design – apps, cameras, 3D models, and virtual representations – explores a space in which pelvic health tools might be redesigned for broader appeal. The design team characterizes its intentions with Labella as follows:

Fig. 8.1 Images of Labella, 2016. Photo credits: Ko-Le Chen. Illustration / collage: Teresa Almeida. Used with permission.

We illustrate how Labella can contribute towards an enhanced self-learning experience for women, through which they can gain awareness of the intimate parts of their body. We show how designing for awkward learning experiences, onbody interactions and humour can break the taboo related to learning about hidden parts of the body, which in turn can enable better self-care or care of others. (Almeida et al. 2016a: 1811)

Several features of Labella are worth elaborating. Given the link between self-examination and pelvic health, Labella is addressing a serious societal issue, and it views education – where people learn about their vaginas – as a tactic to improve health. Obviously, such education is already abundantly available in books, on the Internet, and so forth (e.g. Herbenick / Schick 2011). But Labella makes several moves that books and online browser searches typically do not. One is that Labella is interactive; one does not read about an examination, but rather one performs a simulation of one. Another, related, is that Labella utilizes its user's body beyond eyes and hands (screen and keyboard). Users must point Labella at the underwear covering their pelvic areas for it to function correctly. Even though Labella neither sees nor directly represents the user's actual vulva, nonetheless the user interacts with those parts of the body as though it did. In doing so, it separates the kinesiology of a self-examination from the visual study by performing the former while merely virtualizing the latter. Labella also encourages exploration in part through ambiguity. It uses

Patrycja Zdziarska, Jeffrey Bardzell, Shaowen Bardzell
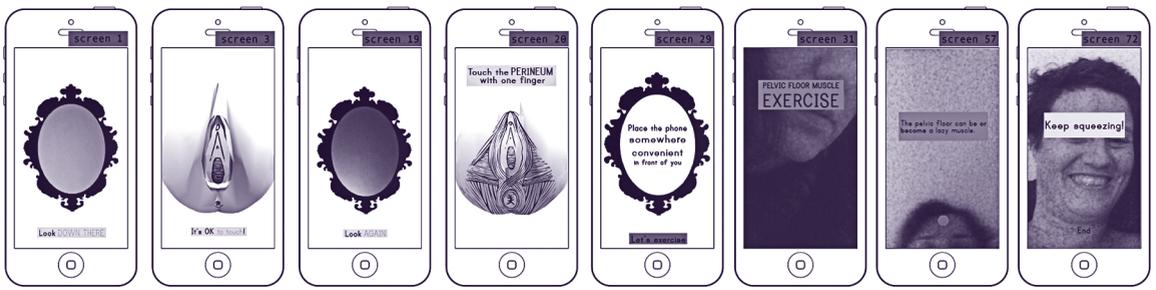
Fig. 8.2 Labella: a selection of screen designs, 2016. Screen design: Teresa Almeida. Used with permission.

a combination of encouraging prompts («it's okay!») and directives («look») before turning to deliberately ambiguous language (e.g. «touch the Perineum with one finger») that does not specify whether to touch the Perineum on the app or on the body itself.

Labella proposes an alternative to book- and web-based presentations of anatomy and how to conduct pelvic exams by leveraging the language of interaction design and patterns of consumer behavior. In doing so, it positions itself as an educational intervention and helps to make visible and normalize certain bodily practices and resulting knowledge. It also attempts to imagine what technologies might need to look like if they are to be actually used. For example, the authors in a previous work report the challenges of getting users to comply with pelvic exercise prescriptions despite them being recommended by doctors.

Much of the critical work of this design project has been made possible on account of two interrelated factors: Labella has a fully materialized form (i.e. it is not a description of a product, but an actual product), and it has been offered as a technology probe, rather than a consumer product. We discuss each of these points in turn. Concerning its materialization, we make several observations. Many health-related devices on the market today embody one of the following two aesthetics: either they are medical-looking devices strong on ergonomics and weak on visual appeal, or they are sporty consumer electronic products along the lines of the FitBit. The Labella's use of the ornate frame, informal language, and humor is disarming, a crucial quality for a design intended to help people work through an awkward experience.

And because it demands a physical performance from the user as part of its interaction model, it scaffolds, like training wheels on a bike, an unfamiliar physical activity by easing people into it. One aspect of the design that is and should be humorless is its graphic depiction of female anatomy itself. The visual representations of the

147

pelvic area are detailed and realistic, using black and white to foreground every detail.

That it has been positioned as a technology probe is also significant. Technology probes are described in the literature above all as research tools – that is, their purpose is to support inquiry: «the social science goal of understanding the needs and desires of users in a real-world setting, the engineering goal of field-testing the technology, and the design goal of inspiring users and researchers to think about new technologies» (Hutchison et al. 2003: 17).

Labella should not be interpreted as though it were a market-ready consumer device in the way that *Glamour* magazine did in its write-up, when it asked: «Not really sure why you'd need this? Yeah, neither were we» (Weiss 2016). It is instead interesting because Labella shows how the act of designing can be used to explore design problem domains in a materialized way, embodying and performing the very possibility of intervention into social problems (in this case, unnecessary problems concerning pelvic health) shaped in part by regressive ideologies and practices.

Labella thus re-visions pelvic exams in the following ways. The pelvic exam is a *self*-exam, unmediated by a medical professional; it is the individual who gazes, both subject of knowledge and object of inquiry. This knowing subject and object of inquiry are of the same body, and the performance of the inquiry itself is materialized and embodied. The exam is inquiry-driven and playful, an exploration that unfolds at its own pace, scaffolded as needed to overcome awkwardness, and unapologetically frank in its sight, touch, and knowledge. The result is to restore knowledge and experiences of the pelvic area to the individual whose body it is a part of – as their birthright.

Yona Care

Yona Care is an «early-stage experience design concept that reimagines the pelvic exam» developed by a group of designers at Frog Design.[2] The concept consists of a redesigned speculum (the medical tool used for the exam), an app that provides a guided experience of the pelvic exam, as well as a set of guidelines for making aesthetic adjustments to examination rooms. Yona Care is situated as a form of health advocacy, aiming to reimagine the experiential and affective dimensions of pelvic exams, mainly the ways in which they cause stress, fear, discomfort, and embarrassment. The designers created it partly in response to their own experiences of having a pelvic exam, which triggered a set of questions about why it was taboo to talk about

vaginas and why the speculum has not been improved upon in so long.

While the new speculum is still a work-in-progress, the ideas supporting it are presented as a design proposal through illustrations, a mini manifesto, and a set of design principles on the Yona Care website. There, the reimagined speculum consists of upgrades to its form, feel, and sound, where the designers focused on addressing the qualities that make it threatening. The form, for example, is reimagined through the lens of improved ergonomics drawn from the sex toy industry, which has pioneered the development of body-grade silicone that could also be autoclaved (sanitized). The designers have added a digital experience delivered through an app that is envisioned to be used before and after the exam. For example, prior to an exam, the app offers a guided meditation to relieve stress as well as the option to shop for accessories such as socks to further upgrade the experience. This brief shopping excursion doubles as a donation drive. The funds from these purchases are redirected towards improving access to gynecological care for others. The designers express their intentions as follows:

> We drew inspiration from a lot of places, but focused on experiences that emphasize comfort and relaxation, such as the patient-centered approach that midwives take. We were also influenced by mindfulness and meditation and even meditated before our work session. Our goal was to focus on keeping you relaxed because the more mentally calm you are, the less physically tense you are as well. This makes for a less anxiety-inducing and less painful experience.[3]

While Yona Care appears in many ways to be a redesign of the speculum, it is important to note that the designers frame this as an experience problem, not as a device problem. That is, the designers consider the speculum not only through a functionalist lens (i.e. supporting a medical professional's examination practice) or an ergonomic lens (i.e. how the speculum fits with human anatomy), but through experience-driven and activist lenses. Specifically, they sought to create conditions where examinees would be relaxed, helping to alleviate both emotional shame and physical pain, and where patients would feel empowered to intervene upon the medical establishment and bring about change.

This reframing expands the question of re-designing the speculum to the entire exam ecology, which includes not just the physical tools but also the stakeholders (doctors, patients, family, friends, health professionals), as well as the environment (the actual exam room) – much as Kapsalis (1997) proposed. The designers turn to

design methodologies, rather than feminist theory, to pursue this work: user-centered and patient-centered design. They even experimentally developed a design method for building empathy, in which they showed the speculum to three CIS-gendered men, and then asked them to read first-person accounts of visits to the gynecologist. They found that the participants were unfamiliar with the particularities of gynecological exams and were surprised by the form factors of the speculum. They appeared uncomfortable reading the accounts and one participant even expressed feeling *violated* in a metaphorical way.

Finally, the designers further expand the scope of their problem framing beyond the pelvic exam itself, for example by taking their advocacy to social media. In other words, educating people, dispelling myths, and motivating activism all contribute to improving experiences of pelvic exams. They use social media to build a following in support of this movement, elevating the issue into a fully legitimate and recognizable social movement. Pursuing these goals led to graphic design work as well as a social manifesto on the website, hoping to produce a powerful story that could attract attention. All of which contribute to making this idea easy to share on social media.

As the designers expand the scope of the problem frame, starting with the device and their own immediate experiences of pelvic exams and gradually broadening in the ways we have shown, they became sensitized to more dimensions of these experiences. For example, they initially framed the project in terms of *women's health,* but over time they realized that they were excluding the experiences of people within the LGBTQ+ community. Thus, what was initially called the «Women's Health Concept Project» was renamed simply as «Yona Care» and they stopped using words such as *woman* or *she*, instead using «health for people with vaginas» (Freethink 2019). In other words, the designers' unfolding sensitization in turn revealed more opportunities for intervention, cumulatively adding up to a more systemic awareness of the ideological, material, and practical infrastructures on which such experiences depend. Their design activities made some of this hidden infrastructure visible and open to change and critique, giving the designers – and their audiences – a clearer sense of how the system unfolds and how people and designs reproduce those infrastructures. The project has also had a significant public footprint. For example, the designers initiated an AMA (Ask Me Anything) on Reddit.com to address questions about the design. The discussion led to debates about the need for the exams in the first place, the frequency of exams, and finally whether exams should be paired up with access to birth control. People also chimed in to share their stories and exchange knowledge about the particularities of gynecology. In addition, they offered ideas for how the exam could be

Patrycja Zdziarska, Jeffrey Bardzell, Shaowen Bardzell

further reworked such as through the involvement of doulas, the choice to self-insert the speculum, as well as the use of a trauma-informed approach to care.[4]

As further evidence of public impact, Yona Care has received a Design Award (Driven X Design New York Design Award 2017). Moreover, in recent years, media attention around these issues has resurfaced in part because of designs like Yona Care, which is just one of the many attempts at redesign. In these accounts (e.g. Blei 2018; Fonder 2017; Breen 2017; Pardes 2017), Yona Care is often contextualized in relation to those previous attempts, the broader history of gynecology, and discussions of the difficulty of disrupting medical practices. Thus, Yona Care can also be viewed as keeping these conversations alive and part of ongoing discussions about regressive practices that often recede into the periphery.

A more critical interpreter would no doubt hasten to observe that all this attention that Yona Care has won for reimagining pelvic exams has also been attention won for Frog Design. A cynic might even go so far as to say that the *real* purpose of Yona Care is to generate industry buzz that raises reputation better than traditional advertising. We do not take such an extreme view, but it seems fair to wonder whether Frog Design would have invested so much energy into Yona Care had it not provided industry buzz. Either way, we must note the inextricability of Yona Care's altruistic and corporate reputation-building effects. Yona Care raises an interesting point moving forward. Feminist scholars like Kapsalis call for a disruption in pelvic exams, and Silicon Valley design firms often derive economic and social capital for their ability to be *disruptive*. Yet *disruptive* in Silicon Valley parlance is tied to capitalist notions of innovation and economic development and it is broadly disconnected from political activism. Can design projects such as Yona Care introduce more political consciousness into capitalist *disruption*, or will capitalism reclaim and dilute activism for its own purposes? It is possible today to read Yona Care either way.

GynePunks

The GynePunks are an autonomous gynecology lab within the Hackteria network,[5] a biohacking collective of artists, researchers, makers, and scientists that emerged in 2009. They formed within a post-industrial eco colony called Calafou in Catalonia and characterize themselves as *transfeminists* (Koyama 2003), *queer hackers*, *vagina hackers*, and *cyborg witches*, who share a concern for re-claiming the body from patriarchal and capitalist grips. Their work responds to the history

of gynecology, which has roots in the objec-
tification of and experimentation on women's
bodies, by proposing an independent
gynecology that is rooted in self-research carried out by gender-binary-
resisting hackers. It also responds to the general lack of access to
affordable medical care that characterizes many parts of the world, as
well as a lack of knowledge on the part of the public in being able to
carry out and interpret basic self-exams or medical tests. As such, it
attempts to recreate a gynecology that can stand autonomously apart
from the mainstream system through the combined use of low-cost
tools and equipment, existing scientific and medical knowledge that
has been *hacked* and translated into practical use, and traditional
knowledge gained from holistic health practices.

Importantly, their design and hacking efforts extend beyond tools
and practices (of which they offer a plethora) into hacking the ways
in which body parts have been socially constructed. For example, by
framing vaginas as something that needs to be *hacked*, they suggest
that the vagina may not only be subject to alterations and physical
hacking, but also a hacking that is more akin to re-claiming one's
personal rights to the vagina, which can be as basic as the capacity
to learn about it to understand it. They express this in the following way:

> We understand our body also as a technology to be hacked,
> from the established ideas of gender and sex, to exploring the
> capacity to start researching ourselves, to find our own ideas
> and technologies, to help us be free, autonomous and inde-
> pendent from the system. (Paula Pin, GynePunk, interview in
> Bierend 2015)

Specifically, the GynePunks have developed a full low-cost biolab for
processing and analyzing bodily fluids such as blood and urine, as
well as a repository of information on alternative self-care practices
that they have translated into an accessible form. They have also
inspired the design of an open source 3D printable speculum by
Gaudi Labs (2015). These tools are developed as a means of democ-
ratizing knowledge about self-care. Much of their work pushes
the boundaries of what can be a DIY (do-it-yourself) or DIT (do-it-
together) practice, often exposing the irony of contemporary medical
advances, where scientifically straightforward procedures such
as urine analysis continue to be expensive at the doctor's office,
whereas they could be performed using simple tools and techniques
that are both affordable and economical.

The GynePunks provide the following description of their intentions on
the THF! Convergence Report (2014: 2–3), reproduced below, includ-
ing all the original capitalization and punctuation:

Gynepunk is about engaging in a radical change of perspective about medical technologies, and the so-called «professional» and medical institutions. Gynepunk is an extreme and accurate gesture to detach our bodies from the compulsive dependency of the fossil structures of the hegemonic health system machine. Gynepunk's objective is to enable the emergence of DIY–DIT accessible diagnosis labs and techniques in extreme experimentation spaces, down on the rocks or in elevators if it is necessary. It is about having these possibilities in a situated stable place or / and in nomadic mobile labs to be able to perform as much as WE WANT, in an intensive way: smears, fluid analysis, biopsy, PAPs, synthesize hormones at will, blood tests, urinalysis, HIV tests, pain relief, or whatever WE NEED. It is about hacking and building our own ultrasound, endoscope or ecography devices in a low-cost way. All this experimentation is made in complementarity with herbs and natural knowledges, oral traditions, underground recipes, seeking with hunger to generate a plethora of DIY lubricants, anti-contraceptives, open doula domains, savage caring of any visceral hands-on technologies, such as menstrual extraction, all elevated to the maximum potential of common learning and radical self-body-power ...!

Gynepunk is based on scientific methodologies and disciplines and relies on the knowledge that comes through the experience of each body and from ancestral body wisdom; that is also why documentation and memory under any form is essential! ANY format: visual treasures, sound mines, microscopic riddles, biologic cabinets, microbiologic growing centers, online seedbanks, fluids archives, fanzine (paper sms), oral decoding chorus, self-voodoo healing rituals. Like those, gynepunks will ferment and mutate going fast forward to an explosive and expansive movement towards radical experiments, collective strong confidence, to build our-body politics; something that is vital to share and spread in infinite pandemoniums. Nobody can burn US! NO ONE! The witches NOW have the flames// (THF! Convergence Report 2014: 2–3)

We recognize that DIY gynecology is not a novel idea. Gynecology has always crossed paths with some sort of DIY from ancient practices of alternative medicine to the self-help practices of the women's health movement in the 1970s (Boston Women's Health Book Collective 1973). The GynePunks are a continuation of these historical precedents as they also try to establish a more salient relationship to gynecology's history; through their practices they offer a direct critique but also a materialized model of what an alternative might look like and how it

could be pursued. At the same time, they make full use of recent developments in hacker culture, using the vocabularies and ideologies of hacking as well as recent technological developments, e.g. digital fabrication. Through their work, they also clarify the troubling relationships between social constructions of the vagina and who has rights to it, and the consequences of those relationships as they play out in reality. For example, the GynePunks lament that getting even the most basic information about one's body requires being subjected to long lines at waiting rooms, tests whose results are only interpretable by doctors, as well as surveys and questions that request the disclosure of private or sensitive information. All of these highlight the unequal power relationships that might deny one's right to self-care.

That GynePunks position their work as founded in scientific methodology is significant. Their rejection of how contemporary science has been institutionalized in conventional medicine – seen as politically regressive and disempowering – does not generalize to a rejection of science itself. Instead, scientific ways of knowing are mixed in with other epistemologies such as traditional knowledge, experimental art practices, and critical technical practices like hacking to realize a different form of self-care. Like other contemporary science movements, such as citizen science, GynePunk seeks to democratize science – anyone can do it. But in contrast to at least some forms of citizen science, GynePunk is not an educational on-ramp to traditional science, but rather a survival tactic. In other words, the end goal is not to participate in science, but rather to use science to engage in acts of self-care that have hitherto been made invisible by medical science.

Various press outlets such as *Vice* (Bierend 2015), *Makery* (Chardronnet 2015), and *3D Printing Industry* (Koslow 2015) have written about the GynePunks, and the reporters often wonder about the practical aspects of this work, such as whether it is safe. To some, DIY cervical tests might seem dubious and questionable, but to others they may be an appealing alternative. What this suggests is that while all of these practices theoretically exist out there and could be democratized, the infrastructure to bring them together in a culturally appropriate way is lacking. We should read the GynePunks as experimenting with and prototyping the type of infrastructural work necessary for the establishment of an alternative, which is inclusive to not just physical places, tools, and practices, but also cultural consciousness and awareness to support these alternatives. The hacking consists of not just hacking devices and tools, but also the broader culture, so as to be more inclusive to different conceptions

Patrycja Zdziarska, Jeffrey Bardzell, Shaowen Bardzell

of hacking and different forms of participation from people of all genders (THF! Convergence Report 2014; Fox et al. 2015).

The GynePunks show how design, making, and fabrication might be used as a medium for exploring and prototyping alternative models. We read it as a form of critical making (Ratto 2011), where the purpose of experimenting and making is in materializing alternative knowledge practices and forms, even if the materializations fail to meet commercial standards of technical feasibility and / or economic viability. Within the report, they also position this as Liberating Technology:

> Liberating technologies are rooted in libre / free culture and its participants aim to embrace, protect and advance it. … Liberation technologies for us mean taking back the control of the internet, infrastructure, algorithms, inscribing new values in code, among others. (THF! Convergence Report 2014: 9)

The ethos driving GynePunk is a belief that technology can participate in an emancipatory project. However, this is not mere technological determinism: even *liberating technologies* do not by themselves emancipate. Instead, the GynePunks also make important ideological moves. For example, they embrace a non-binary conception of gender and the body – rejecting mainstream binaries of female / male – to envision a more fluid account of the range of gender possibilities. The gender binary is so ingrained in our understanding of reality that it is difficult to imagine an alternative, and GynePunk's materializations from such an ideological world go far to support such imaginings. The GynePunks also demonstrate through their critical making that self-care can be done in far from pristine environments (which can be a reality for many in different parts of the world where access to basic sanitation is limited), or that it can be self-taught given the right resources and support such as tools and technologies that make self-care efficient, accessible, and economically viable.

Re-visioning through design

Thus far we have considered three design cases that each offer particular attempts at re-visioning gynecological care. It is important to remember that we do not interpret these design cases as solutions, but rather as illustrations of possibilities, each undertaken from different positions of what is understood to be desirable. We hoped that by critically engaging these cases we might develop an understanding of how re-visioning work may proceed through design.

The very concept of *re-visioning* implies not only the intellectual concepts of change and intervention, but also some materialized or embodied phenomenon that we see, and hence can potentially re-see.

As a practice, designing – even in its most commercialized forms – is often positioned as a practice that converts existing situations into preferred ones through acts of material making. Yet what designers make goes far beyond physical artifacts; designers also shape practices, experiences, services, and relationships. Further, designers seldom invent out of whole cloth entirely new products; instead, they are informed by and make use of existing meanings and forms already available, much as Yona Care redesigned the speculum. This chapter has explored ways in which design – always already a practice of redesign – might also become a practice of re-visioning in the three senses that Calloway uses the term: to correct or complete the record, to see beyond stereotypes, and to spot possibilities by engaging one's imaginative powers.

All three design cases reimagine both practices and ideologies associated with vaginal care. Labella reimagines self-examination – the intimate relationship one has with one's own body, unmediated by others. It uses play to decouple self-examination from cultural connotations of shame and taboo, while encouraging a more contextualized and embodied self-examination. Labella suggests that redesign might proceed through a new linking that is less concerned with formal practices of gynecological care tied to the epistemologies of the medical profession and more concerned with personal body literacy and comfort that is made possible through tools that facilitate self-examination. It *re-visions* in the sense of correcting and completing an individual's relationship with their vagina. Yona Care embraces a similar ethos but takes it into the exam room, advancing the view that pelvic exams should pay greater attention to the affective and experiential qualities of such exams, pursuing these objectives in part by redesigning the speculum as a tactic of materializing these concerns. In its starting point of rejecting the speculum as given, it broke past assumptions of what a pelvic exam is supposed to be, re-visioning the exam as an engaging and comfortable experience. Even more radically, the GynePunks propose an autonomous gynecology – one that takes medical practitioners out of the exam and empowers individuals themselves. Doing so demands significant ideological shifts regarding gender, bodies, and self-care. In this view, gynecology is not only positioned as a means of reclaiming rights to one's body through increased competency with self-care practices, but also as a means of providing an alternative to those who are denied access to proper care in the first place. The GynePunks invoke far-reaching imaginative power to sight new possibilities, even if doing so has short-term, pragmatic difficulties.

One question that is often foregrounded in discussions of health activism is the question of who benefits from interventionist efforts

and who continues to be left behind. For example, we might wonder what difference a redesigned pelvic examination makes if those who are in most need of these services do not have a means of obtaining the most basic forms of care. In this sense, we might ask what type of re-visioning work is really required to address these health disparities. However, that is not to say that re-visioning cannot proceed through processes that continually re-shape existing social relations as a way of continually opening up possibilities for new design. Instead, what we have gained from these design cases is an illustration of what different starting points for this re-visioning might look like if they were to be pursued within existing infrastructures and contemporary sensibilities.

Taken together, these design cases demonstrate, each in their own way, the type of work that designers might engage in to further pursue this agenda. Particularly, we infer from these cases that if future designs hope to address health disparities, they must do so not only through more equitable design of tools, or configurations of roles, but also through a more direct engagement with those who are adversely affected. This includes those who do not have access to proper care, but also those who are unaccounted for in design processes because they diverge from what is considered to be the model user, where the user might be a *model* based on conformity to cultural stereotypes of feminine hygiene, heteronormative conceptions of *womanhood*, or medicalized expectations embedded in the very idea of *care* itself. Challenging all of these manifestations of misogyny requires discursive, ideological, and yet also material interventions. One way to re-vision is quite literally to redesign.

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Trojan horses:

ambiguity as
a
critical design
strategy

Emile De Visscher

Through teaching, one can witness young designers adopting a radical critical stance towards consumerism, capitalism and mass-production logic. But how to express and perform this criticality through design projects without being trapped in contradictions? How to keep the solution-driven, democratic, embodied characters of design along with a sharp criticism of society and technology? The speculative approach developed by Anthony Dunne and Fiona Raby within the Design Interactions Master's programme at the Royal College of Art has been a successful and influential answer. But aside from these «provocative, purposely simplified and fictional» technological futures using «dark design» scenarios (Dunne/Raby 2013: 3, 38–43), which alternative critical design approaches have emerged recently? More specifically, can design criticality be found in deployable, contextual, functional proposals? Three recent design projects will be analysed in this chapter. The aim of this investigation will be to test a hypothesis: new forms of critical design are currently emerging – inheritors of certain achievements, but focusing on the present rather than the future, on ambiguity rather than dystopia, and on participation rather than aesthetic appreciation.

The need for dichotomies to establish critical design

Design has regularly been criticized and reduced to a mere stake-holder of aggressive capitalism and marketing strategies (Foster 2002; Julier 2017), becoming a major contributor to unnecessary overconsumption and ecological crisis. In this vision, the designer's role is to soften and simplify, or even hide, the technological, economic, political, social and anthropological issues a product or a service raises.

In reaction to this status quo attitude, the concept of critical design developed by Anthony Dunne in his thesis at the Royal College of Art constitutes a major moment in the history of recent design (Dunne [1999] 2006). In a straightforward and pragmatic call for empowerment, he affirms the need for designers to extract themselves from these constraints. While critical approaches to design, of course, precede this writing (Dautrey/Quinz [2014] 2016), the text is nevertheless a milestone, in the sense that its theoretical, historical and practical construction will provide arguments for the development of projects that were hitherto marginalized.

Dunne justified the use of new media of expression (films, installations, performances), insisted on the designer's independence from market prerogatives and supported the exploration of new subjects. To make things clear, Dunne and his colleague Fiona Raby later established a dichotomy between what they called «Affirmative Design» and «Critical Design», Design A and Design B (Dunne/Raby 2009). One would be at the service of production and industry, while the

other would be at the service of society; one would give answers, the other raise questions; one would create fictional functions, the other functional fictions.

DESIGN A	DESIGN B
affirmative	critical
problem solving	problem finding
design as process	design as medium
provides answers	asks questions
in the service of industry	in the service of society
for how the world is	for how the world could be
science fiction	social fiction
futures	parallel worlds
fictional functions	functional fictions
change the world to suit us	change us to suit the world
narratives of production	narratives of consumption
anti-art	applied art
research for design	research through design
applications	implications
design for production	design for debate
fun	satire
concept design	conceptual design
consumer	citizen
user	person
training	education
makes us buy	make us think
innovation	provocation
ergonomics	rhetoric

Table 9.1 Classification of design A and B by Anthony Dunne and Fiona Raby (Dunne / Raby 2009). A further variation is presented in Dunne / Raby (2013).

Critical design, as proposed by Dunne and Raby, is not a school, a method or a movement, but rather an attitude «which challenges narrow assumptions, preconceptions and givens about the role products play in everyday life» (Dunne / Raby 2007). While some of their first projects were not embedded in futuristic scenarios,[1] Dunne and Raby later focused their practice and teaching on dystopian speculation strategies (Dunne / Raby 2013). They argued for the need to create alternative realities, distant futures and uchronias as means to question

Emile De Visscher

1   Like the Placebo Project in 2001; see the
    conclusion of the chapter.

2   «L'importance des propositions spéculatives
    est relative à la pertinence des articulations
    qu'elles produisent. ... Au final, la pertinence
    des propositions est relative à la constitu-
    tion de notre monde actuel. Nous ne pouvons
    aller au-delà. Cet ‹autre cours de l'histoire›,
    ces mondes alternatifs dramatisés par
    ‹l'historien imaginatif› qui développerait des
    ‹possibles›, n'a d'autre fonction que de
    rendre compte de notre monde actuel, de ce
    dont il hérite, de la fragilité de l'histoire
    dont il dérive, des possibles qui l'habitent
    dans une présence latente» (Debaise 2015:
    119, translated by the author).

our current habits, ethical choices and progress-oriented discourses. Their practice can thus be considered as a variation of the science fiction tradition, with the specificity that it uses the medium of diegetic prototypes (Sterling 2005). But speculative design and the later variations it generated (future design, design fiction) has since been questioned. It has been accused, among others, of being limited to gallery contexts (Mollon 2019), of reinforcing the Western idea of progress through dystopia (Schultz et al. 2018) or of developing critiques disconnected from current technological, political or social issues (Revell 2019).

The importance of speculative proposals is related to the relevance of the articulations they produce. ... In the end, the relevance of the proposals is related to the constitution of our current world. We cannot go beyond that. This «other course of history», these alternative worlds dramatized by the «imaginative historian» who would develop «possibilities», has no other function than to account for our current world, what it inherits, the fragility of the history from which it derives, the possibilities that inhabit it in a latent presence. (Debaise 2015: 119)[2]

The risk of speculative design projects lies in its tendency to simplify and polarize positions through extrapolation. As Vella espoused, the ideal and the catastrophic are poisons because they allow us to «hide behind bad a-contextual abstractions» (Vella 2015: 146). The controversies that emerged around the «Republic of Salivation» (2010) installation by Michael Burton and Michiko Nitta at MoMA were emblematic in that regard. The project presented a distant future scenario in which starvation had become the norm and food access would be based on social status, but «commentators pointed out the unquestioned political positioning of privilege when designers could work on projects about speculating on starvation while actual starvation was happening and as a seeming glamorization and cautionary tale about change. *A kind of speculative disaster tourism*» (Revell 2019).

Not all speculative design attempts should be discredited for these reasons. Many of them have proven their ability to generate interesting debates, both internally on the understanding of design practice and in the public space on societal issues. But the introduction of the term by Dunne and Raby and the growing popularity of their teaching

overshadowed other forms of critical design approaches, as Pullin already stated in 2010: «I am never sure whether to use the term critical design to define my own work these days ... The term is so associated with the Design Interactions at the RCA, and its subversive, often dystopian, visions of technological futures» (Pullin 2010: 324).

Are other forms of critical design currently emerging? How do they differ and which other aspects can they tackle? This chapter examines a series of works which do not extract themselves from the present through speculative technologies and futuristic contexts. On the contrary, they would be based on actual knowledge validated by science, technologies they can develop and produce, and present themselves as viable solutions to solve current issues. Their criticality will be embedded in the social and ethical implications of their proposal for the here and now.

Three main aspects will be investigated: technical implementability; the designer's ambiguity; and participation within critical projects. Our first example is a project related to the protection of nature and endangered species. It highlights a difference from Dunne and Raby's impetus to create objects that cannot work. In a second step, we examine a company creating monsters, questioning storytelling practices in a capitalist society. This project acts as a revealing agent of knowledge production strategies, and its purposely ambiguous positioning differs from the dystopian tradition of speculative design. Finally, the issue of scaling will be exemplified through a project of inflatables for activism: here, design becomes an agent for non-violent protests against capitalism and mass production, which was the initial birth context of the design discipline itself. This example questions the solely symbolic power of one-off critical objects, in comparison to the impact of scaling and sharing.

Whales, probes and peccaries

Speculative design is challenged by the climate emergency. We can't take the luxury of designing for 2050 when one species goes extinct every five minutes. (Arthur Gouillard, interview with Emile De Visscher, 2019)

For our first example, we dive deep in the profound ambiguities of our relations to animals. The title of the project, «Augmented Nature», announces the issues it raises: can new technologies help wild species survive the ecological crisis we initiated?

Formed by Eirini Malliaraki, Duncan Carter, Mick Geerits and Arthur Gouillard, Abnormal Studio started at the Royal College of Art in 2018. Their project began with an in-depth analysis of the values

166

associated with nature and the team worked with biologists and zoologists involved in the preservation of species, analysing their work processes. From these observations, they proposed

> an active and animal-centred alternative to the current conservation efforts. Our premise is that humans are part of nature. Hence, efforts that try to separate species or revert nature to a certain state in the past (re-wilding, preservation) are not realistic. Nature is a dynamic system and evolution is equally driven by species adapting to change but also by transforming the environment for their purposes. (Abnormal Studio 2018)

«Augmented Nature» proposes to provide tools for animals to defend or protect themselves from the dangers of human exploitation. The project revolves around two proposals. The first concerns the humpback whale, a marine animal crucial for its surrounding fauna and flora (Fig. 9.1). It can be considered as a vital ecosystem engineer (Jones/Gutiérrez 2011) in the sense that many other forms of life depend on the modifications it generates in its living environment. However, noise pollution (boats, drilling, radars, probes) «is currently considered one of the most serious arguments to explain behavioural disorders, strandings and whale accidents» (Gouillard 2019). Looking at biotags (passive GPS beacons) that researchers place on the backs of whales to track their movements and behaviour, the group proposed adding an active element: a series of sensors and a wave transmitter to indicate the presence of danger in the surroundings, or to divert the whales from places that could be a threat for their survival, mostly from noise generation that disrupts their communication and navigation abilities. The waves generated are using the extensive knowledge zoologists have accumulated on the communication structure and patterns of humpback whales (Fig. 9.2).

Fig. 9.1 Abnormal Studio, Augmented Nature – humpback whale, 2018. Courtesy of Gabriel Barathieu, edited by Augmented Nature.

The second example concerns the peccary, a wild cousin of the pig. Present in many areas of the Amazonian forest, its survival is endangered. It is, like the whale, a prominent ecosystem engineer, because it spreads a wide variety of seeds through eating and defecating, and turns the earth over very efficiently. Based on existing studies and practices related to industrial pig breeding, the studio proposes to provide a vibrating collar for these animals to enable them, too, to protect themselves from deforestation, hunting and human presence (Fig. 9.3).

167

Fig. 9.2 Abnormal Studio, Augmented Nature – principle diagrams, 2018. Credits: Mathilde Heu.

Fig. 9.3 Abnormal Studio, Augmented Nature – Peccary, 2018. Courtesy of Jon Woodworth, edited by Augmented Nature.

In the lineage of speculative design, the proposal of these designers is obviously controversial. For it blatantly raises the question of responsibility: who selects the dangers to be diverted from? Who controls these animals; how can we prevent them from being instrumentalized; what democratic process should we establish to obtain the animal's consent? «This project questions the agentivity of wild animals – are they free to do anything they want?» (Gouillard 2019). Biotags (GPS beacons) are currently placed by zoologists without the animal's consent, yet their passiveness makes it unproblematic. But interacting with its behaviour by adding active probes suddenly creates a deep ethical issue. To do this on humans «would be profoundly fascist» (Gouillard 2019) – but on animals? The project questions our conception of wilderness because, of course, we have modified, conditioned and controlled the species in breeding for thousands of years, but adding prostheses to so-called wild animals is another story. What is wilderness referring to when forest, oceans and clouds are polluted, protected or exploited? The project also takes a sharp look at the design discipline itself. Usually considered as the practice «that improves or at least maintains the habitability of the world for its inhabitants (i.e. all of us human beings)» (Findeli 2010: 292), thinking and inventing devices for other non-human entities, a new «animal-centred» design, also raises the limits of our discipline in regard to anthropocentric and Western dominance – individual human progress and comfort at the expense of other forms of life (Fig. 9.4). As we mentioned, this project shares close relations with speculative design practices. Yet one major aspect differs: it is not based on speculative technologies or on distant futures. As Arthur Gouillard, a member of the studio, confirmed to me, «the objective was to remain incremental, not to fall

Emile De Visscher
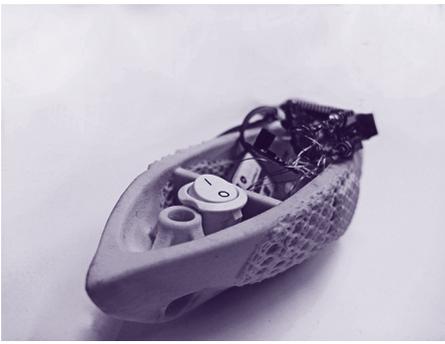
Fig. 9.4 Abnormal Studio, prototype of the Peccari's probe, 2018.

into the trap of unrealistic technologies» (Gouillard 2019). The devices they produced are fully functional, and the effects of the waves and vibrations on both animals' behaviours are based on proven research and effective use in captivity or breeding of similar animals.

In chapter 5 of *Hertzian Tales*, called «Real Fiction», Anthony Dunne supports that «displaying a fully working prototype in a gallery context invites people to marvel at the ingenuity of the designer, and the fact it works, but overlooks the challenges to the status quo its insertion into everyday life might bring about» (Dunne [1999] 2006: 86). He supports the role of the non-working model, taking Michele De Lucci's appliance prototypes presented at 1979's Milan Triennale as examples: «they are clearly representations, models comfortable with their unreality. They are things in themselves rather than shadows of yet to be realized products. They offer real experiences of ideas, rather than unreal experiences of unrealized products» (Dunne [1999] 2006: 86). Yet it seems that this argument is precisely opposite to our example. If Abnormal Studio had produced a prop using unrealistic technologies, their proposal would lose much of its critical aspect because we would be able to criticize its effectiveness and diminish its probability to be implemented. It would become another speculative proposal for a dystopian world. According to Wodiczko, the creator of *Homeless Vehicules* and *Poliscars*: «the minute you present a proposal, people think you must be offering a grand vision for a better future. ... they think it must be designed for mass production, and instantly imagine 100,000 Poliscars taking over the cities» (quoted in Dunne [1999] 2006: 87). This projective process is precisely what makes «Augmented Nature» so powerfully critical. The studio presented the projects several times in different contexts, using role-playing as if they wanted to raise money to create a start-up and research programme to test it. They met with very distinctive reactions from their public (engineers, zoologists, climate activists, designers, etc.), the more techno-optimists there were looking to invest and develop it, the more the ethically engaged were clearly shocked by it. Because it works, because it is potentially viable, we can immediately project its development for every wild animal in the world right now. But then, do we want that to happen? Who will control it? Who will develop it? All the political and critical aspects of the project, contrary to Dunne's claim, are magnified by its implementability.

169

Inspired by speculative design, I also wanted to have a practical project, one I could implement in the real world.
(Santini Basra, interview with Emile De Visscher, 2020)

Our second example will take us to rural territories. The designer Santini Basra is the creator of a project which is equally original for its critical depth as for its practical simplicity. «Monster Tourism» is considered the first stage of a company called «Cryptozoological Marketing Solutions», proposing a series of actions for rural areas in need of tourist attention, through the invention or reactivation of «cryptids» (Fig. 9.5). Basra became interested in monsters for a very simple reason: he is Scottish himself and studied design at the Glasgow School of Art. Tourism linked to Loch Ness is vital there, with «a business of £41 million per year» according to Willie Cameron, director of Loch Ness Marketing (Cameron 2018). Very early on, Basra became interested in the practice of cryptozoology, «a field typically driven by amateur enthusiasts that exists within an intersection of science and pseudo-science» (Basra 2014). Officially born in 1955 through the seminal book *On the Track of Unknown Animals* by Bernard Heuvelmans ([1955] 1958), cryptozoology is centred on the study of mythical «cryptids» like the Yeti, Nessie or Chupacabra. As Basra explains, «Initial observations suggested that the cryptid might be an amalgam of pre-existing local myth and current local wildlife. They rarely designate entire species, nor move from their habitat» (Basra 2020). As a social practice, «Crypto-zoology often serves as a means of preserving a certain collective history of community and place – and yet it also evolves in regards to societal changes (from male to female individuals, colours, behaviours)» (Basra 2020).

Fig. 9.5 Santini Basra, Cryptozoological Marketing Solutions website, 2014. Credits: Santini Basra.

Basra's project aims to provide solutions to generate tourism in neglected regions by designing monsters. Postcards, a series of tools to produce footprints or tail tracks, an instruction manual, handicrafts and derived products are the few physical propositions of his company (Fig. 9.6). The idea was first studied and experimented for the island of Arran, possessing a legendary monster called the Orran (Fig. 9.7). «The project observes and responds to this relationship between myth and tourist, analysing both the monster's role within the tourist economy, and the process of myth-making» (Basra 2014) (Fig. 9.8).

Fig. 9.6 Santini Basra, Monster tourism, 2014.
Credits: Santini Basra.

Fig. 9.7 Santini Basra, Study for the creation of Orran, 2014. Credits: Santini Basra.

Fig. 9.8 Santini Basra, Study on the evolution of cryptids and myth-making, 2014. Credits: Santini Basra.

As with the previous example, the interest of this project lies in the duality it generates. As Basra himself confirmed to me, «It's definitely built as a serious proposition. I even spoke to one of the representatives of ‹Visit Scotland›, who is financing tourism initiatives here …The project was thought as a business pitch, borrowing its language and tools» (Basra 2020). The project can be seen as a viable business opportunity, scalable and deployable in many different configurations.

At the same time, something seems a bit offset – the «uncanny» of critical design haunts the project, first because it builds a lie. Business storytelling, and the society of the spectacle (Debord [1967] 1970) that results from it, are twisted and extended to monsters. By doing so, it pushes marketing discourse towards a slightly odd and misplaced area: no one would actually believe in such monsters if they were invented by a company for profit. Yet it highlights the strategy of many brands and politics that use aggressive fake news or green-washing discourses and by-products to legitimize their activities. Are we ready to live in a society where legends, tales and collective knowledge are built by consulting companies?

Furthermore, by designing a proposal addressed to rural areas, the project highlights the forgotten territories of architecture and design. It provides tools for spaces that were typically left aside in the rise of service economies, internet connectivity or transport development. Bringing their community to life, making their culture known, giving them means to make a living, the project holds a political stance through empowering neglected villages. Finally, cryptozoological promotion questions scientific knowledge, the famous «factish» established in university laboratories (Latour 1999: 306), in the face of tacit knowledge and rural legends, stories and beliefs. If monster theories are easy to discredit from a scientific view, their presence in amateur collectives and rural areas are nevertheless a basis for the construction of communities, complex relations with animals and plants, and the constitution of a history and identity. They exist, and are as «real» as microbes or mathematics, in the sense that they organize social life and debate as much as other agents that science validates. Designing monsters is thus also a way to design collective life.

If we analyse this duality within the dichotomy of Dunne and Raby, we will find that the project cannot be clearly boxed into one or the other of the two sides. The project is highly critical, yet it also provides a viable proposition. It can be seen as a good problem-solving solution, but it also raises many societal issues. It can be pitched to public investors, yet it creates a dissonance that questions the constant marketing strategies we are surrounded by. When asking Basra about his main inspirations, he mentioned Tobie Kerridge's «Bio-jewelry» project: «this project is exemplar because it plays between

Emile De Visscher

both lines ... well not really ... um, I'd rather say it is entirely both – an entirely viable business but supporting a lot of criticality towards our consumerist society» (Basra 2020). This capacity for a project to «be entirely both» seems characteristic – it is not affirmative or critical; it seeks to become affirmative and critical. The interest of Basra's project lies in the ambiguity it deploys. Basra does not present us with a clearly utopian or dystopian proposal, he is neither in the «better future» progress-oriented discourse, nor in the satirical «dark design» strategy of Dunne and Raby (Dunne/Raby 2013: 38–43). The project raises a series of issues regarding current tourism, tales and marketing structures, yet it leaves the moral judgement up to debate. And Basra's ambiguity is not a naïve one. On the contrary, it stems from a very sharp understanding and awareness of the ambiguous relations our society fosters with reality and truth.

Hammer, balloons and mirrors

Ambiguity is good ... it invites people to read in different ways.
(Van Balen, interview with Emile De Visscher, 2020)

As regularly addressed to critical design projects (Malpass 2015), it could be argued that the two examples presented above have not been «implemented» and «used» as regular objects are when launched on the market. Although this claim could be questioned, because we can consider that both projects' intents were to create debate and raise awareness, which they did, our third example will allow us to observe a similar strategy, but through participation, collective making and use. The «Tools for Action» project has been running since 2012 in multiple configurations on the occasions of climate, transgender or anti-Nazi protests. Founded by Artùr Van Balen, the project takes the shape of «a collaborative platform to open the way for experimentation, creating space for poetic forms of engagement» (Van Balen/Phillips 2020: 1). Tools for Action is a series of designs and blueprints for inflatables, as well as an open collective of activist designers, artists and makers around the world. The origin of the project stems from the success of an intervention, typical of the «protestival» tradition (St John 2008), by the artist group *eclectic electric collective*, of which Artùr Van Balen was part. Involved in the climate activist movements, they produced and sent a giant inflatable to the United Nations Climate Conference's protests in Cancún (Mexico, 2010). This «El Martillo» inflatable was shaped like a 12-metre-long hammer, symbolically smashing people and policemen as if they were nails (Fig. 9.9). Although the inflatable was torn apart after a few hours, the intervention and its destruction by the police became «a symbol of the climate change protests as its image travelled across the world» (Van Balen 2012).

Fig. 9.9 «Art is not a mirror to reality, but a hammer with which to shape it. – Bertolt Brecht / Vladimir Mayakovski / Karl Marx», Eclectic electric collective, El Martillo Project, 2012. Credits: Tools for Action.

Fig. 9.10 Tools for Action Collective, Berlin May 1st protest, 2012. Credits: Tools for Action.

Fig. 9.11 Tools for Action Collective, COP 21 Paris cobblestones, 2015. Credits: Tools for Action.

As Graham St John analysed it: «These mobilizations build on the meta-political tactic of ‹heightening the visibility of power› located in the ‹symbolic challenge› posed by new social movements» (St John 2008: 130). Van Balen then created the *Tools for Action* collective. Many other protests saw similar objects invade space, such as a giant pink slipper for a feminist march in India (2013), a 10m-long saw for Russian opposition rallies in Moscow (2013) or a giant transgender inflatable body in Bogota (2018, led by Tomás Espinosa). These interventions involve unique and complex pieces primarily used for their historical, symbolic and mediatic power. But another part of the project should be analysed further, for its closer relations to design issues. In 2012, the same collective created a cubic balloon for the May Day strikes in Berlin (Fig. 9.10). Thought of as a tool rather than a symbolic form, the inflatable will quickly serve as a protective buffer between the demonstrators and the police. As a matter of fact, this object proves to be particularly effective, not only to protect, but also to hide. The mirror aspect and its large volume prevent police forces from identifying faces and knowing exactly what is going on, «which makes them very nervous» (Van Balen 2020). Moreover, this experience in Berlin showed how inappropriate guns or sticks are to contain such tools: «They had problems with the slippery surface of the material and the scene this created was hilarious: everyone saw how a highly armed squad of riot cops tried to destroy a balloon» (Van Balen 2014).

These giant «cobblestones» were then optimized iteratively. Further thought of as real barricades (coming from the term «barrique», wine barrels chained together to block enemy troops), the addition of Velcro strips and the simplification of the manufacturing process made them a «secret weapon of tactical frivolity», as Van Balen calls them (2014).

Fig. 9.12 Tools for Action Collective, Dortmund barricades and training, 2016. Credits: Tools for Action.

Produced again for the COP21 in Paris in 2015 (Fig. 9.11) or for the anti-Nazi demonstrations in Dortmund in 2016 (Fig. 9.12), they gave birth to indoor training, rallying and blocking tactics and collective choreographies. These objects have an obvious critical and political stance – first, the frivolity of the balloon: they symbolize a frugal, jovial, light-hearted activism. They have the power to turn demonstrations into a game, just as «papier mâché puppets can transform a protest into a carnivalesque situation» (Van Balen 2014). History has several examples of these joyful inflatables used in serious protests, like the one of the radical architect group UFO denouncing the Vietnam war in the 1970s (Fig. 9.13). But it is probably the major Global Day Action of 1998 that initiated the strong tradition of «Carnivalized Politics», a subject of much attention since (St John 2008). Furthermore, their shimmering appearance is particularly powerful. This aesthetic property sends back to the police, and by extension to the state, its institutions and political figures, a distorting mirror denouncing the armed response to the expression of a democratic right. The use of mirrors in demonstrations also has a history, from the Greenham Common Women's Peace Camp in the 1980s as a means of reflecting police brutality, to the recent reappearances in the 2014 Ferguson protests (Abse Gogarty 2016). Finally, fighting and demonstrating with air, as a non-material, a pure nothingness – but air being also a common good in danger – carries a strong political and critical message. It supports and demonstrates the strength of the light, the invisible, the impalpable, as a real power in the face of the stick, the flashball or the shield – that which cuts and slices against that which collects and contains.

Van Balen's project can be considered a very direct representation of «design activism» (Julier 2013), in the sense that it provides a solution for protecting, hiding and enacting the democratic right of protest. In this sense, it is quite different from the two previous projects as it does not hide behind marketing discourse or use any role-playing to produce debate and question our ethical standpoints. However, it raises another essential aspect of design: deployment. One can see how Tools for Action has evolved its object towards a simplification of forms, an optimization of production and a standardization of shape. The appeal of the inflatable is above all practical (it can be folded, stored in a bag, it is simple to build with scissors and double-sided tape, making its fabrication inclusive and shareable), the square

Fig. 9.13 UFO: «Urboeffimiro Nr. 5», Florence, 1968. Photo: Archive Lapo Binazzi.

shape is the simplest to produce, its mirror aspect is linked to eco-
nomic constraints (availability of survival sheets), its size and lightness
prevent it from hurting anyone and it creates a buffer. All these
aspects are, in a way, a relevant response to a contextual design
brief – providing a «good design» product.

Van Balen's insights prove to be exemplary for our enquiry
because they showcase two different strategies: the first through one-
off, symbolic and contextual inflatables, the second through optimized,
standardized and generic shapes. If the hammer inflatable has seen
a wider media impact, its lifespan and its appropriation by other collec-
tives for further events could not take place. On the other hand, the
cobblestones have become effective tools for protest in many different
configurations. In his thesis, Dunne argued that unique one-off crafty
models, if questionable from a product design point of view because
they are often impossible to industrialize and economically unviable,
offer the possibility to contain the essence of an idea in a more satis-
factory way and to transfer its «genotype». It works on an abstract
level that highlights the «aesthetics of use» rather than the «aesthetics
of construction» (Dunne [1999] 2006: 91). Yet it seems that the cobble-
stones are more ambivalent and powerful than the hammer inflatables,
as they become mass-produced and deployed not only for media-
discursive reasons, but also for practical use. Their mass-manufacturing
potential calls for multiplicity, democracy and collective power – «choreo-
politics of freedom» (Van Balen / Phillips 2020: 2) – rather than unique
direct contextual messages. Their status is more ambiguous, between
critique and usefulness, which, I believe, strengthens their criticality
through multidimensionality:

> Paradoxically, paradox and ambiguity used in the right context
> can work to reveal and illuminate and to reconcile opposites in
> a holistic way. They give shape to overlapping and contradictory
> issues which pragmatic and pedestrian delivery often fails to
> achieve. For an idea to really speak as an object, that is, a thing
> in three dimensions, it must have more than one dimension.
> (Ball / Naylor 2006: 56)

Trojan horses

Many other projects could be included in this chapter, showcasing
similar approaches – from James Auger's «Newton machine», to
projects of Julian Olivier and the «Critical Engineering Working Group»,
down to the «Civilize Space» research of Octave De Gaulle. Although
the incentive and the processes differ, they all share a deployable
aspect, with a critical ambiguity and a deeply thought-through design

process to come up with a viable solution. They all play around the dichotomy of Dunne and Raby, as it is impossible to clearly box them into one or the other side of their manifesto.

When I asked him to clarify the duality of his project, between viable proposition and sharp criticism of knowledge and marketing, Santini Basra stated: «I like the balance between speculative and affirmative design. I believe in the power of design to insert everyday practices and act as a Trojan Horse – reviving the profound issues of the structure it infiltrates» (Basra 2020). Recently, the figure of the Trojan horse for designers has been used by curator Paola Antonelli to qualify the way some designers use their relations with networks of producers, companies, science research labs, norm regulations, consulting companies in order to reveal the social, ecological or political issues at stake in these networks (Antonelli 2020). Taking the recent work of Formafantasma on e-waste or timber as an example, she supports the view that design, because of its profound entanglements with all these structures, can have a critical role in investigating the deep logics and discourses they are based upon. Here, the insertion of design into economic, political, technical and social structures provides it with a unique standpoint to make these structures public through their projects. As with journalists investigating undercover, anthropologists living in non-Western societies for years, or «established» Marxists working in industrial contexts to unveil alienation processes (see Linhart 1978), designers are in a perfect position to become double agents. They can push the logic they study to a point where it becomes critical of the tools they use. The designer as investigator, using Trojan horse strategies to unveil socio-economic realities and raise awareness on the «fragility of the world we inherit», could become a prominent critical actor for the future.

How to further develop this research? There is no need to invent a new academic term to box these alternative approaches together in a movement or a trend. They obviously share some aspects, but also differ in their methods, discourses and mediums. Rather than creating new typologies, further enquiries could gather weak signs of these emerging alternative approaches, but also establish new filiations of critical design in all its diversity. Interestingly enough, we would probably find that some of the early works of Dunne and Raby could provide interesting historical lineage. The Placebo Project (2001), in which they produced eight objects showcasing magnetic behaviours and placed them in a home to study their impact on everyday living conditions, could be considered a very good parent to the examples presented above. They are made for the present rather than the future, display an ambiguous and open-ended moral standpoint rather than a clear dystopian critique, and use participation in context rather than

aesthetic appreciation in a gallery venue. These aspects, which they left aside within their further research, are re-emerging now in a renewed, prolific and exciting critical design scene.

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Grey design: critical practices

of design at the

peripheries of

the discipline

Moritz Greiner-Petter

Over the past two decades, critical practices in design were predominantly framed, discussed and imagined under the rubrics of a number of by now widely established labels, movements and modes of practice, the most common of which might be Critical Design and the later Speculative Design. Others include Design Fiction or Design for Debate, slightly less prevalent terms like Adversarial Design, or more recently Discursive Design, proposed as an umbrella term that in fact aims to incorporate all of these approaches. These separate notions each vary in their respective perspectives and leanings, emphases and strategies; but as hinted by Discursive Design, attempting to provide an overarching label, in their characteristics, methods and scopes of engagement as well as conceptual genealogies and references they appear to a large degree surprisingly similar. This raises the questions of how diverse the most prevalent and established conceptions of critical practices in design are; how far they may occlude the view for other forms of critical engagement; and how we could begin to widen the recognition and repertoires of description of more expanded critical practices in design.

Many of the mentioned frameworks by now have arguably – probably not intended by their proponents – become somewhat formulaic. They are exhibiting distinct and recognizable aesthetic means and dissemination strategies, a palette of certain domains of thematics they are able and appropriate to address, and have cultivated design processes and approaches to do so. With their popularity, approaches like Critical Design have to some degree also proved to be susceptible to be mined as a creative design method resource (e.g. Jakobsone 2017), in danger of becoming just one of many in the designer's toolkit or being degraded to a mere project style.

Lamentation over the formalization of these practices is not to dismiss in any way the influence that the establishment of these approaches into such widespread labels has had on the field of design. For instance, the proliferation of Critical Design through the work of Anthony Dunne and Fiona Raby as well as the highly visible cohort of students and colleagues they gathered at the Royal College of Arts was instrumental in refuelling and popularizing discussions of critical practices in design since the turn of the millennium. Their work must also be considered influential for subsequent approaches like Critical Making or for fostering a critical influx into adjacent disciplines like Human–Computer Interaction (e.g. Bardzell/Bardzell 2013). Critical Design and similar approaches have since proven, and still might be, productive in providing some of the necessary visibility, vocabularies, validation, and not least examples for practising design with the purpose of critique.

But still, these labels in their prevalence and discursive dominance can also hinder a wider exploration and recognition of alternative possibilities for forms of critical practices in design. For one thing, these prominent labels might occlude and exclude kinds of critical interventions and fields of critical practices that do not adhere to the stylistic or conceptual characteristics of these recognizable approaches. And similarly, they might not speak to a variety of practitioners that, while operating with like-minded intentions and kindred strategies, do not so readily commit to being related with and subsumed under these terms, precisely because of their associated traditions, established aesthetics and specific approaches to critique. Further contributing to this, Critical and Speculative Design in particular are contended fields that have themselves received a fair bit of justified criticism in recent years. Among the inherent problematics within these approaches, critics question their effectiveness in stimulating genuine and sustainable debate, as this might, for instance, require more prolonged and invested engagement with the respective contexts than the usual design project timeframes allow. More fundamentally, critics point out the often unconsidered privileged positionalities from which critique is uttered or futures are envisioned by many proponents of such approaches, calling into question the critical credibility of the field (see for instance Prado de O. Martins 2014; Prado de O. Martins / Vieira de Oliveira 2015).

To begin to open up these understandings, I want to briefly point out two notions that figure as shared characteristics within the prominent design frameworks I mentioned at the beginning. Both of these, in my view, might be limiting towards more expanded conceptions of how design can be employed and recognized as a critical practice. These notions are related as they similarly concern aspects of the form that critical design projects take and the role attributed to designing within them.

Firstly, the mentioned approaches share the intention to perform discursively, which is encapsulated by the term «Discursive Design» (Tharp / Tharp 2018) as an attempt to establish this very characteristic as their foremost commonality. The discursive aspiration means that the conceptual, aesthetic and communicative strategies employed in these approaches aim at stimulating debate and critical reflection through the design and (media) circulation of provocative, speculative or contemplative artefacts and scenarios. More often than not, these projects do not necessarily perform as «actual» design objects in use, for instance, but are disseminated by means of carefully crafted narratives and contextual framings through exhibitions, publications and other media formats. Such approaches consequently assume a particular notion of an audience and thus tend to configure critique

as a mode of reception, contemplation or consumption, if you will, from a distance.

Secondly, these approaches often employ and exploit the «language» of design as a deliberate strategy to aesthetically and narratively ground their critical artefacts and scenarios in the designed everyday lifeworlds of the audience. As nearly all aspects of contemporary social life are configured and permeated by design, the very means and manifestations of design are meant to serve as a vehicle for subversion or critical intervention. As such, to some degree, these kinds of projects need to be «phenotypical design», able to be recognized and *read* as design. However, this might be limiting in what kind of issues, thematics and contexts can be effectively addressed in that manner, as it primarily suggests a consideration for domains where design is most visible, familiar and readily recognizable for people, like the domestic sphere, consumer products and technologies, the workplace, or the urban environment.

Thus, I would argue, there is a need for expanding and diversifying understandings and imaginations of how design can facilitate other critical engagements and investigations into different fields, contexts and aesthetic forms than those that the common techniques and frameworks of critical design, as we have come to know it, focus on – and in ways that also openly question the boundaries of what it means to design or how critical design has to perform and look.

How then might we reconfigure understandings of critical design practices in that sense? Stephen Wright in *Toward a Lexicon of Usership* (2013) makes an intriguing proposal from the perspective of art practice, that could also be indicative and relevant for a discussion of design practices. Wright introduces the notion of «1:1 scale projects» (Wright 2013: 3–5), in the sense of what could be characterized as embedded artistic practices, indistinguishable from the real-world contexts they chose to operate in. They are not «scaled-down models» (Wright 2013: 3) typical of modernist notions of art production, but «full-scale practices» that are «not themselves representations of anything» (Wright 2013: 3). What would these 1:1 scale practices look like? «Well they don't look like anything other than what they also are; nor are they something to be looked at and they certainly don't look like art» (Wright 2013: 4). According to Wright, these practices operate in a certain redundant «double ontology» (Wright 2013: 22), being what they are while being at the same time artistic propositions of what they are; being indistinguishable from an existing practice (vocational, institutional, commercial, social or otherwise) in a certain context, but done with an entirely different self-understanding. The point here is to escape «performative capture» within the «ontological landscape» of art «in order to gain traction somewhere else»

185

(Wright 2013: 22), meaning a practice that deliberately attempts to escape being framed and evaluated as art in order to open up new possibilities to gain use value in real-world contexts.

Taking cues from Wright's notions, how could we think of critical design practices as full-scale practices? How can we escape the performative capture of critical design *as* design, where the use of the language and modes of representation of design for critique ultimately could also be disregarded in its critical impact as *just* design? And what kind of contexts could critical practices engage with that lie beyond the domain of «professional» designing?

The PhD work of product designer and design researcher Johanna Kleinert might serve as an exemplary entry point here, at least to the last question concerning the extended contexts for critical engagements. From the methodological perspective of Design Research and Science and Technology Studies, in her work she looks at «living products» like industrially produced fruits and vegetables as designed artefacts, as «biofacts» (Kleinert 2018, 2020). Through her investigations, Kleinert shows how these objects are mainly shaped through an arrangement of aesthetic, economic or regulatory processes and considerations. The procedures of picking the produce, the automatic and software-based visual classification in sorting facilities, the regulation through industry standards and norms, or the hard to untangle correlations between supposed consumer preferences and the perceived constraints of producers respectively all co-constitute the multi-layered conditions and dynamics that «design» the resulting products, which end up on display in the supermarket. These describe design processes that are devoid of individual figures that identify or could be identified as conscious «designers». Which might be one reason why these fields of complex and distributed design agency might often be neglected by traditional design perspectives and might appear hard to grapple with, or simply not as interesting and exciting for design practitioners to get seriously involved in. But it could be argued that these forms of opaque, anonymous and distributed design, to varying degrees, govern the shaping of the majority of our everyday material objects, structures and environments.

These areas of design activities and processes I came to think of as «grey design». Grey design comprises the manifold technical, legal, economic and social processes and structures that latently condition and shape the way things are designed. The term is partially borrowed from «grey literature», where it characterizes all forms of written documents of organizations like reports or government documents that circulate outside traditional publishing channels and often escape archival capture. Similarly, «grey» here denotes forms of design activity outside the «professional» realm of designing that often remain

obscured, as the contributing actors, structures and forces are hard to discern within the traditional categories of design. Grey design is where design becomes infrastructural and governmental, characterized by mundane, dull, outright «boring things», as Susan Leigh Star (1999: 377) described the study of infrastructure. Think building codes and safety regulations, technical standards and protocols, policy documents and business plans, manufacturing processes and logistics, scientific visualizations and climate modelling, weather forecasts and carbon markets, border controls and immigration offices. In a further, more productive notion, then, grey design can also be understood to denote domains where design increasingly mingles with other disciplinary environments and professions, in a grey area of practices that open up understandings of what the contexts and activities of designing could be.

Going back again to the example of «living products» introduced above, how might a critical engagement into such an area of grey design appear? As a primarily analytical and empirical study, Kleinert's research might not be seen as a «critical» practice in an interventionist, constructive or transformative – meaning designerly – sense (albeit the examination of a field commonly neglected by design is already a critical gesture). But it is easy to think further, how her exemplary investigation could expand into an even more active involvement that engages critically with questions of legal regulation of produce and their production processes, techniques of classification and quality control governing agricultural products, the practice, expertise and aesthetic judgements involved in picking fruit and vegetables, or the negotiations of expectations between consumers and producers, among many other possible issues within the complex. And similarly diverse, this could happen in a number of imaginable approaches, including more «canonical» critical design project genres that, for instance, might involve the conception of provocative and discourse-oriented artefacts that render visible the manifold factors and actors involved in the design of «living products», or speculative proposals of intervention in and extrapolations of these processes. However, and this is where I am pointing, a critical engagement could also happen in a more embedded or contextual fashion that operates within and on the same level of the very processes it tries to address and engage with. This could mean working with or even for producers or picking sites over prolonged periods of time, collaborating with biologists, rare crop growers or supermarket managers, engaging with software developers that design the systems and interfaces for automatic optical quality assessment in sorting facilities, or becoming heavily involved with regulators, policy makers, guideline documents and classification schemes that establish quality standards in the industry.

In a sense similar to what Wright describes in terms of «Usership», this would be a critical practice that partially takes on the logics of a field of investigation to the point where it might seem indistinguishable from the contexts and practices it is involved with, but which is guided by different intentions or aspirations that make a difference (the «double ontology»). Like the domain of grey design it engages with, as a practice of design it may be less spectacular, obvious or visible, to the point of being «barely» design – an unrecognizably different and dissolved form of designerly engagement not particularly typical for the categories or criteria under which design commonly is perceived.

To help further illustrate the directions I am hinting towards and to get a better understanding of some of the implications that these approaches might entail in practice, I turn to a brief discussion of two examples of design cases. I chose to point out two projects that were presented during «Critical by Design?», the conference that preceded this volume, as they were also quite influential in instigating the reflections laid out here.

Matt Ward, in his keynote speech[1] (2018), highlighted «The Social Mining Union», the degree project by Tearlach Byford-Flockhart, one of his former students at the Department of Design at Goldsmiths. In a form of organizational design, Byford-Flockhart aimed to rethink workers' unions under the conditions of contemporary neoliberal economies. By setting up a speculative trade union, he wanted to design new models of care, community and the support of labour rights that exploit the logics of multinational and neoliberal organizations of work. He immersed himself in the professional domain of metal scrapping by visiting scrapyards in South London. The designer joined the «scrappers» and started to trade locally «mined» scraps himself. He directed his earnings to a stockbroker account set up for the union to buy shares in Glencore Xstrata, a publicly listed multinational commodity trading and mining company. As an owner of shares, he started to get into communications with the company and also earned the right to take part in shareholder meetings. That led him to attend the 2014 annual general meeting of Glencore in Switzerland, where he took the opportunity of a Q&A session to address the economic, social and environmental impacts in the mining industry.

In a seemingly more typical fashion of Critical or Speculative Design, Byford-Flockhart also designed badges, uniforms, backpacks and business cards to give tangibility and credibility to his fictional union. After all, it is hard to ignore that the economics of circulation and reception of design projects often demand a certain visuality that photos of shareholder meetings alone might not be able to deliver.

2   I highly recommend watching DiSalvo's talk,
    in which he raises crucial questions to which
    the discussion here is indebted (see DiSalvo
    2018, available online).

But the economic and organizational proto-type he conceived and realized, which once adopted widely would see whole communi-ties of scrappers unionize and contribute income towards buying shares in global cor-porations to be given a chance to voice their shared concerns to them directly, is arguably the more impactful and intriguing contribu-tion of his project.

In his presentation at the conference, Carl DiSalvo (2018) talked about ways design can experiment with diverse publics and engage within broader civic contexts.[2] One of the projects he was involved in was concerned with how to advocate for alternative configurations of property and ownership in neighbourhoods threatened by gentrifica-tion. Specifically, he was working with housing activists and residents in a historically African-American community in Atlanta that was in danger of being destroyed by the developments around a new stadium. A group of residents advocated for a community land trust, a legal structure that separates land and homeownership to keep down the costs that usually result from increased taxes as part of gentrification processes. What was needed in this context more than any other design intervention, as DiSalvo pointed out, was «the design of the means to make arguments that will sway the decisions that need to happen amongst developers and city workers in order to allow community land trusts to exist» (DiSalvo 2018). In the project, the group leveraged strategies commonly used in real estate development and speculation that employ data analytics and modelling to evaluate and predict housing prices in neighbourhoods, for instance. But unlike real estate developers, they produced their own data tools and means of representation that would serve the communities' ends and agen-das. Participants utilized simple mobile data collection tools and produced several alternative maps and models of the housing situations and economics in the community. Aesthetically these are strikingly similar to the kinds of materials you would expect from real estate presentations and municipal meeting slides. However, it is exactly this context-specific aesthetic that allowed the residents to effectively communicate and advocate to local policy makers their vision for their own neighbourhood. «You end up with very mundane images that make a profound point», as DiSalvo (2018) put it. Thus, the role of a critical design practice in this case is in the support of local commu-nities and initiatives in developing appropriate, highly contextual and emancipatory tools and media of expression for their cause.

In both projects, the designers engaged with contexts that are not necessarily recognized as domains of professional designing per se, and fields where design is not addressed in an explicit form.

189

In either case, an intimate knowledge of and familiarity with the respective contexts and the affected communities is essential to properly understand the specific conditions and to identify opportunities for appropriate and effective critical engagements.

Returning to my earlier remarks on the two notions that are characteristic of many common critical design projects, these examples might differ notably. Firstly, in regard to my points on the discursive aspirations, the notion of an audience might be configured differently. «The Social Mining Union» is a well-designed and thought-provoking socio-economic speculation that mainly aims at creating a wider debate about new forms of labour movements, much in the tradition of discursive design concepts. But as an activist *proof of concept*, its discursive impact and credibility is significantly elevated by actually pursuing and protoypically realizing the creation of the union. In the case of the community land trust, the purpose is in supporting local initiatives in a very specific socio-political struggle, where the discursive reach of the project might be focused on, and also be fully satisfied with, persuading the responsible authorities. The main audience, if you will, is the local stakeholders and conflicting parties within the context.

Secondly, the role of the «design object» or the question of what is actually designed might differ as well. The artefacts that Byford-Flockhart created as an identity for his union surely help to give tangible shape to his speculation. But they seem more collateral to the organizational design and economic experiment he conceived as the foremost design proposal. In DiSalvo's case, the artefacts, the documents, mappings and presentations produced by the community are not critical in themselves; more important are the practices that these context-specific media designs can be employed to support.

The notion of expanded critical practices outlined here thus tends to question various boundaries of design as an activity and a discipline. When designers start to engage critically with hitherto foreign fields of practice, with opaque and mundane processes and infrastructures of grey design, different conceptual and aesthetic strategies are called for. In the sense of full-scale practices, this might mean not necessarily «designing» in the common sense of conceiving products or services, but finding ways of expression that take on forms and logics of the contexts they operate in, to the point where they become indistinguishable from the very practices encountered there. As such, these approaches might also require a reframing of prevalent professional habits, identities and disciplinary currencies within design. This applies, for instance, to the notion of *the project* as a disciplinary-ingrained unit of production and dissemination and its frequently short-lived temporal scopes. A certain designerly ego and narcissism might also be called into question, as the interventions implied here

might be more subtle and unspectacular, might demand continuous and often tedious engagement, and might not predominantly yield design outcomes that are easily conveyed, circulated or exhibited as designed artefacts or scenarios. An expanded understanding of critical design practice thus also affords another set of sensibilities and competences that many designers might not necessarily be equipped with by their training. As such, the ambition to operate in fields of grey design also has implications for design education. It poses questions of what kind of competences designers would need in order to engage meaningfully with different and foreign contexts; what responsible understandings of their own practice would need to be cultivated; or what kind of «materials» – social, institutional, regulatory, rhetorical, technical or otherwise – designers are able to recognize as «design resources» to be engaged with.

Finally, the notion of grey design is not invoked here to add yet another label to the list. But it might serve as a helpful conceptual framing to steer sensibilities and attention to domains of potential critical design activity that are hard to capture and address by the means and logics of approaches we have come to understand and acknowledge as «critical design». The notion of grey design thus opens up manifold areas of similarly diverse and productive fields for critical engagement by designers. At the same time, though, it must be cautioned that advocating for an expansion of design into other non-traditional and neglected disciplinary contexts, social systems and practices is not without its own problematic ambivalences. In recent decades, design as a practice and paradigm has already been entering into, or has conquered, an expanding range of specialized fields. Paula Antonelli summarizes the situation in a sympathetic tone: «Design is not what it used to be. In schools and in studios, in corporations and in political institutions, designers are using their skills to tackle issues that were previously out of their bounds» (Antonelli 2012: 6). The conceptual and practical expansion of design as an integrative and generalized problem-solving activity made it into a compatible technique for addressing ever wider ranges of social, political or ecological issues that have thus been reframed as, and often reduced to, fundamentally design problems. «This *trans*-disciplinary ethos allows design proponents to claim to offer *the* integrative solution to any number of complex problems, including regional economic development, environmental sustainability, urban resilience, and so forth» (Grove et al. 2019: 2, emphasis in original). Rendering complex socio-political conflict situations as a matter of design can harmfully preclude and disenfranchise more socially and politically appropriate negotiation processes and initiatives. In this light, critical design practices that attempt to dissolve into expanded social and political domains, as

proposed throughout this chapter, must simultaneously consider and reflect even more critically and carefully on the ways design as an episteme is already wielding power in all its opaque, infrastructural and grey forms. And perhaps it is exactly this suspicious greyness of contemporary design that such practices might be asked and most suited to question, expose and subvert.

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Social
World   ?   Social
                                      Speculative   by

Speculative   Social   Critical Design   by   ?
                   World   Social   by   Design Culture   ?
                                  Understanding   Conceptual Art   ?
                                                                 Human
Understanding by Politics   ?   Human
                                                                                         ?
                                                                 Critical Practice
World   by Speculative   Social
                                     World   by   ?
                          ?   Social
                   by Social   ?   Understanding   ?
                          ?
Politics   Critical   Human   ?
                   by   Speculative Social by   ?
Speculative   ?
Human
                                                                 Design Culture
                          ?   Social   by   Social
                          ?   Design Culture   Social
Social   by Understanding   ?
               by Understanding   Social
Human   Building
                   Speculative   ?   Critical   by
World   Design Culture
               by   Human   ?
               by World   Biased Design   ?
                                     Speculative   Social
               by Speculative Design World   ?
                          ?   Undesign   ?
                                                              by
               by Human   Human   by
World   ?   by
Social   ?   Critical   by   ?
                                     Human   ?
               by   ?
               by Speculative   ?
                                                             by   ?
                                     Critical
                                     Social   by
Positions   Speculative
                                     Social   ?

                                                                 Speculative
                                                                 Critical
                                                                 Human
                                                             by   ?
Politics   Social   ?   World
Social   World   ?   Speculative Social by Biased Design
Social

Understanding
Human ?
by Social ?
?
? Social ?

Speculative

by Building Design Culture
?
Speculative Design
Aesthetic Dimension Speculative
Social

by ?
Social Politics ? Design Culture World
by Social Social
Social by ? Critical
? Social
Undesign by ? Undesign
Social Social
? Politics by Design Culture
? Design Culture
by Human

Politics by Speculative ?
Critical by Speculative Design
Speculative Social by World

by
by Undesign
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Critical
? Design Culture by Understanding
World
World by Critical
by Social ? World Critical Design
Social by World

Social
Design Culture by Design Culture
Care by Design Culture ?
by Design Culture ? Social
? Social Human
Critical by Social ? Speculative Design Speculative Social
Design Culture by
by

Social Design Culture
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Human ?
Design Culture

Speculative Design

by

World
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Critical
Social

Design Culture ?
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Speculative Design ?
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The ineliminable

aesthetic dimension
of art

Janneke Wesseling

«Critical by art»

The notion of critique in art has a long history.

It is inextricably bound up with art production from the early days of Modernism onwards, in the sense of art as critical self-reflection as well as in the sense of art as socially/politically engaged critique. Marcel Duchamp comes to mind, of course, as well as the Dada movement and the Russian Constructivists who played a leading role in the Russian Revolution. The Stijl experiments in art, architecture and design were driven by a reduction to essentials, not only in formal terms (lines and planes, and black, white and primary colors), but also as a model for a just and harmonious human society.

From the 1930s onward, the development of a coherent critical aesthetic theory in Europe was largely inspired by a more philosophical notion of «critique» as propagated by the Frankfurt School, with Theodor Adorno and Max Horkheimer as its leading proponents. Adorno's approach to aesthetics and his critical social theory are indebted to Karl Marx. His writings on aesthetics center around the concepts of authenticity and of the autonomy of the art object. In Adorno's thinking, such notions are preconditions for the role of art as an antithesis to society, in a dialectical struggle against the culture industry and the resulting commodification of art. Adorno's thinking resonates in art theory up until the present day.

In America, on the other hand, art critic and advocate of Abstract Expressionism Clement Greenberg defined the art of the avant-garde largely in terms of (self-)critique and self-reflection.[1] Under his influence, developments in American Modernism took a formalist and aesthetic turn. Notions of «autonomy» and «reductionism» played a key role here as well, but in a narrower sense than was the case with Adorno. In America, during the 1940s and 1950s abstraction in art was propagated as a utopian and timeless, universal visual language. Politically speaking, this abstract and universal language acted as a counterweight to Social Realism in communist countries, in the name of the Western belief in the freedom of the individual – propagated by the CIA, which secretly supported Modernist art (Staal 2019).

In subsequent decades, ideas on the critical function of art gradually shifted away from Modernist notions of autonomy and reductionism towards explicit socially and politically engaged critique. This happened with conceptual art, Fluxus, appropriation art, institutional critique, relational aesthetics, «postproduction», etc. It can be safely stated that up until the present day, contemporary art is regarded as critical or «subversive» by its very nature. For contemporary artists, curators and theorists, the critical or subversive nature of

197

2 Although «research in and through art» may be the most adequate term, I use «artistic research,» as this is the term most commonly used in Europe.

3 An important institutional factor in the coming into existence of artistic research are the «Bologna Agreements,» 1999. The Bologna Agreements, however, do not explain or do justice to the relevance of the notion of research in art since conceptual art at the beginning of the 1960s.

art practice and of the art object is self-evident and a *conditio sine qua non* for any art practice.

Since the turn of the millennium – Documenta X, organized by Catherine David in 1997, may serve as a landmark – art production as (self-)critical subversion has reached the point of virtually obliterating the artwork as object or event, as well as its authorship. The British philosopher Peter Osborne addressed the «postconceptual condition» of art in his *Anywhere or Not at All: Philosophy of Contemporary Art* (2013). Post-conceptualism, according to Osborne, prioritizes discursive content and the process of art production over a contingent artistic outcome of the production process. The «post» of post-conceptionalism refers to the idea of conceptuality as the necessary condition of contemporary art. Osborne traces this post-conceptual condition back to conceptual art of the 1960s and 1970s. Osborne argues that in the constant questioning of the role of art and artist, and in the increasing attempts to bridge the distance, or even the difference, between art production and critical reflection, it is has become impossible to distinguish the roles of artist, curator and institution (museum, Kunsthalle, artist-run exhibition spaces, biennial, Documenta) in the production of art.

This raises a fundamental question of the status of the art object: where is it situated and how can it be perceived or experienced? Osborne concedes that art has an «ineliminable – but radically insufficient – aesthetic dimension: all art requires some form of materialization, that is to say, aesthetic – felt, spatio-temporal – presentation» (Osborne 2013: 48). I take this to mean that however conceptual or ephemeral the artwork may be, it remains pertinent for it to be experienceable through its visual, embodied or otherwise sensual form.

Closely related to the «postconceptual condition» of art, a new field of research emerged, called artistic research (alternatively «practice-based research in art» or «research in and through art»).[2] In my view, artistic research, even when it is not limited to visual art but includes all artistic disciplines, is intimately linked to the history of art-as-critique and to the conceptuality of art as briefly sketched above.[3]

Theoretical reflection plays a central role in conceptual art in America from the late 1960s on. In conceptual art, art could not be separated from history and politics. It was regarded as crucial for the artist to engage with the world in a political and theoretical way. As a consequence, language acquired an important role in art

practice. Text could be part of the artwork or even *be* the artwork. Not only did artists reflect on societal and political issues – think of artists such as Hans Haacke and Dan Graham – but also on art practice itself, in a critical and self-reflexive way. Doing art is questioning how to do it, as John Baldessari once said, meaning that critical reflection on one's artistic procedures or doings is essential to the artistic process or *is* the work itself.

Another important factor in the emergence of theory and criticism as artistic practice were feminist art practices that aimed to reveal power structures and patterns of hierarchy in society. Feminist art practices focused on the body and on the dichotomies of matter and meaning, thinking and doing, theory and practice – dichotomies that are deeply entrenched in Western culture.

To conclude, at the present day, following the long tradition of Modernist art, contemporary art production and critique are nearly exchangeable, with the caveat of the aesthetic dimension of the art object and its sensual, perceptual, experiential nature. Critique in visual art is necessarily tied up with conceptuality, meaning that art practices by definition question the premises of the status of the artwork itself, such as copyright, authorship, distribution, etc.

In the following I will look into the question of the aesthetic dimension of present-day art in the light of its critical potential. I will address the matter of art as «discursive practice» and I will show how the age-old dichotomy of theory and practice is contested in contemporary thinking as well as in contemporary art. I will offer a hypothesis on how art practices and the critique they enact or embody may be understood. Three different cases of artistic production, by Gustav Metzger, Alfredo Jaar and Jessica Stockholder, serve as points of reference. My argument draws on concepts that are developed in the thinking of so-called New Materialist philosophers and the «agential realism» of Karen Barad.

Case #1
Gustav Metzger: Ethics into Aesthetics

During his life-long career, Metzger (Nuremberg, 1926–London, 2017) propagated Auto-Destructive Art (ADA). For each ADA work or event, Metzger created particular conditions for its self-destruction. The destruction process could be caused by acid, glue, fire-arms, burning, compression, corrosion, electrolysis, natural forces such as wind or light, sun energy – the list of materials and techniques included in Metzger's second «manifesto auto-destructive art» (published on March 10, 1968) is long. Sometimes the destruction would follow immediately after the artwork was made, in a single blast; the destruction

199

process could also happen slowly, over a period of many years. According to ADA principles, the maximum life span of the artwork is 20 years.

ADA was aimed, first of all, against capitalism. Self-destructive art pointed forward to the suicide of humans and machines that according to Metzger is certain to happen. The suicide will be the consequence of Western capitalism, with its widening gap between the rich and the poor and with the increasing effects of technology on daily life. ADA not only confronted the capitalist system, but also the art world itself, which Metzger regarded as

> a very tight little world. It has capital investments such as dealers' galleries, dealers' stocks, artists' studios and their stock of work. … Unless he can pass through the dealers' one-man show hoop, unless he is able or prepared to become part of a dealer's «stable», the living artist in England does not exist as far as the official art world is concerned. (Metzger / Copeland 2019: 111)

Self-destructive or not, Metzger left us an important body of work that seems, in these times of humanitarian and ecological crisis, more pertinent than ever. Some examples: «In Memoriam» (2015) is a memorial to the victims of the Holocaust in the shape of a labyrinthian sculptural installation constructed of man-size cardboard boxes. Metzger's «Mass Media: Today and Yesterday» (1972/2017) is made with huge piles of newspapers. The public is invited to cut out articles and paste them on the wall. One of Metzger's earliest auto-destructive works is the performance «Acid Nylon Painting» (1960/2017). Metzger stretched nylon fabric onto a wooden frame and treated it with acid, until it was covered with holes and finally disintegrated.

In 1939, Metzger, child of Polish-Jewish parents, was brought to London by the Refugee's Children's Movement, together with his brother Mendel. Their parents and all other family members were killed by the Nazis. Metzger's activist art practice can be understood in this historical context, and parallels have been pointed out between his art and the thinking of Theodor Adorno. But while Adorno asked whether poetry could still be written after Auschwitz (and originally answered this question in the negative), it was Metzger's conviction that after Auschwitz, making art was more urgent than ever. «Auto Destructive Art demonstrates man's power to accelerate disintegrative processes of nature,» Metzger wrote in 1960 in an early manifesto. In our postcapitalist era, few people will doubt the acceleration of the disintegration of nature by human action. At the end of the 1990s, Metzger concluded that the worldwide catastrophe against which he had tried to mobilize people for decades, was unavoidable and was happening at full speed. An «aesthetics of disgust» was his answer

The ineliminable aesthetic dimension of art

to a society gone insane. Doing art for him was a reflection on the question of how we can live well, together with all other living creatures. «People always think that an artist who destroys, destroys art. I am telling you: this art gives people the beauty that fits our time» (Metzger 2018).

Rehabilitation of practice

In the sciences, «practice» has long been, and often still is, regarded as subordinate and subservient to theory. Many scholars look down on practice as being merely the handwork in the laboratory that is needed to support or offer proof of theory. The truly important work is theoretical – that is, the work of the mind. The struggle of art academies in Europe to gain recognition for artistic research by universities can largely be explained by this hegemony of theory.

From a historical point of view, the hierarchy of theory over practice originated in the age-old tradition in Western culture of valuing *vita contemplativa* over *vita activa*. The predominance of mind over body may be traced back to Plato and to Saint Augustine's embrace of Platonic thinking, as argued by Hannah Arendt in *The Life of the Mind* (1978). Like Plato, Aristotle held deductive thinking in high esteem and downplayed experiment.

According to the American philosopher Ian Hacking ([1983] 2010), the disbalance of theory and experiment was reversed with the scientific revolution of the 17th century, in particular with the thinking of Francis Bacon (1561–1626). During the scientific revolution, practical experiment «was officially declared to be the royal road to knowledge, and the schoolmen were scorned because they argued from books instead of observing the world around them» (Hacking [1983] 2010: 149). But times have changed, Hacking tells us, and today the history of the sciences is almost always written as a history of theory rather than of experiment: philosophers of science «constantly discuss theories and representations of reality, but say almost nothing about experiment, technology, or the use of knowledge to alter the world.» Hacking notes that the theory/experiment status difference is «modelled on social rank.» His Representing and Intervening contests the theory-dominated history of science. It is Hacking's conviction that «a question posed in terms of theory and experiment is misleading because it treats theory as one rather uniform kind of thing and experiment as another» (Hacking [1983] 2010: 162).

Earlier in the 20th century, the Spanish philosopher and social theorist José Ortega y Gasset addressed the state of affairs in a series of lectures at the University of Santander, published as *Méditation sur la Technique* (1935). Without technique, Ortega y Gasset

4   The New Materialist strain of thinking goes by a number of different names, among them New Materialism, Object Oriented Ontology, and Speculative Realism.

argues, man could not exist and would never have existed. Yet it is the policy, even the foundation, of the University (written by him with capital U) to ignore technique by completely excluding it from its own sphere and by delegating it to specialized schools. Therefore scholars educated by the University find themselves «paralyzed in the face of the most pressing problems of their time,» while on their side the engineers, lacking the «synthetic and panoramic education that only the University has to offer,» are incapable of dealing with problems that technique poses for mankind (Ortega y Gasset [1935] 2017: 10). According to Ortega y Gasset, human life is «fundamentally» production and fabrication. Production therefore is primary, and thought, theory and science follow from it.

For Hacking, practice is characterized by experiment and by the intervention in reality (instead of the representation of reality). Hacking calls himself an «ontological realist,» who believes the entities, states and processes described by correct theories are real and not mere «constructs of the human mind for organizing our experiments» (Hacking [1983] 2010: 2). In certain respects, Hacking's *Representing and Intervening* anticipates New Materialism.[4] Under the heading of New Materialism, a diverse group of thinkers is brought together who agree in one fundamental respect: the existence of a reality, or a world, of objects *out there,* independent of our gaze and of our knowledge of them, independent also of our access to these objects. These thinkers aim «to preserve the autonomy and irreducibility of substance» (Bryant 2011: 26). New Materialism embodies the attempt to leave Kant and Hume behind and to sidestep the subject–object divide. Contempt for practice signifies the subject–object distinction, or the Cartesian habit of mind that the New Materialists aim to overcome.

A leading proponent of this strain of thinking is the American philosopher and physicist Karen Barad, even though she prefers to call herself an «agential realist.» It is Barad's ambition «to contribute to the founding of a new ontology, epistemology and ethics, including a new understanding of the nature of scientific practices.» She labels her philosophical approach «agential realism,» «as an epistemological-ontological-ethical framework that provides an understanding of the roles of human *and* nonhuman, material *and* discursive, and natural *and* cultural factors in scientific and other social-material practices,» in an attempt «to rethink fundamental concepts that support binary thinking including the notions of matter, discourse, causality, agency, power, identity, embodiment, objectivity, space, and time» (Barad 2007: 25–26).

Janneke Wesseling

Barad emphasizes that «agential realism does not merely offer a unified theory of cultural and natural forces, but inquires into the very *practices* through which they are differentiated» (Barad 2007: 66). Agential realism wants to provide an understanding of «materialization,» recognizing «matter's dynamism.» It is not the scope of this text to offer an interpretation of Barad's rich and complex thinking. I want to focus here on the central role of matter and materialization, and of practice, in her philosophy. Barad does not refer to matter as a fixed substance, but rather as a process of «iterative intra-activity.» «Matter,» in her view, «refers to phenomena in their ongoing materialization» (Barad 2007: 151).

Barad shares Hacking's critique of representationalism and his «nonrepresentationalist realist account» of scientific practices. She elaborates his critique by proposing that *both* experimenting and theorizing are «dynamic practices that play a constitutive role in the production of objects and subjects, and matter and meaning» (Barad 2007: 56). Theorizing and experimentation, according to Barad, are not about intervening, because «intervening» implies an intervention into a given situation or into reality from the outside. Theorizing and experimentation are rather about what she calls «intra-acting from within» – that is, as part of the phenomena produced, in a reciprocal entanglement.

Barad brings theory and experiment closer together and, rather than reversing hierarchies between theory and practice, aims to break down the barriers between the two. She is undoing the «fracture» between them, as Bruno Latour calls it: «The difference between theory and practice is *no more* a given than the difference between content and context, nature and society. It is a divide that has been *made*. More exactly, it is a unity that has been fractured by the blow of a powerful hammer» (Latour 1999: 267).

It may not be too much to speak of a rehabilitation of «practice.» Tellingly, chapter 4 of Barad's *Meeting the Universe Halfway* is entitled «Agential Realism: How Material-Discursive Practices Matter.» In my view, artistic practices are «material-discursive practices» *par excellence.* To refer again to Osborne as quoted above: all art requires some form of materialization, that is to say, aesthetic – felt, spatio-temporal – presentation. Artworks, as material-discursive phenomena, simultaneously «perform» on two levels: they refer to a world out there, carrying a message or enunciating something about that world; *and* they speak about themselves in their particular materialized way of being and in relation to art discourse. Following Barad, one could say that art works derive their meaning or create meaning from this entanglement, from this particular interaction between world and material form. In art practice, doing and knowing, thinking and making, the material and the discursive, representing and intervening, are

203

not two separate or different things. They happen in and through each other, in a continuous process of becoming. As Barad asserts in an interview: «Knowing is a direct material engagement, a cutting together-apart, where cuts do violence but also open and rework the agential conditions of possibility. There is not this knowing from a distance» (Interview with Karen Barad in Dolphijn / van der Tuin 2012: 52).

According to Osborne, the aesthetic dimension of art is ineliminable but radically insufficient. He argues convincingly that under the post-conceptual condition, discursive content and production process of the artwork are prioritized over any artistic outcome or «product.» From this follows that the aesthetic dimension is necessarily insufficient. That is to say that the question of the aesthetic – felt, spatio-temporal – dimension of the artwork, as a precondition for its discursivity, remains unresolved. New Materialist thinking and its emphasis on the entanglement of matter and discourse may be of help here.

Case #2
Alfredo Jaar: Shadows

This artwork hurts, physically as well as emotionally. A life-size digital projection of a black and white photograph in a darkened room shows two women who raise their arms in lament, crying out loud. In the background a hilly landscape gradually darkens and disappears. Then the silhouettes of the two women become brighter and brighter, until they blind the viewer. Suddenly the projection screen turns black. The image of the two women is now burnt onto the retina of the viewer. The after-image appears, two shadows on the black screen, or, upon closing the eyes, in red behind the eyelids. The eyes are still in shock when the photograph is projected once more and the cycle restarts. The original photograph, used by Alfredo Jaar in his film installation «Shadows» (2018), was taken by photojournalist Koen Wessing (1942–2011) in Nicaragua in 1978, when the dictatorial regime of President Somoza was challenged by the Sandinista National Liberation Front. In the bombarded city of Estelí, Wessing came across a group of people carrying the dead body of a farmer towards a pick-up truck. Wessing followed the truck, and upon arrival at the farm his camera caught the two daughters of the farmer at the moment of receiving the bad news.

The blinding light in Jaar's installation has a twofold meaning: as a metaphor of enlightenment, in the sense of insight and truth, and as a metaphor of loss, the loss of images. It is this loss that Jaar attempts to prevent. The viewer cannot get rid of the image that is aggressively burnt onto the retina, and therefore, for a short while at least, becomes a witness. Simultaneously, Jaar questions the possibility of photo-

graphic representation, because of the unbridgeable gap between the experience of those who witnessed the event and what can be represented by the photograph. According to Jaar, the truth about a tragedy can be understood better through words and through the emotions of victims than through pictures. In our so-called visual culture, photographs and testimonies are lost in a sea of images, according to Jaar. Nonetheless, Jaar sticks to imagery. The exhibition in Rotterdam where «Shadows» was shown was not accompanied by text.

In 1973, at the age of 17, Jaar witnessed the violent take-over by General Pinochet in Chile. As a film maker and visual artist, he developed an «aesthetics of resistance.» Through exhibitions, films, interventions in public space, debates and art-theoretical writings, Jaar draws attention to the violation of human rights, genocide, refugees and border conflicts, trying to represent the non-representable.

«Shadows» is dedicated to two series of photographs by Wessing, the one on Chile in 1973, the other on Nicaragua in 1978. Shortly after his return from Chile, Wessing published the photo book *Chili*, a book without text. In a horizontal showcase, curled up contact sheets are presented. Digitalized reproductions of photos are hanging on the walls, complete with the numbering of the photos on the roll of film. In doing this, Jaar wants to clarify Wessing's working method. Each time Wessing left home for a trip, say of ten days, he would bring ten rolls of film with him: 36 shots a day. That would do. Wessing would patiently wait for the right moment, and take the picture. A picture does not come into being in a second, Wessing once said in an interview: «you can simply wait for people to fall into the frame in the right manner. You can see it coming when an old man and a playing child will pass each other in the street» (Terreehorst 1993: 12).

Jaar put the exhibition together with utmost care. The photographs are hanging with a distance of 26 centimeters between them, to enable concentrated attention for each individual image. That precise set-up makes the photographs rise up from the specific historic events and become a universal charge against human injustice. A woman holding up a portrait photograph of her missing husband for the camera: this is something that is happening every day in every part of the world.

Despite Jaar's doubts about the power of images in our time, he created an exhibition that has enormous power of expression. He refers to the Italian politician and writer Antonio Gramsci: «Against the pessimism of the intellect, Gramsci proposed the optimism of the will. This is where I find myself today, not completely convinced» (Jaar/Valdés 1999). Jaar demonstrates how doubt and ambivalence can be a condition for deep social and political engagement. Against his better

judgment, Jaar developed an art practice that is rooted in the material presence of images and our sensual experience of them (Jaar 2019).

Art practice and deictic practice

For a deeper understanding of the material-discursive character of artworks and how they perform meaning, I propose to take a look at the concept of *deixis*. German-born American philosopher and phenomenologist Albert Borgmann discusses this concept in his *Technology and the Character of Contemporary Life* (1984). In this book, Borgmann offers an analysis of the problems we encounter in a society that is dominated by technology. Written some 30 years ago, his analysis of «the character of technology» and of its role in contemporary life, is compelling and highly topical, and at times even prophetic of our present time and the digital age we are living in.

Like Hacking and Ortega y Gasset, Borgmann addresses the problem of how philosophical analysis has traditionally ignored human making, and that one will look in vain for philosophical reflections on technology. Borgmann argues that early scientific theories had both world-articulating *and* world-explaining significance, contrary to the case of modern science. With the progress of science, which is «marked by improvements in the scope, precision, and consistency of the laws» (Borgmann 1984: 25), the connection of world articulation and world explanation was undone (since then, New Materialist thinking is making an effort to «re-do» this connection). Borgmann distinguishes «articulation» and «explanation» as follows. In gaining greater explanatory power in the deductive-nomological (or subsumptive) sense, scientific laws lost their power of world articulation. Borgmann defines «articulating» as «to outline and highlight the crucial features of something.» Articulation satisfies the request for «an explication of a concrete thing or event» – rather than aiming to discover universal laws (Borgmann 1984: 25). He refers to this type of articulation as *deictic explanation*. Different from scientific explanation and its search for laws, deictic explanation raises questions of value and meaning. It does this by pointing out the significance of a *particular thing* in its *concreteness*. In Borgmann's view, art has always been «the supreme deictic discipline.» While Aristotle's theories were explanatory in both senses, during the course of history scientific theories became ever more powerful and traditional deictic explanations lost their force.

The word «deictic» comes from Greek *deiknynai*, which means to show, to point out, to bring to light, to set before one. Borgmann's description of deictic discourse seems particularly relevant for art practice:

> Speakers of deictic discourse never finally warrant the validity of what they tell but point away from themselves to what finally

matters; they speak essentially as witnesses. Enthusiasm gives deictic discourse the force of testimony. Sympathy requires that one testify not simply by setting out in some way what matters, but by inviting the listener to search her experiences and aspiration; and so one ensures that the listener is as fully engaged as possible by the concern to be conveyed. Sympathy gives deictic discourse the force of appeal. (Borgmann 1984: 178)

As said, a deictic explanation articulates a thing or event in its uniqueness (Borgmann 1984: 72). Deictic explanation is opposed to both apodeictic (based on scientific laws) and paradeictic (or paradigmatic – the delineation of a pattern that can be examined as regards its consistency and precision) explanation. Deictic explanation raises the value question and helps to orient ourselves: what is worthy of our attention, our efforts, in relation to our practices? What problem is worthy and in need of explanation or transformation? In other words, deictic discourse is about something that addresses us in its own right and constitutes a center, a focal point, by which we can orient ourselves.

Indeed, art practice, as deictic practice, «articulates a thing in its uniqueness.» Artworks «point out something in its significance,» by enacting this particular something in a unique way, and such that it can be experienced by a spectator. This happens in its specific material-discursive form: the material and discursive cannot be separated, they happen in and through each other. Artworks create meaning and raise the value question: what is worthy of our attention, our engagement? To articulate, Borgmann reminds us, means both to establish a unique thing or event, as well as to disclose or reenact it. Art practices therefore act as deictic discourse:

> Deictic discourse ... illuminates what concerns me and, if successful, provides you with an understanding that will move you to act as I have been moved. It moves us to act. Deictic explanation discloses something to us and elicits active assent. It does not have the power of proof, nor does it have to do with notions of truth. A deictic explanation remains contestable because it cannot, nor does it want to, control its subject matter or the conditions of its reception. (Borgmann 1984 : 181)

Case #3
Jessica Stockholder

A recent series of artworks by Jessica Stockholder, entitled «Assist,» consists of sculptures that literally cannot stand on their own and need the support of other sculptures or objects. At her exhibition «Stuff

Matters» at the Centraal Museum in Utrecht (2019), a 16th-century stone sculpture of a saint is tied to a colorful, abstract, metal object by Stockholder, firmly lashed up by a bright yellow bungee cord. One object is grafted onto another.

Stockholder (born Seattle, 1959) started her artistic career as a painter. But from the beginning she was dissatisfied with the limits of the frame and of the two-dimensional surface. In transgressing these boundaries by literally connecting objects, her work evokes a transition zone where edges of objects meet and where they connect to their surroundings. For Stockholder, these «encounters» are metaphors for issues of autonomy and individuality, not only in regard to the art object or artisthood, but in regard to varying domains in life.

Stockholder was invited by the Centraal Museum to exhibit her work and simultaneously interact with the collection of the museum. She «interlaced» about 60 varying art objects with her own work, using the method of «assemblage» that is characteristic of her practice.

The museum is no white cube to Stockholder. Everything she finds there can be used in her installations, everything can be given a voice: windows, walls, artworks, stairs. She connects these elements by way of color. In Utrecht, walls had been painted with broad, rough brush-marks. Scaffolding is part of a comprehensive sculpture, enabling a view from above. The installation «Extra Mural Coupling» connects interior and exterior of the building, by way of mirrors, windows and long ropes.

No matter how sculptural and three-dimensional Stockholder's work may be, its character is primarily pictorial, conceived from color and surface. «Lay of the Land,» made of orange-colored shop baskets, wooden bar stools, hanging lamps, painted mirrors and a Persian tapestry, is very much a three-dimensional painting. The main actors in «Fish out of Water» are wooden bookcases by Gerrit Rietveld. Stockholder selected them because of their thick layers of damaged and worn paint – which may be precisely the reason they have never been exhibited before. She is fascinated by the skin of paint, the border where the object and its surroundings interact. Rietveld's shallow bookcases are made to stand upright upon platforms designed by Stockholder, again with the aid of bungee cord.

Stockholder attempts to connect the experience of timelessness and stability of the framed painting with the opposite experience of movement and ephemerality. In the first instance, this may make her work seem confusing and chaotic. After that, it is a pure sensual celebration of beauty and freedom.

To conclude

A deictic practice derives its critical force from pointing to a thing in its concreteness. In doing so, it raises questions of value and meaning. A deictic practice is a critical and explanatory practice in that it selects and articulates a concrete event or thing by foregrounding and highlighting it. As stated above, artworks, as material-discursive phenomena, simultaneously «perform» on two levels: they refer to an outside world, carrying a message or enunciating something about that world; while at the same time they speak about themselves in relation to art discourse in their particular materialized way of being. Each artwork refers to a reality out there – through a narrative, a political message, etc. – *and* positions itself as artwork in an art context and among a particular body of art-works.

The three art practices discussed above differ from each other in many respects. However, all three of them demonstrate the deictic and critical character of contemporary art. Gustav Metzger's work is driven by a great sense of urgency; his self-destructive art is a powerful tool to evoke and confront his public with the (self-)destructive drive of humans. Alfredo Jaar's work embodies the force of witnessing at its fullest, by investing images with the power of testimony. The work of Jessica Stockholder speaks of the nature of objects as concrete things, and presents things and objects as entangled and interdependent. Thereby it addresses ideas on autonomy and individual identity.

These practices embody a particular way of perceiving the world and our interaction with it, and each of them is the embodiment of a clearly articulated aesthetics. They are a call to action on the part of the viewer, in performing a radical openness in order to find new perspectives on how we can deal with the world we live in or to imagine it differently. These new perspectives are arrived at in a continuous interaction between thinking and doing, an interaction that is focused on sensual and embodied experience. «Stuff matters,» as Stockholder puts it.

Artworks enact realities in a concrete and unique way. Art gains explanatory power through the sustained care and utmost precision in the way it is made and presented. Artworks show, point out, bring to light, set before us a problem that is worthy of our attention. The aim is to testify not simply by setting out in some way what matters, but by inviting the viewer to search their experiences and aspirations.

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References   211

Design culture as

critical practice

Guy Julier

Since around 2000, the term «design culture» has come under increased usage in scholarly circles and in more everyday commentary. It may be typified to denote something that is beyond design as a value that is attached to singularized objects or a professional activity. Rather, the term suggests agglomerations of interconnected things, people, institutions and interests, as well as material and immaterial infrastructures that connect them. Studying these interconnections – between production (in all its facets, from making to marketing to mediating), consumption (including the social practices of everyday life, not just shopping, owning and using) and design – is where Design Culture studies (henceforward upper case D and C) has become a specific disciplinary, academic field of enquiry.

The growth of «design culture» (lower case) as a more general concept has much to do with particular economic arrangements of late capitalism. In everyday commentary it stabilizes and renders particular understandings of design in late capitalism «reasonable», making them widely acceptable and understandable. Design culture then can become a promotional tool for sets of values and practices. Equally, in university teaching it can become instrumentalized as a form of business knowledge, or consumer empathy.

Is it possible to take design culture beyond these orthodoxies and nurture it as a form of critical practice? Can the depth of understanding that comes through enquiry in design culture be employed in lasting ways to change the conditions of its own formation? What would a reflexive design culture look like and how might it help to equip new social and economic formations in the face of multiple crises of the Anthropocene? What is design culture as a critical practice?

The rise of design culture

«You must come to see us in *x*. We'd love you to experience our design culture» is an invitation I've been given more than once. This is different from «Come and see what we make» or «I live in a beautiful city». In the former there is an attempt to suggest that there is a way of life that revolves around and through design, be this in a design studio or a neighbourhood. It suggests certain dispositions and qualities that are shared across people and are enacted and shown through particular constellations of artefacts, events and institutions. In urban contexts, these may include showrooms, galleries, bars and restaurants, public spaces and iconic buildings as well as particular productive capabilities such as craft workshops, fashion houses, digital start-ups or small-scale furniture companies. Thus, the emphasis here is on the «fit» between modes of production and consumption within a designerly milieu (Bell / Jayne 2003).

213

This idea of design culture has become a promotional tool particularly in policy and planning since the 1990s. It is used to boost the creative capital, and therefore value, of an entity. This is evidenced through its material but also in its human assets as an innovative and creative place. The former (its buildings, urban environment and so on) work semiotically to signal the latter (its digital coders, creative entrepreneurs, makers and so on). Getting the «fit» between the resources of consumption and everyday life for such milieux and these activities then became the holy grail for municipal planners and policy gurus (e.g. Wood 1999; Florida 2002).

In such instances, design cultures become objects in themselves. They then invite specific methods of investigation. Their parts may be examined in direct ways – visual or material «reading» may take place. But in addition, with their multiple features and facets, design cultures – at whatever scale – require extended and often ethnographically embedded kinds of investigation. They are things to be inhabited, to move within, following the connections and flows through them so that their existence is not just understood as the sum of their individual parts but also the result of the relationships that exist between them. The researcher thus becomes the curious traveller, engaged in multi-linear micro-journeys across their ecosystems. The conditions of design cultures demand particular epistemological and methodological sensibilities, and therefore open onto the possibility of design culture as a field of study itself.

This is where design culture as an academic discipline has grown since around 2000. Stemming partly from design history, it nonetheless has a declared concern for contemporary design and society. Masters' and bachelors' programmes in Design Culture or Design Cultures were established at the University of Southern Denmark (2006) and Vrije Universiteit Amsterdam (2010), followed soon after by the London College of Communication. Other programmes have come and gone, for example at Leeds Metropolitan University and Manchester Metropolitan University. The first Design Culture conference, held in Kolding, Denmark in 2014, brought together about 60 academics from around the world, demonstrating this new discipline's geographical reach and, at least, a nascent community of like-minded scholars. Despite such initiatives, Design Culture (I capitalize these words to denote it as an academic field rather than an object of study) has not established any core orthodoxies in its methods, politics or theories (Julier et al. 2019). The programmes mentioned above are quite different in their declared aims, pedagogic styles and points of reference.

Perhaps this lack of consistency or absence of orthodoxies is deliberate. It is on my part. After I published the first edition of my book *The Culture of Design* in 2000, I was frequently asked if I would

go on to put together a «Design Culture Reader» or set up an academic journal to sail under that flag. However, aside from being shy of the time pressures that such tasks involve, I was also cautious of claiming any territory where I might mansplain what the field needs and how to do it. Instead, I was keen that Design Culture was open and flexible, to be developed as an accessible project that would be free of any epistemological or ideological oppression within it (Julier 2006).

However, by not declaring a core set of positions or points of reference, Design Culture runs the risk of drifting into other territories or being subject to appropriations from outside it. It is noteworthy that some of the Design Culture courses that are mentioned above have combined with management studies, for example. The inference here might be that the study of the culture of contemporary design will make you a better businessperson or more commercially malleable. This may not be the intention of their proponents. It is probably more a case of needing to address challenges of graduate employability. Such questions require closer examination than space permits here, however.

Meanwhile, a broader historiography of Design Culture may result in a more reflexive understanding and nuanced idea of where study and research in it may lead to. As a disciplinary term, Design Culture originates from around 2000, as already noted. Its methodological and epistemological roots may, though, be traced back to the development of cultural studies and design history, particularly in the UK in the late 1970s, alongside a socio-material turn in anthropology. Little acknowledged and even less explored are the contributions of material culture studies, early science and technology studies and the new economic sociology in the mid-1980s. Collectively, these point to a deepening of interest in the relationality of social and material processes and objects that is the starting point of Design Culture studies.

These antecedents also emerged in a historically charged moment. The late 1970s and 1980s were when, in the Global North, the great shift from manufacturing-dominated to service-led economies took place; or, in other words, the move from Fordist to post-Fordist structures was accelerated (Hall 1988; Harvey 1989). This coincides with increased deregulation of financial and trading systems that has led to globalization, the distancing of manufacture from design and the speeding up of systems of provision, otherwise known as the New Economy. In short, the rise of design and the rise, then, of design culture, have coincided with massive restructurings of global and local economic orders. Beyond notions of everyday life becoming more aestheticized and more design-intensive (Featherstone 1991), the rise of design culture may be understood as the result of particular economic and ideological processes that have coursed through the world.

215

These processes are sometimes called neoliberalism or neoliberalization: on-going processes of marketization, competitivity and flexible accumulation (Julier 2017). Design culture involves the materialization of systems of coordination between production and consumption in both concentrated and distributed ways: creative quarters or corporate design centres in cities as a spectacular bringing together of design resources on the one hand and global manufacture, distribution and information networks for fast fashion or smartphone brands on the other, for example.

Design Culture studies can therefore be interpreted as the outcome of specific historical processes. It is a truism that design – as a self-consciously declared value – has become more ubiquitous than ever before during the last 30 years and that this in itself is reason for the rise of a notion of design culture and its study. Knowing a bit more about how this truism has come about and why other related fields have emerged may help in adding a measure of reflexivity into Design Culture studies. And in so doing, we may become aware of how it plays into certain economic arrangements or may detach itself and help to produce other ones.

Design culture as practice

Design culture is the result of certain historical processes. But it is also operating in these. In picking up on this – design culture as active in the shaping of futures – Kjetil Fallan observes that «the term is probably even more interesting as a dynamic, a course of action – something that we do, produce or conjure, rather than something we observe» (Fallan 2019: 16). In this, Fallan is moving beyond design culture as an object to think about bridging from academic enquiry to some form of practical action. Design Culture as an academic field, or even design culture as a possible profession, then becomes a more reflexive, intentional way of intervening into real-life contexts.

By pushing Design Culture as a form of critical practice, we are making new demands of it. Fallan's argument is daring as it is productive: it pushes us to enquire as to what Design Culture might (also be) for. Here he takes the notion of «design culturing», drawing on Fry's (2009) term «design futuring». This views the future not just as something that is latently «out there«; the future is «configured» through the present rather than something that comes preformed and inevitable.

This idea of an eternal present keys in with the open-ended, unfinished and emergent qualities of design cultures. Design cultures, as we have seen, are made up of multiple, connected and dynamic actors. Their complexity and relationality mean that they are rarely stable. Nor are their objects or social practices (Knorr Cetina 2001).

216

Cultural planning that promotes an idea of design culture as underpinning localities may wish to present a view of coherence and stability. But even these identities are based on some notion of dynamic change. After all, the concept of cultural capital is founded in the ability to distinguish what is new or emergent and is therefore worthwhile in confirming certain social positions (Bourdieu 1984). Researching how the networks and meanings in design cultures change, what new socialities, objects and ontologies these open onto and how they feed back into everyday routines and dispositions will also involve participating in those dynamics.

A broad view of design culture as practice accepts that all study, research, writing, presenting, organizing and other pursuits that come within its purview are forms of practice. Design today exists in an expanded field of activities beyond straightforward «form-giving». This is evidenced in the proliferation of its specialisms, taking in, these days, strategic, organizational, interaction, service, activist and social design, for example. In these, outputs are not always strictly material, spatial or visual. Instead, their processes overlap with other fields such as management, policymaking or community building that allow for less material outcomes such as relationships, concepts or visions. Equally, the notion of «diffuse design» (Manzini 2015) shows the possibility that design is frequently carried out by non-specialist, non-professional designers. It follows, therefore, that as doing design culture brings its exponents into a range of relationships and interactions that have agency elsewhere, so they are doing design.

In this context of relationality, the researcher-practitioner may arrive at different outcomes depending on distinct disciplinary approaches. One way to understand how these vary might be in thinking about different forms of disciplinarity – multi-, inter- and cross-disciplinarity – that exist within Design Culture. Multidisciplinarity involves bringing several distinct disciplines together to focus on a particular object from the point of view of each specialism. In our case, we may see design culture through the lenses of human geography, media and communications, sociology, economics, management, philosophy, design history and so on. A design culture is an object of study, understood from a variety of perspectives. If these viewpoints are aggregated and synthesized then there is an interdisciplinarity going on. The disciplinary contributions that are brought to the object of analysis are maintained. Design Culture may involve pairings with fields to produce, for example, feminist studies of design cultures. In so doing, the objects under scrutiny change. Design Culture can become more kaleidoscopic here, with the available perspectives becoming multiple and more complex. From here, if we are to pursue this metaphor, the experience of the object of study, study of it,

217

produces new ways of understanding, knowing and feeling. This is where a trans-disciplinary approach comes into play. It may then be disruptive of the integrity of separate disciplines when practised, and even disruptive of itself (Barry et al. 2008).

To recapitulate, these three kinds of disciplinarity echo the notion of design culture as an object, as a discipline and as a practice. A design culture as a singular, yet complex, object with its specific materialities and socialities that can be studied from various viewpoints suggests a multidisciplinary approach. A design culture as something that has contingency and relationality with other cultural assemblages points to the synthesizing processes that are enacted in interdisciplinarity. A cross-disciplinarity in Design Culture studies engages new ontologies and epistemologies; it involves transcendence and disruption of everyday worlds.

Pursuing design culture as a practice in each of these (sub-) frameworks suggests different intentions and outcomes. In the first instance, the multidisciplinary one, taking multiple perspectives on design culture objects through the lens of cognate disciplines such as psychology, human geography or economics, allows for deeper and more rounded understandings of its processes and effects, possibly resulting in better designers. This might also help equip others to make more informed choices in their policymaking, planning or other pursuits. A specialized form of consultancy may take place here. The object of design culture remains unchanged. In the second, that is in terms of interdisciplinarity, more nuanced forms of analysis can exist within design so that, for example, we might find design economists who are good at calculating, understanding and communicating the potential economic impacts of design. Or we might find specialists in health design who understand medical practices while knowing how design is or might be deployed across its various human and material systems. This might be taken to involve a reversal of the «T-shaped designer» (Leonard 1995; Brown 2009). The argument here is that designers are trained to be specialists in particular material fields – spatial, graphic, industrial design and so on. This depth is the vertical axis on the T. They are then able to deploy these across a range of contexts – the horizontal axis. However, design culture as kind of practice may involve specializing in deep knowledge of a context, be it, for instance, healthcare, urban housing, ageing and so on alongside a wider and more varied understanding of how different design specialisms structure these and their experience. Thus, beyond design management, which tends to focus mostly on optimizing the needs of private firms, the design culture practitioner may develop impactful and productive specialisms. Here, then, the axes of the T are swapped. It also goes beyond Baratta's (2017) T-reversal that focuses on generic

218

design *skills* in the vertical axis to foreground specific design *contexts* on this axis instead. Through this reversal, new objects of design culture may be formed in this interdisciplinary approach and new sub-disciplines of design practice and education may emerge.

A trans- or interdisciplinary form of design culture as practice might lead to something that is, at this stage, unknowable. However, the starting point of such a journey would, as with the multi- and inter-disciplinary versions, still require some foundational knowledge in design culture to be established (suggesting that I should have edited that «Design Culture Reader» after all!). It may involve a more clearly expressed futurity in that it would involve speculating, experimenting and showing other realities. Nonetheless, this would be grounded in empirical understandings of the conditions that give rise to them and be reflexive in the role of the practitioner in shaping them (see Table 12.1).

A range of disciplinary possibilities and subject positions are therefore available to the pracwtitioner of design culture. To date, it appears that they are mostly yet to be experimented with and devel-oped. They require intensive readjustments in the bureaucracies of both the academy and other professions. They may also force different conceptions and articulations of value in design (Kimbell / Julier 2019). They remain relatively malleable in their potential ideologies and motivations, as at home in hardnosed commercial settings as more explicitly socially or politically engaged pursuits. So, how might design culture as practice work in more critical ways? The next section extends the discussion into three further ways by which design culture as practice might be employed to explore alternative futures while using the deep knowledge and understandings of complex environ-ments and systems that it also generates.

Design culture as critical practice

The rise of design culture and Design Culture has not been the only growth industry of the past two decades. As already mentioned, other new subdisciplines of design have emerged. Shared among many of these – and, of course, a defining feature of design culture – has been a tendency to focus on wider strategies and relationships between multiple actors. By and large, these have emerged through commercial practices as either designers themselves seek to rise up the value chain – offering more complex and far-reaching services – or clients have centred design more explicitly into the production and mediation mix, thereby requiring a greater range of design occurrences in their strategies.

Nonetheless, the economic crisis of 2007–8 has reopened the landscape to produce renewed impetus in design activism and social

219

DESIGN CULTURE MODE	DESIGN CULTURE PRACTICE	INDICATIVE OR SPECULATIVE PRACTICAL OUTCOMES
Disciplinary	Multifarious contexts in which expertise is enacted – both academic and public	Convening public discussions, exhibition curation, writing articles for academic and popular media
Multidisciplinary	Expert insights brought to contexts through the lenses of cognate disciplines	Consultancy advice in city-branding using theoretical perspectives of urban studies
Interdisciplinary	Combination of disciplinary approaches to produce finely tuned expertise	Consultancy work in the design commissioning of healthcare provision
Trans-disciplinary	Transcendence of disciplinary norms and disruptive creation of new forms and articulations of expertise	Modelling of everyday, socio-material routines and their experience in post-disaster alternative futures

Table 12.1 Summary of potential modes and practices of Design Culture.

design and to draw in new approaches that seek to address the societal and environmental challenges (Bieling 2019). At the same time, critical design and associated variants – design fiction and speculative design – have found increasing prominence in design schools, discourses and curation. It seems to be no coincidence that a similar coexistence of societally embedded and more artistically orientated critical design practices emerged during the economic crisis of the early 1970s. By this, I refer, for instance, to the «Design for Need», alternative technology and the community design movements on the

Design culture as critical practice

one hand and anti-design and radical design on the other. Again, economic crisis gives rise to radical reconsiderations of design's purposes.

The historical details of the backgrounds to these different periods of economic crisis are different, but this still suggests a connection. The connection is to be found more in the economic transitions within and out of these crises that were and are taking place. The early 1970s saw the abandonment of the Bretton Woods agreement that paved the way to increased deregulation of global trade and finance, leading to the take-off of neoliberalism in the 1980s, as already mentioned. Since 2008, the neoliberal order has come under increased scrutiny and critique while at the same time, it seems, it has further entrenched itself. Here, design inhabits the possibility that all bets are off. Anything is possible. And maybe, just maybe, design can actually play a role in shaping more humane, equal and ecological futures (Boehnert 2018).

This might be done in one of three interrelated ways. All three, I think, belong more closely to a cross-disciplinary conception of Design Culture: they each entail possibilities of disrupting academic and professional norms and of producing new ways of thinking, acting and being. However, we might not entirely assign this to the riskiness and, potentially, fact-free realm of imaginative leaps. It is possible that the more tested, known and grounded practices of multi- and interdisciplinarity in Design Culture may come into play.

The first way is in developing a kind of speculative Design Culture that can open up the imagination to new possibilities as to what its objects might be. This moves beyond speculative design that, I would argue, has been subjected to constant re-hashes of Dunne and Raby's pioneering work (Dunne / Raby 2013), now over a decade old. While being important in widening the vocabulary and foci of debate in design, there is a danger, as Tonkinwise (2014) has observed, of its refined gallery orientation losing contact with the empiricism of the everyday world. Thus, I advocate here a reality check in this speculation. In the first instance this would be achieved by enacting it *in public* – a kind of everyday experimentalism rather than sequestering it away in the more exclusive world of galleries or arty publications.

A practice of speculative design culture may have drawbacks. First, there is the very real chance of harm being inflicted as experiments and speculative actions are undertaken among the lives of people. When these go wrong, it may be more than a few test tubes that get damaged (Krohn / Weyer 1994). Second, everyday experimentalism may be employed as a way of obfuscating poor decision-making, delegating responsibility to the experimental space and, potentially, the experimentees. Third, it runs the risk of being taken as flights of whimsy and an endless succession of «what ifs?» without reference to

scholarship and research in the social, economic, technological and political realities that shape futures.

A tempered approach is therefore recommended. A critical practice of design culture may not necessarily involve producing new objects. Instead, it might focus more on understandings of existing objects. These might draw attention to and even open up critical perspectives onto their functions. These are then rendered readable in new ways, potentially disrupting their machinations and semiotics while also rendering them more reflexive. This remains a speculative endeavour as the outcomes of such interventions are unknown. To give an example: in the summer of 2019 I spent, as part of a wider project, an hour labelling buildings in a district of Helsinki that was under construction. The labels carried information about their leaseholders, construction companies, investors and the amounts of investment. This was an attempt to add little-known material about the financial ecology of the area and how this shapes its material culture. In so doing, I was making public the economic processes that produce these and was thus rendering the buildings themselves differently (Julier 2019).

A second approach in critical design culture practice may work further downstream. This is where existing proposals for new ecological, economic and/or social arrangements that are made by others – by, for example, political groups, community organizations, policymakers, academic research centres – are used as a starting point. The design culture practitioner would then explore their socio-material implications. What kind of world would these result in? How would such a proposal provoke new relationships and forms of exchange, objects, localities and everyday lives? In doing this, the practitioner is involved in a form of modelling or prototyping where ideas are materialized and tested. It is where design culture moves into prefigurative politics, acting as a knowing and reflexive testing ground to demonstrate and explore the viability of alternative futures. Again, this goes beyond the more intimate outcome contexts of speculative design. It looks more widely at how new circuits of culture might be produced and made viable.

The role of the design culture prototype is important here. Prototypes carry futurity as «things-that-are-not-quite-objects-yet» (Corsin Jiménez 2013: 383). Their open-endedness and unfinished qualities allow for iterative development rather than prescribed futures. The artefactual, object orientation of the prototype also aligns with the materiality of the political (Marres/Lezaun 2011). It is social and technical, engaging an on-going set of adjustments between people and devices. While it may involve the very routine, even humdrum, acts of adjusting, observing, measuring and articulating, it also holds the
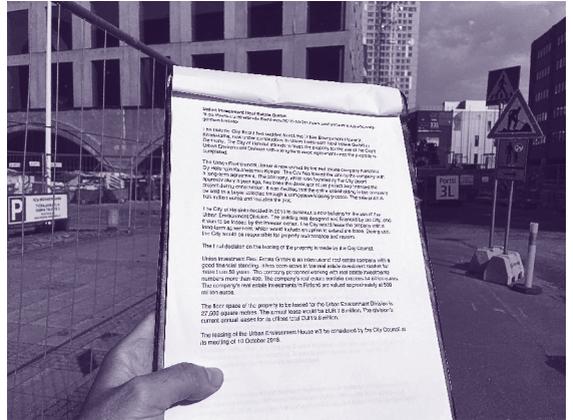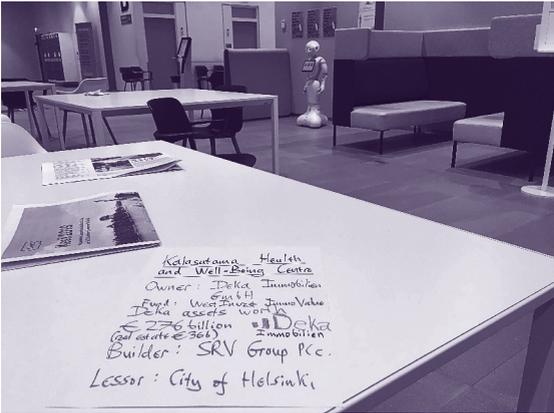
Fig 12.1 Images from «Performance 2: finance labelling» of «60 Minutes in Smart Kalasatama: six experimental performances within an experiment» (Julier 2019).

potential to open the imagination to new possibilities for living and acting in the world.

This iterative prototyping would also have the potential to actually feed back into the shaping of novel political positions and processes. It therefore overlaps into a third approach for design culture as a critical practice that would bring the practitioner into active formation, with others, of new frameworks. A speculative example may help to clarify here.

There is no shortage of economists who make the point that the core threat of neoliberalism to social equality and justice, the environment and, indeed, economic stability is in the dominance of financialization (e.g. Piketty 2014; Mazzucato 2018). The dominance of fiat money and the continuous drive to maximize return on investment has, they argue, distorted global economic practices away from their social purposes. In response, a group of social scientists and policymakers have pushed for a new economic structure called the «Foundational Economy» (Foundational Economy Collective 2018). Their thinking separates the finance-dominated sector from the entrepreneurial and routine sectors. The latter is taken to involve goods and services that are necessary for basic functioning in everyday life such as food, healthcare, energy or transport. This, in their view, is the foundational economy. Their proposal is that this foundational economy be protected and its status enhanced through the social licensing by governments of firms that are engaged in these areas. This would include, for instance, commitments to training, accessibility and environmental impacts. This very simple starting point has profound implications for systems such as food production and distribution, or energy generation and supply. There would be undoubted effects outside this foundational economy as entrepreneurial activities become more concentrated into non-mundane areas of everyday life.

A practice of design culture might have a role in helping to define what both foundational and non-foundational sectors are and how they might operate. The concept of the Foundational Economy was developed mostly within a centre for research for socio-cultural change in the UK. It has subsequently been explored in real life through a «challenge fund» in Wales, where, in 2019, invitations were made by the regional government for experimental projects that tested the concept in real life.[1] One wonders how it might have been different, or presented differently, if the Foundational Economy concept had been formed in collaboration with a range of other specialists including those in design culture. Would this have allowed for deeper prototyping and shaping prior to rolling it out into experimental platforms? Potential for exploring the real material implications may add more lustre and

nuance to it while also allowing for more robust expectations in terms of how it might be implemented.

Such an approach calls for greater embeddedness of design culture into political envisioning in ways that go beyond current systemic orthodoxies. It could engage a cross-disciplinary attitude in design culture and elsewhere, resulting in the disruption of methods, bureaucracies and outcomes of disciplines to produce new ways of knowing, understanding and saying. This is where a critical practice of design culture may be the most ambitious, but also the most impactful.

Conclusion

There is more than design. There is also design culture. This describes not singularized objects as the end-point of linear processes of conception and execution of things. Instead, design culture encompasses open, unfinished assemblages and networks. Through this it also becomes a description of different scalar groupings. This conception has emerged as part of an economic shift in late capitalism. Design Culture studies, as an academic discipline, has emerged alongside this designation and the historical processes that produced them. It draws from many parallel shifts in the humanities and social sciences.

In its scholarly eclecticism, Design Culture always leans towards other disciplines. Its epistemologies and methodologies, to date, have mostly been multidisciplinary, viewing and interpreting design culture objects through the lens of these other disciplines. It also lends some weight, albeit perhaps indirectly and tacitly, to the formation of the interdisciplinary modes of enquiry and practice that are in constant emergence, both within professional design itself and in academia.

By understanding these aspects, we can then move towards exploring the potential that Design Culture can also become a form of critical practice. This is where it steps out of pure analysis and aims at agency in the world. There are a number of ways by which this may be done. First, one may recognize that the everyday activities of those engaged with Design Culture in a disciplinary and reflexive way are also practising design culture. More nuance and, indeed, intention may be produced through more consciously understood frameworks. Therefore, another way may be in using the knowledge and skills generated within Design Culture as a starting point to then creatively generate other design cultures that open the imagination up to potential directions of change. This may involve prototyping and prefiguring new political possibilities – recognizing that these also imply new objects of design culture and then exploring what these could be.

A third way might be in participating, along with others, in the envisioning of these, working alongside them in the observation and analysis of realities to then construct other, possible ones.

These proposals constitute a heroic view on disciplinary practices. They leave out the very real resistances that hinder much of their potential. University systems of audit and measurement do not necessarily lend themselves to experimenting with new disciplinary possibilities. Equally, pressures to make design students «relevant» and «industry ready» often produce a myopic adherence to an outdated, even destructive conception of design that is doggedly tied into economic growth models.

In the face of the deep social, environmental and ecological crises that late capitalism is producing, another world must be made. This chapter proposes some preliminary ways by which deep understandings of design's contemporary histories, theories and contexts may play into and be engaged within a critical practice in order to achieve that.

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What might

be the
speculative social?

Carl DiSalvo

There is a simple premise to this chapter: the practices and products of design work to construct social relations. Sometimes that is an accident or mere by-product of design. But increasingly it is the purpose of design – to make the social. The challenge for us, as scholars, critics, and practitioners of design, is to understand and appreciate this endeavor of making the social.

At the same time, we have to recognize that to simply say that design «makes» the social or «constructs» social relations is not a novel claim. We can find many such assertions throughout design as well as in adjacent fields that study design. My interest is not to be first to point this out (I'm too late for that), or to detail how this happens (this is an essay, not a handbook). Rather, my interest is to explore the qualities and purposes of making the social from the perspective of design. What are the characteristics of this made social? For what ends are the social made?

In this chapter, I take an initial step in the direction of those questions, and outline a notion of the speculative social from existing fields and discourses of design. I use the phrase «speculative social» to label the use of design to imagine and instantiate new associations between humans, and between humans and nonhumans, that asks the question: «How might we live together, differently?» The qualifier of «differently» is important because it marks a distinctive quality and purpose of the speculative social – it is otherwise from our familiar forms of sociality, and it is decidedly conjectural, often aspirational.

At the outset, it is fair to ask, what is «the social,» or what do I mean when I use this phrase? For other disciplines this is a foundational question, the answers to which shape fields and practices. Perhaps most obviously, this is a question that greatly concerns the social sciences. Inspired by recent work in the social sciences, by «the social» I am referring to the associations we have with others, which give structure and character to our individual and collective experience (see Latour 2007). The social is a process of initiating, shaping, and maintaining relations. The social is not a distinctive material or phenomenon. Labeling something as «social» does not put it in a category separate from, say, something that is «commercial.» It is not that education or health are social issues, as distinct from issues of some other category. Nor is it sensible to make distinctions with technology or the environment, as if those categories were not also social. As I use the term, the social refers to relations that are co-constructed, through which both an «I» and a «We» emerge. These might be relations between people, between people and rocks, or between algorithms. One of the challenges of coming to understand and appreciate this endeavor of making the social *from the perspective of design* is to draw inspiration from the social sciences while still retaining care as

to what is important to endeavors of making and doing, to recognizing and valuing the histories, theories, and practices of design, even if our aim is to transform them.

As genres of practice, both social design and speculative design produce considerations of how we might differently conceive and configure the world. Participatory design brings a decidedly political perspective to these endeavors. At the overlap of these fields and discourses, there are possibilities for an experimental practice of exploring what other worlds might be possible. This chapter will draw together a set of topics from social design, speculative design, and participatory design that inspire this idea of the speculative social. This includes critiques of these fields and discourses, their limitations and oversights. By no means is this an exhaustive survey. It is merely an attempt to outline themes in the overlap of these fields and discourses that might characterize more diverse modes of critical practice.

From serving society to participating in making the social

When designers, design scholars, and design critics speak of social design today there are a few common points of reference. One of these is Victor Papanek's *Design for the Real World: Human Ecology and Social Change* (1971). In *Design for the Real World* Papanek out-lines what he sees as problems with then-modern design, ranging from a critique of useless products to unsafe manufacturing conditions, and he proposes alternatives for reconsidering the purpose of design and pursuing new applications of the practices of design towards more socially responsible ends. Papanek's polemical text is widely acknowledged in contemporary design literature and over time he has become a lauded, if complicated, figure. But his book was not initially received so warmly. After all, as is often noted, he begins the book with the opening salvo «There are professions more harmful than indus-trial design, but only a few» (Papanek 1971: ix).

The subtitle of *Design for the Real World – Human Ecology and Social Change –* is worth briefly considering because it reveals both a purpose of design and a few assumptions. First, it grounds the work of design in the world and experience of people and it characterizes that world as a particular kind, that of an ecology. This is not a world of individuals, but rather one that is defined by mutually dependent interconnectedness. Furthermore, there is a distinction made in that it is a world of *human* ecology. This is curious. Perhaps it is simply a reflection of the thinking of the time, but it is notable that a human ecology, rather than just «an ecology,» is specified as the domain of concern and action. And what is that action? Social change.

Another common reference point for social design is the essay «A Social Model of Design: Issues in Research and Practice» by Victor Margolin and Sylvia Margolin (2002). The essay outlines a model of design practiced based on social work. It also employs a broad notion of ecology, as Margolin and Margolin use environmental psychology as a frame for ordering the multiple factors that comprise a social context. Both social work and environmental psychology are appropriate fields to draw upon. Social work, like design, is an applied field concerned with addressing conditions and developing interventions. Environmental psychology is a field of social science that takes seriously the role of the built environment in our well-being, and has also elsewhere been drawn upon for significant inspiration for design.

Margolin and Margolin raise an issue with regard to the work of Papanek – the tension between social design and more familiar modes of market-driven commercial design. Papanek sets these practices against one another. Margolin and Margolin resist such a clean and clear distinction on two points. First, they state, «[b]y harshly criticizing the market economy, he [Papanek] limits the options for the social design» (Margolin/Margolin 2002: 27). This would seem to imply that for Margolin and Margolin it is not outside the realm of possibility that social design might work within a market economy. Second, they argue against Papanek's claim that social designers must self-organize their efforts. Rather, Margolin and Margolin suggest that change might happen by partnering with other socially committed concerns and practices, such as «health, education, social work, aging, and crime prevention» (Margolin/Margolin 2002: 27).

Of late, social innovation has become a more popular term in design. Sometimes it is used in concert with social design, sometimes as an alternative to social design. For Ezio Manzini, design provides a way to foster, achieve, and sustain social innovation. As with Margolin and Margolin, what produces social innovation is not design alone, but design in concert with other activities and practices. Throughout a series of ongoing research projects and publications, Manzini describes the ways in which so-called creative communities form: «people who cooperatively invent, enhance, and manage innovative solutions for new ways of living» (Jégou/Manzini 2008: 30). These communities may include professional designers, and they certainly include people who engage in design but do not identify as professional designers; this is the distinction that Manzini makes between what he calls expert and diffuse design (Manzini 2015). The role of the designer is a role of both contributing to invention and supporting the conditions of the social; the work of design is to both foster creative communities and assist in disseminating solutions for new ways of living (Jégou/Manzini 2008; Manzini 2015).

233

Manzini does make a distinction between social design and social innovation: «the two expressions refer to different activities and have very different implications» (Manzini 2015: 64). I agree with this, but rather than keeping these expressions and endeavors separate, we could collapse them together. For Manzini, design for social innovation is distinct because it is first concerned with «the ways in which people generate social forms» (Manzini 2015: 64) and second because what it produces are «solutions based on new social forms and economic models» (Manzini 2015: 64). That is to say, at least one aspect of this work is the construction of new modes of sociality, so that design for social innovation contributes to new constitutions of the social. In contrast, social design, at least according to Manzini, is not so much concerned with this new constitution of the social as with addressing social situations such as poverty, lack of access to education, hunger, etc. Manzini is correct in this distinction, and this distinction is crucial for understanding the limits of social design at this time.

But this distinction cannot hold (and Manzini seems to agree). In order to address social situations, one must address the constitution of the social; it seems odd to expect change in social conditions without changing the conditions of the social. Social innovation, then, is a promising site for design because it can be interpreted not simply as innovation *in* the social realm, but also as an innovation, or transformation, *of* the social itself. This is more than design serving society. This is design as a means of contributing to the discovery, invention, and production of new or modified structures, desires, actions, and values that comprise the social itself.

Speculation as a genre of practice

The phrase speculative design is used to label a broad swath of work that explores possible futures and, to a lesser extent, alternative presents or histories. Contemporarily, speculative design is often bound up with critical design, at times used interchangeably, at other times used together, as in «speculative and critical design.» Design that takes on the label of «speculative design» tends to, at one and the same time, intentionally tweak the time horizons of design and the expectations of design producing useful products.

Similar to some notions of social design, speculative design is often positioned orthogonally to mainstream commercial design, but with different motivations and ends. For instance, James Auger states:

> The key benefit of this approach [speculative design] is the removal of the commercial constraints that normally direct the creative process. This decoupling allows for the goals to be based on questions and discourse rather than market-led agen-

Carl DiSalvo

das; hypothetical possibilities not real products; utopian concepts and dystopian counter-products. (Auger 2013: 22)

One way to appreciate speculative design is an alternative to how design serves to domesticate technology. Much of the work of design is to make technology useful, usable, and desirable; or, in other words, design makes technology consumable. In Auger's conception of speculative design, however, something else occurs. Rather than waiting for a given technology to be ready for domestication, speculative design takes a technology that is still nascent, acts as if it were ready for domestication, and then imagines and projects it into a future (or present) as it might be as a product. Such projects shift the time registers of designing technologies while also shifting the expectations of design as producing, or even leading to, products and services that we want or need.

Speculation thus moves from being an activity of design to describing a genre of design practice. In the genre of speculative design, it is not just that the designer engages in forethought as part of a process of arriving at an actualized product. It is rather that the work of design is, *and is complete as*, an endeavor of imaginative projection. What makes speculative design distinctive is *not* an emphasis on futures. What makes speculative design distinctive is that it remains conceptual. Speculative design is not intended to be actualized, to be made as a product or service, as least not to be actualized or made in the instrumental ways that we commonly consider to be the productive progression of design. Put another way, speculative design remains conjectural, it dwells in possibility and potential, it inhabits and enacts the virtual.

This is an awkward place for design, which has been and continues to be characterized by usefulness. What is the usefulness of work that remains conjectural? It may be that this is one reason that other terms are at times used as labels for this kind of work, such as design fiction (Sterling 2005) or discursive design (Tharp/Tharp 2019). What designers and critics are trying to provide by using these labels are descriptions that give some traction for describing the work of such design. For instance, we can conceptualize design fiction as design that is meant to construct and be read as narratives of what might be; we can conceptualize discursive design as design that is meant to participate in contemporary social, cultural, and political dialogue. Perhaps one of the fundamental contributions of speculative design as a genre – and what it brings to this inquiry into the speculative social – is to trouble the function of the design object or representation.

235

This is not to say that the design object or representation itself is radically different in most works of speculative design – it is not. In fact, the objects and representations are oddly familiar, even as the content may be simply odd. What gets made in most works of speculative design are models, images, videos, and other common representational forms used in design. What makes this sort of design compelling is precisely the ability of the designer to craft representations that are believable as products – that appear like products so that we might entertain them as such.

To develop an appreciation for speculation as a genre, and for the speculative social, it is useful to look beyond this cohort, beyond this current movement. This body of 21st-century work is but one moment in a historical (and ongoing) genre of speculation. For instance, Dunne and Raby begin *Speculative Everything* (2013) with a chapter titled «Beyond Radical Design?» They situate their work, and more broadly the work of speculative design, as sharing a relation with a history of design: «We have long been inspired by radical architecture and fine art that use speculation for critical and provocative purposes, particularly projects from the 1960s and 1970s by studios such as Archigram, Archizoom, Superstudio, Ant Farm, Haus-Rucker-Co, and Walter Pichler» (Dunne / Raby 2013: 6). Situating contemporary speculative design alongside the work of these prior studios, collectives, and designers provides a way of historicizing it, provides the beginning of a genealogy of speculation as a genre of practice.

Speculation, then, is not just a label for a specific contemporary movement in design. We can use the term to situate work within histories of practice. Much of contemporary speculative design is a decidedly expert practice and more attentive to issues of emerging technologies than to social conditions. But to get to the contemporary speculative social requires an expansion of not just the work design objects and representations do; it also requires a broadening of participation in design, and rethinking the roles of the designer.

Enabling participation in design things

From its start, participatory design was engaged in a deliberate and proactive shaping of social relations, with the belief that design has a role to play in how those relations manifest. This shaping of social relations was by no means neutral or objective – it explicitly took positions. As Finn Kensing and Joan Greenbaum note, underlying early participatory design was a theoretical mix of Marxism, pragmatism, and feminism (Kensing / Greenbaum 2013).

As part of its political project, one aspect of participatory design has been to question and reconfigure the role of the designer. Much

of design history has been told as the history of individual designers, or in some cases design studios, and their achievements. Within social design we find this in Manzini's (2015) use of the term expert design and within speculative design in the use of the notion of design authorship (Dunne 2008). In contrast, within participatory design, the presumed authority of the designer is challenged and the opportunity to engage in designing is by no means limited to «professional» designers.

As another facet of the project of troubling the common subjectivities of designing (the designer and the user), participatory design also troubles the temporalities of design. Scholars such as Pelle Ehn have explored the temporalities of design, suggesting that there are moments such as «design before design,» «design time,» and «design after design» (Ehn 2008). In each such moment, design occurs differently, done by different cohorts. Such thinking implies that designing is not a fixed or linear progression but rather a multifaceted unfolding of potential over time, which likely will happen in fits and spurts of activity far removed from spaces of professional design.

In contemporary practice, participatory design shifts from enabling participation in the workplace to enabling participation in design things (Binder et al. 2011). What we (designers and others) are participating in is not delimited to defined categories of «work» (or «play» or «learning» or «health») but much more generally, and much more problematically, to the very constitution of the places, conditions, affects, and outcomes of contemporary politics as experienced and enacted. In practice what this means is that the sites and activities of participatory design are expanding. So we find examples of participatory design in community maker spaces and libraries, with civil servants, activists, residents, and refugees, in neighborhoods as well as the halls of government, with those involved in informal economies, the so-called creative class, and affective labor.

As articulated by the collective of Binder, de Michelis, Ehn, Jacucci, Linde, and Wagner, the concept of «design things» takes inspiration from the work of Bruno Latour and his engagement with the notion of the Nordic *ting* as a place of gathering to address matters of concern together (Binder et al. 2011). Succinctly put, design things are socio-material constructions that give form to issues and matters of concern. Along the way, as the sites and themes shift, concepts of democracy shift too. The democracy of design things is not the rational debate of Habermas (1991) but rather the agonism of Mouffe (2013) and increasingly of Arendt (2013; Honig 1992). That is to say, democracy is not a structural given, a set of relatively agreed-upon procedures and institutions, but rather democracy is comprised of ongoing acts of contestation.

237

The concept of the «design thing» does another bit of important work – it shifts the focus of design from away from the invention of products, blurs the scope of projects, and instead orients design towards the endeavor of assembling, of bringing and holding together. Within the endeavor of participation in design things the efforts of designers are performed in the affairs of gathering. The term «infrastructuring» is, at times, used to characterize this affair (Ehn 2008; Binder et al. 2011; Le Dantec/DiSalvo 2013). Simply put, infrastructuring is the work of providing resources that enable modes of action.

If for Manzini (2015) the issue is how to conceive of design in a time when everyone designs, for scholars and practitioners of participatory design one pressing issue is how to conceive of participation in a time when everything is participatory. Social media provides an example of this situation. Everything about social media is cast as participatory, and social media exemplifies the confounding of design time and subjectivities as well. Penny Hagen and Toni Robertson make the claim that «Social technologies are, in effect, designed through use. They are containers or scaffolds that rely on participation and user-driven contributions to take their form» (Hagen/Robertson 2012: 78–79). The situation of «everything as participatory» is exacerbated because the notion of «participation» that is put forward and enacted is not necessarily aligned with the values and politics that motivated participatory design in early decades, but instead is more often a cynical strategy for commerce and consumption, a gloss on media, work, and government.

Contemporary participatory design, then, has expanded far beyond the shop floor. Within this expanded field of participatory design are grounds for a speculative social, for explorations of how we might live together differently. One way to understand and appreciate contemporary participatory design is as a practice that conflates design and the social: multiple scholars have suggested that within this new notion of participatory design, the social *is* a subject of design (Halse et al. 2010; Binder et al. 2011; Ehn/Nilsson/Topgaard 2014). Thus, there is a resonance between contemporary participatory design and some aspects of social design, particularly those aspects of social innovation and design for social innovation in which «the social» is taken as the site or subject of inquiry and reinvention. What participatory design brings to this inquiry is attention to a collaborative and collective approach to designing and an opening of design to an expanded field of practice that puts the articulation of issues and controversies at the forefront of design action and purpose, and, along the way, contests and opens the subjectivities and temporalities of design and designing to a pluralistic array of actors and moments.

Carl DiSalvo

And yet...

As exciting as they are, these various formulations of design need to be viewed critically. We cannot fall into the trap of simply equating the social with some notion of goodness and then naively assume that all configurations of the social are just. For instance, researchers of social innovation such as a Frank Moulaert (2015) have called into question whether in some cases social innovation and social design is just a neoliberal form of caring. That is, in the absence of a state that provides comprehensive services, does social innovation and design just become a way to offset or outsource the responsibility of providing for the general welfare? Or, as others have asked, in times of austerity does a focus on social innovation provide a way to avoid discussions of structural inequality? (Grisolia / Ferragina 2015). In such cases, what really is the role of design? Is design just a means of seducing and then appeasing us, not in the more familiar direction towards the banal consumption of products but towards the banal participation in some bereft notion of community?

In 2010 design journalist Bruce Nussbaum provoked a firestorm with the essay «Is Humanitarian Design the New Imperialism?» (2010). Nussbaum's provocative question and critique probed the underlying values, motivations, and implications of social design. His line of questioning was fair and followed, in many ways, lines of questioning initially directed towards international aid and development. Scholars such as Paulo Freire (2000), Ivan Illich (1968), and Gayatri Spivak (1999) have questioned the impulse and actions of development and forms of state-sponsored care work. All too often, this work is hege-monic – it expresses and advances paternalistic and colonialist per-spectives on «others,» even when pursued with the best of intentions. Why is it that designers are descending upon communities (usually as outsiders) to do «the good work» of design? What are the latent assumptions in this work?

As one might imagine, the questioning of social design as imperi-alist sparked a heated response from many in the practicing world of design. But still, the question was never sufficiently answered. It was fought against, in a familiar pattern of denial and counter-accusations of cynicism on the part of those who were asking critical questions.

In the more recent developments of social innovation and design, the work of feminist scholars is coming to the fore as crucial voices calling on designers and design scholars alike to question who is and is not included in these endeavors. If social innovation and design is a collective affair, a practice of commoning, then, Ramia Mazé (2014) asks, who is the «we» in this endeavor? It would seem that such questions are not going to be adequately taken up by practicing

designers or design journalism. Perhaps, then, these are precisely some of the key questions for design studies to be engaging with in understanding this practice of making the social.

Continuing a much-needed inflection of feminist and postcolonialist perspectives, speculative design is also open to significant critique. As Luiza Prado de O. Martins and Pedro Vieira de Oliveira have noted and addressed, too much of what we attend to in speculative design is conditions of privilege: speculative design is too Western, too male, too upper-middle-class, too hetero-normative (Prado de O. Martins / Vieira de Oliveira 2014a, 2014b). This line of critique is not an argument against speculative design in principle, but rather an argument for doing speculative design differently. It is an argument for engaging in practices of conjecture with and through design that are intentionally and explicitly feminist, queer, or non-colonialist (Prado de O. Martins 2014).

Articulating the speculative social

These critiques of design are not reasons to abandon the speculative social. It is from within these critiques that I want to articulate the speculative social – to develop the speculative social as a mode of making that acknowledges the problems and limits of design, and works with those problems and limits to draw together and draw forth ways of designing differently. Certainly, social design has been imperialistic and figures into neoliberal regimes. Without a doubt, speculative design has primarily come from positions of privilege, reproducing Western and heteronormative perspectives. Certainly, participatory design has been used as a gloss, to feign engagement, to «give voice» without letting others actually «have a say.» However, just as certainly, other modes of designing are possible.

This is not without precedent and nor am I alone in making this claim – other scholars are exploring similar framings and reframings across these fields and practices. Stephanie and Bruce Tharp have referred to a reflexive turn in design (Tharp / Tharp 2019). They call attention to how designers working with and through speculation (or more broadly what they call discursive design) are turning towards new subjects and new engagements with contexts and publics that have been overlooked – frankly ignored – by design. In their discussion of this reflexive turn, they state: «If discursive design is fundamentally about communicating ideas and stimulating intellectual awareness, then active strategies of dissemination should be considered as part of the proposition» (Tharp / Tharp 2017). Though they do not make the connection to contemporary participatory design, there is an overlap in terms of both content and method, particularly with regard to

methods of «active strategies of dissemination.» In other contexts, design historian Alison Clarke has drawn out connections between the work of Victor Papanek, Italian Radical Design, and contemporary design (Clarke 2011, 2016). As Clarke notes, many of the concerns and practices of contemporary participatory design can find an antecedent in the work of 1970s collectives such as Global Tools, which sought to question and contest the role of the designer and reinvent what design might be through the provocative objects and events. Furthermore, both Papanek's and Global Tools' engagements with non-Western cultures (as problematic as those engagements were) also find an echo in the reflexive turn in contemporary speculative design (Clarke 2011, 2016).

The fields and discourse of social design, speculative design, and participatory design do not mirror one another or fit together without friction, but they can be read as in some cases overlapping, in other cases leaving a gap that can be creatively occupied. So, although none of these alone suffice for characterizing the speculative social, there is a possibility in their blending – a possibility for developing new ways to appreciate and do design, ways that take seriously the work of asking the question: «How might we live together, differently?» From social design, and more specifically from social design for social innovation, we can take the idea of design as a means of contributing to the structures, desires, actions, and values that comprise the social; not simply as innovation *in* the social realm, but also as an innovation, or transformation, *of* the social itself. From speculative design we can embrace a practice of design that is not bound to technological solutionism, that remains conjectural and pushes back on the common teleological assumptions of design (see Rosner 2018), troubling the function of the design object or representation. From participatory design we can reframe design as an affair of broadening participation in design things, of design as a way to gather together to express and address matters of concern and care, along the way contesting and opening the subjectivities and temporalities of design beyond the trappings of expertise and professionalism, resisting the temptation to make designers authorities of our collective futures, whatever those futures might be.

In the overlap of these fields are themes that characterize more diverse modes of critical practice. One of these themes concerns appreciating design as embedded within a lattice of associations. Ecologies, things, assemblies, these terms taken from other disciplines and brought to design – notably taken from the disciplines of the social sciences – share a perspective that whatever the social is, it is a relational condition, and that design is enmeshed within those conditions. The social is not made out of whole cloth, even in its most speculative

moments. Making the social is a matter of weaving within those associations, of crafting textures in the social. If we want to engage in a practice of the speculative social then we need to better understand the place of design – its activities and outcomes – within the always already existing social that provides the lived context of design.

Another of these themes concerns enabling and participating in collective imagination and possibility. Yes, there is an already existing social. But new patterns can emerge that allow us to glimpse and feel the social differently. The work of design is to contribute to and participate in those practices with others. The ability to make worlds seem real enough such that we might tentatively know them, to consider and engage them as believable potentials, is fundamental to the speculative social. But building from an appreciation of design as an enmeshed practice, it is a capacity that should be practiced as a cooperative inquiry, one in which possibilities are imagined together.

A third theme emerges from the critiques of these fields as they have been practiced. In envisioning a practice of design that imagines and instantiates new associations between humans and between humans and nonhumans – that asks the question «How might we live together, differently?» – we have to envision design differently. Participation, speculation, and the constitution of the social as they are performed by design must also be the subjects and sites of critical inquiry and re-fashioning. If we want to explore what other worlds are possible, then as scholars, critics, and practitioners of design we must also explore what other subjectivities of designing might be desirable. Simply enabling others to participate in design as we know it, as we are familiar with it and as it is comfortable will be insufficient for imagining and instantiating other associations. To ask the question «How might we live together, differently?» we also have to ask «How might we design together, differently?«

Just very briefly, by way of conclusion, let us consider an example that hints at the speculative social and touches on these themes: the «Plastic Imaginaries» project by Åsa Ståhl and Kristina Lindström (see https://hybridmatters.net). The «Plastic Imaginaries« project is comprised of numerous parts – public engagement events, documentation, an exhibition, a speculative fiction, along with presentations and publications of various sorts. One series of public engagements events involved walks to search for plastiglomerate. Plastiglomerate is created when plastic waste fuses with mineral, wood, and other natural stuff to form a «something else» that did not exist before. This hybrid matter is often taken as a marker of our contemporary condition, an expression of the muddle of nature and culture. While most plastiglomerate is the leftovers of shoreline campfires, it could, ostensibly, emerge from other conditions when plastic waste is affected by extreme heat, such

as forest fires or lava flows (Corcoran/Moore/Jazvac 2014). For these Plastiglomerate Walks, Ståhl and Lindström invited others to accompany them as they scoured shorelines for plastiglomerate. On at least one occasion, when plastiglomerate could not be found participants decided to create it themselves, intentionally making plastiglomerate by fusing collected rock and found plastic in a campfire.

These walks should be considered as design things, and through them we can see bits of what I am calling the speculative social. This work emerges from traditions of participatory design, but it also extends and refigures those practices. Through the walks, Ståhl and Lindström enable an experience of collective imagination, as they and participants together look to find this novel, and problematic, material. Plastiglomerate itself instantiates an answer to the question of how we might live together differently: with such hybrid materials. The walks are staged encounters that bring participants in relation to this novel material. The walks provide a happening in which to consider the prospect of life with plastic differently than we have known it and, in the absence of finding the matter, to collaboratively make it in a moment of ad hoc co-design. The social that is made is decidedly more-than-human. We are brought to an entanglement of the artificial with the natural, we are brought to the experience of nature-culture in the Anthropocene, and through that we are asked to consider what life in these new conditions might comprise.

To be clear, Ståhl and Lindström do not use «speculative social» to describe their work – I simply offer this concise interpretation of Plastic Imaginaries as suggestive of the speculative social. And in such work, not only is the social refigured, so is design. Through the Plastiglomerate Walks people come together and collaboratively make, but make with the refuse of earlier designed things which are no longer objects of desire, but detritus and pollution. The position of design in relation to these conditions is thus complicated, certainly not innocent. In addition, the speculative social may also call into question our expectations of design representation and performance. There are images and narratives from the Plastiglomerate Walks, but these alone do not encapsulate the work. The walk itself, as well as how the experiences and meanings of the walks are conveyed through presentations and publications in various formats also comprise the design work, are ways in which the speculative social is expressed.

As we consider what else might be critical practices of design, the notion of the speculative social offers a way to think across existing fields and practices of design. It is not that these practices are staid at all, but rather that these practices develop over time, through their mingling and in dialogue with context and culture. The ideas and authors discussed in this chapter are not the extent of the discourse

surrounding social design, speculative design, or participatory design, they simply provide an admittedly incomplete cut across fields and discourse, from which to begin to articulate some themes of the speculative social. In closing, we might take further inspiration from Ståhl and Lindström to consider the speculative social as not so much a field of design, but as a patchwork (Lindström/Ståhl 2012, 2015), creatively assembled by the overlap and stitching of practices, traditions, breaks from traditions, and hopes for what else design and designing might be.

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Biased design,

or the

misery

of   neutrality

Jesko Fezer

This chapter is based on a paper with the
same title presented at the «Un / certain
Futures» symposium at Braunschweig Uni-
versity of Art; a discussion event held at
Designexport Hamburg as part of the
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Positions» series, organized by the Master's
Program in Public Interest Design at the
University of Wuppertal.

The question of how design can respond to
the prevailing social conditions has long been
a focus of attention.[1] From the beginnings
of the discipline of design to the present day,
this question has been actively examined in
debates and design practice. On the one
hand, the discussion has been characterized
by the goal of social improvement; on the
other, by the attempt to display a certain
neutrality. Designers are expected to create
and implement specific improvements to society without losing track
of the common good or leaving themselves open to the charge of one-
sidedness. This chapter examines the contradictions that result from
these dual desires and demonstrates that social engagement cannot be
politically neutral in a complex social context. Rather, taking sides with
respect to specific causes and the actors representing them is a pre-
condition for negotiating social issues in design.

Political abstinence at the Bauhaus

In 1963, Thomas Maldonado, a faculty member and later dean of the
Ulm School of Design, discussed several recently published Bauhaus
books in an article in the school's journal. Under the not-so-original
title of «Ist das Bauhaus aktuell?» (Is the Bauhaus Relevant Today?)
(Maldonado 1963: 11), he offered a few observations about the impor-
tance of the Bauhaus and defended former Bauhaus director Hannes
Meyer against aggressive attempts by West German Bauhaus historians
to diminish his reputation and contributions. On October 6, 1963, Josef
Albers wrote from Los Angeles, pleased that his own work had been
honored in the article. Roughly one week later, Walter Gropius sent a
letter from Cambridge, claiming, among other things, that Meyer had
not brought social themes to the Bauhaus, contrary to Maldonado's
assumption. Rather, Meyer had jeopardized them «by allowing partisan
politics to divide the school» (Gropius 1964b: 70; 1964a: 63). In re-
sponse to the charge that Meyer had politicized the school, Maldonado
stated that, given the politically charged atmosphere of the 1920s, it
seemed quite impossible to him «to speak of ‹social themes› without
more precisely defining these themes within the framework of a specific
political idea» (Maldonado 1964: 66). In the letter that followed – now
brusquer in tone – Gropius escalated the conflict and criticized Meyer
for the partisan position he had revealed at the Bauhaus. According to
Gropius, this had created such a dramatic situation that after Meyer's
dismissal from Dessau, his successor, Mies van der Rohe, had con-
fronted a situation that «compelled him to reestablish a modicum of

2 Gropius claimed to have put the «social idea» into practice at the Bauhaus (Gropius 1964a: 63).

3 «With his ideology of political materialism, which he hid from us, he destroyed the idea of the Bauhaus» (Gropius 1964b: 69).

discipline with the help of the police» (Gropius 1964b: 70). In 1930, with Germany descending into fascism, this was hardly a glorious chapter in the school's history.

This public reevaluation of the Bauhaus's role in society was apparently fueled by personal disappointments and vanities, not by a desire to question design's social commitment.[2] Gropius did not abandon design's social goals; in his correspondence he regards design as a «new way of life» (Gropius 1964a: 63) and merely depoliticizes it slightly on the linguistic level by characterizing it as a lifestyle. For strategic reasons, though, Gropius demanded political neutrality. He argued against an overly political position, which he denounced as partisan. In his letter, he specifically mentions Meyer's «materialism,»[3] taking aim not only at the Communism with which Meyer and many students sympathized, but also at the Communist Party of Germany (though it must be noted that, at the time, Hannes Meyer was not a party member). The politicization fears expressed in his letter had long gripped the Bauhaus.

As early as 1925, the Berlin-based author Adolf Behne – who chronicled the *Neues Bauen* (New Architecture) movement – had accused Walter Gropius, a former colleague in the left-leaning Arbeitsrat für Kunst (Workers' Council for Art), «of keeping all politics out of the Bauhaus with a fearful vigilance» (Behne 1925: 57). According to Behne, this was pointless and testified to a problematic «bourgeois» understanding of art. «Art is deeply political and collective» (Behne 1925: 58), and no one could be apolitical in a political world. Practicing «political abstinence» (Behne 1925: 57) would reinforce existing power relations and the prevailing order; it was therefore highly political.

The dictate of neutrality from the right

What follows has almost nothing to do with Walter Gropius or the Bauhaus. Through his depoliticization strategy, Gropius hoped to protect the school from conservative and nationalist hostilities. Today, though, it is the right-wing Alternative for Germany (AfD) that is vehemently demanding political neutrality as part of an attack from the right. This populist party, which was originally influenced by economic liberalism, has been represented in the German Bundestag since 2017 and has evolved into what is essentially a radical right-wing movement that has been using the argument of neutrality quite effectively for its political offensives. The party and its affiliates have done so on very different levels. For example, they set up the now-banned denunciatory website Neutrale Schule (Neutral School), which called on students

4	See open letter at change.org (Kuhnert / Ngo 2018). For an article on this subject and the subsequent discussion, see Trüby (2018).

and their parents to report teachers who did not conceal their political opinions or civic engagement (see AfD Kompakt 2018a, 2018b). In addition, throughout the year, the party puts official questions («Kleine Anfragen») to federal and state governments to exert a neutralizing influence on the programs of contemporary theaters and art institutions. According to its statements, the party's official goal is to enforce political neutrality not only at state, municipal, and local institutions, but in all organizations supported in any way by the state, including cultural institutions. The AfD is opposed to the existence or expression of any «party or ideological preferences» at these institutions (see AfD Kompakt 2018c).

This more recent attempt to depoliticize culture and education is absurd, and the standard counterargument – the freedom of art and scholarship – is valid and important. However, references to art are themselves a form of self-depoliticization, because the freedom of art suggests that we have no reason to get excited at all – it is, after all, «just» art, not politics.

Yet cultural institutions, schools, and government authorities are also political places. This is shown by the concerns of the AfD, which is clearly opposed to a liberal and inclusive principle of neutrality and is using the topic in an entirely biased way from a right-wing perspective. The so-called New Right is systematically working to shift ideas about normality and neutrality in our society. A recalibrated «center» is the unarticulated yet key goal of its neutrality demands.

The discourse is also shifting in the discipline of design. This is shown by the reconstruction debate surrounding the neo-historical center of Frankfurt, which was completed in 2018.[4] Plans to rebuild the Old Town were initiated by groups that advanced radical right-wing and ethno-nationalist arguments. Local right-wing populist forces have also supported the current project to rebuild the Garrison Church in Potsdam (Oswalt 2017), a dubious symbol of Germany's militaristic and Nazi past. Right-wing and conservative actors are using facade design and urban planning as tools to promote their own form of identity politics.[5] In the process, nationalist historical revisionism and far-right ethno-nationalist conceptions of space have merged with middle-class desires for an idyllic, orderly world.[6] The impact of such demands for alleged neutrality are also shown by an incident at the Bauhaus School in Dessau in 2018. Pressure from the right prompted the Bauhaus to cancel a punk concert it had agreed to host as part of a series of concerts televised by one of Germany's public broadcasters (Weißmüller 2018). Without being asked to do so, the Bauhaus Dessau Foundation portrayed its own institution as an apolitical place (Knipphals 2018), forgetful of its own history. It later attempted to

5   As Stephan Trüby (2018) writes: «Recon-
    structed architecture in Germany is currently
    developing into a key medium for an author-
    itarian, ethno-nationalist, and historically
    revisionist right.»

6   See Arch+ 235 on «Rechte Räume»
    (Ngo 2019).

7   This was the reason that the Bauhaus was
    permanently attacked and condemned
    as Communist by the right during the short
    period of its existence.

justify the cancelation in entirely neutral terms as a precautionary measure taken to protect a landmark site (Perren 2018).

Neutral design

What can be done to counter this attempt to establish and shift what is neutral and normal in design? Are these not qualities that are more or less regarded as a basic requirement of good design? When architecture, planning, and design emerged as disciplines that shaped the cultural, technical, and social modernization processes of the early 20th century, the idea caught on that architects and designers could be neutral technicians. Their work and products were expected to be based on objective argument, economically and socially feasible, geared towards the prevailing conception of the common good, solution-driven, and technically optimized. This conceptual model of design, which continues to be influential today, emerged within the context of a social policy and a culture whose left-wing focus contributed to the internationalist and socialist character of the modernity that was represented at the Bauhaus and in other modernist circles and institutions in Europe.[7] This model was used by the designers who, while keeping a certain distance to the world, cast a scientifically structured and objective glance at it. Adopting this position and the related methods, they aimed to intervene creatively in the world for the benefit of the general public and the average person. They had universalist claims and worked in accordance with the current state of technology, rules of art, and existing ideas about the sociopolitical order. This trend towards «scientification» and «rationalization» can be seen as the main characteristic of modern social practice (cf. Reckwitz 2013: 31; Reinecke/Mergel 2012; Brückweh et al. 2012). The idea of «control through calculation,» which Max Weber in 1917 described as a sign of «the disenchantment of the world» (Kaesler 2002: 488), shaped the secular developmental dynamics of the scientification process that in the early 20th century brought people within «reach and the discursive context of science» (Raphael 1996: 193). In modern design, the goal was now to harness the idea of scientific neutrality and the ideal of absolute objectivity it promoted. In other words, it was to adopt a standpoint that was neutral not only in social, political, and ethical terms, but also with regard to gender, class, and origin; a standpoint that was explained and legitimized supra-individually and was founded on quasi-scientific and mathematical-logical knowledge. The success achieved by this rational approach in the fields of research, warfare, planning,

administration, industry, management, and government generated an excitement that spread to design. Scientificity and universality together formed an emancipatory concept that in the ideal case enabled a design for everyone, regardless of their social status, class, origin, or gender.

In this context, the key assessment criterion and thus the focus of the design debate was mainly technical feasibility. This idea is closely linked to the development of the specialized role of the expert. In the 1960s, the Swiss economist, urban researcher, and planning theorist Lucius Burckhardt took a closer look at decision-making processes in postwar planning and characterized planners as closely associated with the field of politics (Burckhardt [1967] 2004: 33).

In decision-making processes, they were assigned an important role outsourced from the political sphere and addressed as experts. According to Burckhardt, these planners were commissioned to «solve» social problems. On the one hand, the problem-solving method they used as designers reflected the modernist technical conception of architecture prevalent in the period; on the other hand, it accommodated the interests of political leaders and administrators who in their daily work required simple topics and divisible, implementable projects. The social «decision-making crisis» (Burckhardt [1961] 2004: 132) required design experts who, based on the conception of modern aesthetics popular in the period, sought to arrive at a design through a precise and objective fulfillment of their tasks. According to Burckhardt, examples of such rational «solutions» from the delegation of specialists include a nursing home, a special needs school, a home for former prisoners, an opera, a cafeteria, and wider streets (Burckhardt [1967] 2004: 32–33). The moral, ethical, social, and political questions inherent in these examples were increasingly delegated from the sociopolitical sphere to experts. Value judgments were supplanted by aesthetic and technical planning expertise. This resulted in modern design's ambivalent connection to the world: its clear sociopolitical concerns and moral ideals of an improved world could only be articulated and argued as a technical aesthetic practice. The consequences of this misunderstanding of the designer's range of possibilities as a technical problem-solver have been just as dramatic as the consequences of the designer's unacknowledged paternalistic view of others, who are treated benevolently but ultimately in a detached or patronizing manner.

A false dichotomy

The criticism of expertise and claims to objectivity in design is not anything new. It shaped the 20th century the same way as it influenced the spread of the major trend to scientification and rationalization during this period (Reckwitz 2013: 31; Reinecke / Mergel 2012).

253

8   In 1965, Jürgen Habermas demanded the disclosure of cognitive interests in «Technik und Wissenschaft als ‹Ideologie›.» See Habermas ([1965] 1970: 150–152).

However, it also led to the construction of what is possibly a false dichotomy, which continues to leave its mark on the discussion today. Again and again, the subjective, the intuitive, the emotional, and the artistic were seen in opposition to the objective, the rational, the universal, and the factual. As early as 1914, in the so-called Werkbund dispute between Henry van der Velde and Hermann Muthesius, a hostile divide opened between artistic freedom, on the one hand, and rational, industry-oriented design, on the other. The economically based development of standardized industrial products stood in opposition to the idea of artistic individuality, which defied standardization. This misunderstanding was propelled to the present by the conflict over scientifically based design versus artistic intuition that preceded Max Bill's 1957 departure from the Ulm School of Design, which he had co-founded. At the time, the design lecturers at the Ulm School of Design saw their means of creative expression restricted by the academic lecturers they themselves had appointed.

They soon managed to resist the further scientification of their discipline. However, even today, this superficial dialectic has continued to conceal what these two attitudes to design have in common – namely, a distance to reality, a detachment from social circumstances, and a lack of interest in others, the very people affected by design. The transformation of the world, whether artistically effusive or engineered and rational, always legitimizes itself through such social links and intervenes in the lifeworld. By relating to the lifeworld as an audience, as consumers, or as users, design always keeps its distance from it.

However, if that which is objective is equated with that which is scientific, universally valid, and neutral because of its truth, then the proper counterpart is that which is social, societal, and interest-driven – or, rather, as I prefer to see things, that which is biased. Biasedness is based on values and interests. It champions specific causes within the conflict with other lifestyles and ideas about society (see Jaeggi 2013). It focuses on the interests related to them instead of on a generalizing objectivity or an individualizing intuition.[8] Such radically biased design practices are rare. The Proletarian Building Exhibition held in Berlin in 1931 (see Hiller et al. 2005) and the advocacy planning project (Fezer 2013) pursued in the United States in the late 1960s exemplify conflict-based, interest-oriented design ideals. They developed a political understanding of design, which was seen as representing concrete causes as opposed to abstract ideals. Or, to return to Maldonado, they showed that it still is impossible to discuss «social themes withoutmore precisely defining these themes within the framework of a specific political idea» (Maldonado 1964: 66).

254

In the contemporary design discourse, the basic premise about modern design that Gropius claims to have implemented at the Bauhaus and, through depoliticization, aimed to rescue from its enemies, appears to have won the day: the belief in design's social dimension. What is remarkable about the current understanding of design as a tool for social change is above all its indisputability. What is justifiably uncontested in this context is the idea that design can change the world – that it inevitably has consequences. This aptly describes not only the potential, but also the problem of design. And although the world has been thoroughly defaced by the flood of badly designed products, systems, and lifestyles – and is being further ruined on a daily basis (see Davis 2009) – design has yet to be banned. On the contrary, we are hearing calls to «combat» design with more design, applied in even higher doses. This is the perspective adopted by so-called transformation design when it confronts us with the supposed choice between «design or disaster» (Sommer / Welzer 2014: 27ff.). This trend towards the expanded use of design, expressed in the stretching of the term's boundaries (see Latour 2010) and in a number of transgressive, transdisciplinary fantasies (including self-design, see Brock 1977: 446–449; Groys 2008: 7–24) is shaping our age. Creative action and aesthetic experience are no longer the exception, but the norm – indeed, they are a requirement for social participation. The creative imperative, spearheaded by design as one of its leading disciplines, is even transforming aesthetic experience – the innovation-linked sensory affect – into the motor of capitalist value creation (see Reckwitz 2013; Böhme 2016). The promise of social and economic value-added no longer comes from products or services, but from the design of the sensory dimension. Design is entering our social world as a demand raised everywhere, primarily as a result of the pressure to engage in self-design as a practical form of self-optimization (or, better yet, self-exploitation).

This modification, transformation, and recreation of the self, its material environment, and perhaps the entire social order is the drama of design. And it essentially makes design political. After all, this transformative perspective means that politics is possible and even necessary. The intentional transformation of the state of the world cannot be described as anything but political. It implies that we have ideas about the future that are worth striving for and thus about the direction that meaningful change should take. Every idea about what needs to be changed, regardless of the magnitude of this change, is tied to a conception of individual and social life. The entire framework of subjective and collective values, mastered social practices, social agreements, institutions, and hierarchies determines the imaginable and

desirable future (the «solution») and thus also the recognizable flaws and projections of the present (the «problems»). Here we must assume that present and future ideas about good and evil are extremely different. The values that form the basis for assessing conditions, as well as the procedures and possible social costs of every redesign, are highly controversial. According to Rahel Jaeggi, the lifestyles they touch on cannot be regarded as a neutral set of differentiated social practices, but represent problem-solving approaches on the social level (see Jaeggi 2013). Thus, in the course of transformation processes, especially those that are initiated deliberately, we engage with heterogeneous objectives. This process of negotiation is largely shaped by the struggle over hegemony and is therefore inevitably political.

We could also derive the necessity of the political nature of design from its problem-solving dilemma. This was the route taken by the design methodologist Horst Rittel in the 1970s when suggesting that we acknowledge the «wickedness» (Rittel/Webber 1973: 155–169) of design problems. With this term, Rittel emphasized how unlikely it is to find usable solutions to the complex problems of reality. The reason is that the entanglements of society – the moment they are named and particularly when they are evaluated and tackled – lead to the fundamental impossibility of a solution. Rittel recognized that the creative treatment of problems – i.e. design – could not be implemented without politics in the sense of socially deposited and negotiated value decisions. However, he could not really bring himself to call things by their name. It is both understandable and significant that as a mathematician and physicist who sought to understand the designers' «mode of thinking» (Rittel 2012), Rittel felt that the social sphere seeping into design was «wicked» in the sense of unpleasantly different and highly complex. Although Rittel was uncomfortable with this political dimension of design, he aimed to grapple with it on the argumentative level. But it is of course exactly the opposite: the reasons for design, its legitimacy and necessity, stem from its situatedness in society, which sets the stage for the political perspective of change and for action through design.

Separating «the political» from politics

Until recently, though, it was rather unusual and quite unpopular for designers to be – or want to be – political, or for them to establish a closer link between politics and design. This also seems to have changed. At any rate, theoretical observations, academic standards, and professional statements have taken on a political character. This new popularity has less to do with the obvious historical revelation about the inevitability of politics and more with an important theoretical

distinction between «politics» and the «political» (Marchart 2010). This distinction has been extremely helpful in reimagining the political, recognizing it in different spheres of society, and overcoming the tendency to reduce the political to something shunted off to separate institutions, where it is processed and administered by special groups of people on behalf of others.

«Politics» refers primarily to the institutional organization of society. It is a rather narrowly defined term that describes a functional social system that is connected to the institutions of power, enforcement, regulation, control, and surveillance, as well as to politically active groups such as politicians, their parties, and their constituencies. It is bound up with the state and constitutes a specific social sphere. It is mainly involved in the creation of a normative order and sets or deconstructs moral standards. By contrast, the concept of «the political,» as it has been used in recent years by theorists such as Claude Lefort, Jacques Rancière, Ernesto Laclau, and Chantal Mouffe, is not identical with that of politics. It preceded this concept and is aimed not at defining an administrative space for politics but at opening up a potentiality space for the political. It focuses on the social practices in which sociality is negotiated, on the debate concerning how we wish to live, who belongs to this «we,» what life means, and what paths can lead us to our goals. Chantal Mouffe proceeds on the assumption that the political, as a process of upheaval and change, interrupts the social and at the same time keeps it in motion, structuring and holding it together (Nonhoff 2010: 41). The political draws its dynamism and institutionalizing force from social dissent, which can be characterized as an agonism – a form of opposition that recognizes the legitimacy of opponents and fights for irreconcilable hegemonic projects and their implementation. The framework of Mouffe's reflections is the project of a radical democracy. She appeals to us to «give up the dream of a reconciled world that overcomes power, sovereignty, and hegemony» (Mouffe 2007: 170) – and to recognize and strengthen debate as a legitimate practice of the political. She analyzes how contemporary Western political models negate the possibility of conflict and opposition by working towards a morally constructed consensus. In doing so, these models ignore the existence of social power structures and contradictions and in this way close off the field of the political. The main obstacle to conflict- and dissent-based democratic politics lies in the neoliberal view that there is no alternative to the existing economic order (Mouffe 2007: 44). The construction and assertion of material constraints and the delegation of disputed questions to expert commissions are two additional forms of post-political politics that do not facilitate a debate on the direction of possible change, but constrict or even put an end to this debate.

257

Down with parties!

It was this distinction between politics and the political that made it possible to develop a more compatible political concept that has little to do with the narrow understanding of politics conveyed on the evening news. Much of the appeal of the political lies in the fact that it refers to much more than just day-to-day politics, government agencies, parliaments, procedures, parties, and voters.However, things become problematic when the social positions represented in politics are no longer included. And although Mouffe sees the political as being rooted in conflict and contradiction, it is precisely these aspects of politics that are perceived as off-putting: the dogged struggles over the power to shape society. In this context, the sociologist Ulrich Bröckling distinguishes between «politics as a power struggle that is despised, and politics as a ‹transcendental concern for the whole› that is sanctified» (Bröckling/Feustel 2010: 16). The rise of the political in discourse has resulted in an aesthetically exciting concept that has been cleansed of the dirty day-to-day dealings of politics and is characterized by a growing distance to conflictual fields, problematic situations, and political actors. A principle of the political has emerged that is theoretically productive and broadly compatible, but has been stripped of its virulence and become harmless. Abstraction was probably necessary for the concept to gain appeal in the academic world, despite existing reservations. A mode of thinking and speaking about the political now seems possible which is in fact completely apolitical in the sense of defining a social position.

If we now return to Mouffe and others' argument that conflict is the driving force behind what is (democratically) political, we confront the question of what actors and topics are involved in these conflicts. In other words, what stances, distinctions, starting points, and negotiated subjects characterize them? The necessary endlessness of democratic political debate, as well as its constitutive force – i.e. the conflicts that create social cohesion (Marchart/Lefort 2010: 25) – raises the question of what political subjects are permissible and what the legitimate subjects of political decision-making processes are. How are these differences organized and represented in conflicts? This question is by no means trivial. With some justification, the historical answer has been interest groups and biased organizations such as trade unions, cooperatives, lobby groups, societies, associations, institutions, and, in particular, political parties.

It is from this perspective that I would like to emphasize biasedness as a possibility and necessity for the political and advocate «biased design» (see Fig. 14.1). Biased design does not mean the design of an arena for potential debate or the creation of the mediating

structures and participatory processes of exchange, compromise, and agreement. It does not view design as a sphere of action for aloof or empathetic observers or for courageous or sensitive interventionists. Nor does it regard design as an overarching approach to the social dance of differences. Biased design situates design directly in conflicts, in the topics and things negotiated by these conflicts, and amidst the participants and their attitudes. In other words, if design is political, there must be right-wing and left-wing design, just as there is conservative and progressive, social and neoliberal politics. Democratic politics cannot exist without social positions and the debates about them. Nor can design.

The problems of others

However, if we focus on the situatedness of design in society, we must mention a familiar, unresolvable conflict: the designers' self-referential interest in the problems of others. As the bearer of universalist and progressive ideals in the modern era, design was always a benevolently paternalistic practice linked to others and their perceived problems. These others and their problems were expertly identified. With the help of modern tools such as statistics, hygienics, ergonomics, and market research, they were described and evaluated. The value system that formed the backdrop to these problems and the strategies used to solve them was the «normalcy» of white, middle-class, male society. This is clearly shown by the debates on solving the housing problem in the late 19th century (see Engels 1872: 51–53), the early modern critique of ornament (Loos [1908] 1962), and, later, the Werkbund's «good form» initiative (Bill 1957: 138–140). The self-conception of designers, architects, and planners promoted a view of others as the recipients of their good deeds. However, because these others, whether male or female, were hard to understand, this fundamental external reference of design necessarily remained self-referential. To compensate, the lack of understanding was interpreted as neutrality, and the distance to others was presented as objectivity. Even committed contemporary approaches to design are plagued by this dilemma, because the focus is always on others. «Social design» is concerned primarily with those who are helped, who are supposed to benefit from design, or who need to be motivated (Feige 2019).

In critical and speculative design (Malpass 2017; Prado de O. Martins/Vieira de Oliveira 2014), by contrast, there is a stronger interest in the like-minded individuals who observe scenarios or products at exhibitions or in media publications, who have experience in the process and are given (critical) insights. The current imperative of self-design only seemingly resolves this contradiction, much like the previous

popularization of DIY. Both shift the principle of acting for others to the actors themselves, who now confront themselves in a benevolent, paternalistic fashion. Other approaches pursue a strategy of restraint, develop open systems, or aim at participation and co-design; each does so with the specific difficulties involved in avoiding hierarchies with others or at least in mitigating their impact. All of these practices form a referential framework for the more recent discussions on political design, to which this text belongs. They establish different relationships between design and the political. The 2012 book *Adversarial Design* by design researcher Carl DiSalvo presents an interesting working thesis that, like the argument made here, is based on an agonistic model of the political. DiSalvo first distinguishes between «design for politics» and «political design» (DiSalvo 2012: 8): the former is seen as supporting political institutions and processes and is described as affirmative; the latter is linked to conflict, dissent, and contradiction – i.e. to all that is «adversarial.» Using the example of robotics, computer-aided information visualization, and household-related information technologies, DiSalvo describes the possibility of politicizing issues and problems, articulating the hegemonies inscribed in these questions, and imagining and experiencing conflicts through the application of challenging counter-positions (DiSalvo 2012: 54). However, at the end of the book, the line of argumentation that earlier distanced itself from «design for politics«; that reduced such politics to elections to the US government; that was developed with reference to exciting, radical, yet harmless technical devices and experiences of dissonance – this line of argumentation comes into conflict with Chantal Mouffe's agonism model, which is only plausible within the context of a radical conception of democracy. The argument is weakened by DiSalvo's insistence on transferring socially antagonistic negotiation processes directly to design – «Design can do the work of agonism» (DiSalvo 2012: 115) – without addressing their social position. In addition, DiSalvo's text sets adversarial design in opposition to a distorted image of a romantically radical design. It rejects left-and right-wing distinctions, as well as pro and con comparisons, in favor of dynamic structures: «Adversarial Design is a theme and set of tactics, and it is inherently pluralistic and can be applied across the political spectrum and issues» (DiSalvo 2012: 121). DiSalvo correctly recognizes the possibility of different political attitudes in the production of dissent, but his trite rejection of traditional political positions and his emphasis on the pluralistic character of design results in a certain realpolitik arbitrariness. Not only does this program contradict Mouffe's critique of neoliberal attempts to relativize and contain political positional struggles, but it can also be understood as an explicit warning against biased design. Despite theoretical foundations that are similar to biased design, adversarial design appears to be a version of

critical design, which is known for its rhetorical appeal to an interested audience. Or it seems bent on providing a framework or creating the scope for participatory involvement. Put pointedly, its goal is to stage productive dissent with inspiration from and under friendly observation by design. In the meantime, DiSalvo has condemned critical design's focus on products and other sensory formats as agents of political conflict. He has called for a pragmatic activist approach with a real-world link (DiSalvo 2018).

A different, bolder approach involves taking sides – beingbiased. For a soccer referee, biasedness is certainly not a good trait. For a reporter, it can be considered rude. For a coach, though, it is essential; and for fans, it is what adds spice to the game. For a lawyer, it is a professional obligation; for the defendant's relatives, it is only natural. For witnesses, it is not advisable; for a judge, it is grounds for a mis-trial. Thus, it is a question of role assignments in society. Does design want to preserve and observe a given framework? Does it want to assume that others are active players in the game or even committing crimes – in other words, negotiating the conditions of hegemony?

How does it work?

What practical action could be taken? The most obvious answer involves biasedness with respect to our own political position. This does not necessarily mean limiting ourselves to problems and actors in our own environment. Rather, as the starting point of a biased approach, we could examine the social questions that concern us personally, that we have an affinity for, that we subjectively regard as the most urgent. The first step involves getting a better idea of whose side we are on. As the dominant narrative in the history of Western design suggests, designers usually have a left-wing identity with roots in classical liberalism, or, to be more accurate, a humanist worldview. However, now and in the past, conservative positions have also been represented in design, as have libertarian stances and even right-wing nationalist worldviews. All of these are the legitimate points of departure for biased action. Often there is a clear contradiction between an individual's worldview and professional behavior. In many cases, the difficulties designers have in reconciling their professional and personal perspectives can cause a great deal of suffering. It is impossible to completely eliminate this burden, which has to do with lifestyle, professional identity, and the basic schizophrenia of the working world. It can thus make sense to recognize a clear boundary between work and life, because the growing confusion between friendship and working relationships, between competition and dependency, can conceal existing biases and make unresolvable social conflicts into individually burdensome

ones. This is also true of the confusing state of affairs in which leisure time is lent a work-related purpose and work is assigned a pleasurable character. Nevertheless, these entanglements can help us gain awareness of the existing biases of our own actions (for example, with respect to clients from the private sector, universities providing work, municipal or state institutions sending queries, and specific determinative sociocultural milieus). Additionally, they can prompt us to think about consciously choosing a bias. Yet how can we move beyond this self-survey about individual and professional social positions? The answer lies not in a denial of this dimension, but in an openness to other possibilities and in a non-identity-based form of engagement. The abovementioned lawyer, coach, consultant, and collaborator exemplify tried-and-true models. This does not mean that we should take the supposed problems of others, perceived as relevant, as the starting point for professional problem-solving approaches. Rather, it means making ourselves into the passionate partners of others. Here «others» are not defined in terms of difference and separateness, but rather as a multiple non-self. Nevertheless, traditional others do exist in design, the so-called clients, customers, and the people commissioning the work. For each of these groups, designers have developed various modes of communication and behavior. In relation to these others, designers take part in a delimiting, referential role-playing game that defines the horizon of requirements for design as a rehearsed culture of others. Focusing on others and considering those who are not usually the commissioners of a design (while possibly maintaining the same professional distance and empathy) could result in a shift in working relationships and subsequently lead to an alternative approach and an alternative design practice. But it means taking sides.

Biasedness sounds extremely one-sided and can in fact be unjust because it distorts competition and does not constitute an objective, neutral position. In design practice, though, it is (1) always the case (although often unacknowledged) and (2) necessary. It is necessary for what Mouffe describes as the democratic conflict. Now that the political nature of design has finally been acknowledged, design should take part in these conflicts by becoming biased. After all, just as design is inconceivable without the goal of transformation, and transformation is inconceivable beyond the political, so too is politics impossible without bias. The goal of biased design can no longer be limited to emonstrating a humanist worldview, projecting a designer's own ideas about a good life onto others, or honestly seeking ways to improve society. This harmonious picture must be replaced by one that is marked by unresolvable conflict. Together with the actors and issues involved in these conflicts, we could then enter the political dimension of the debate that is devoted to ideas and practices of coexistence as lived forms of conflict.

Jesko Fezer

Fig. 14.1 A few design approaches.
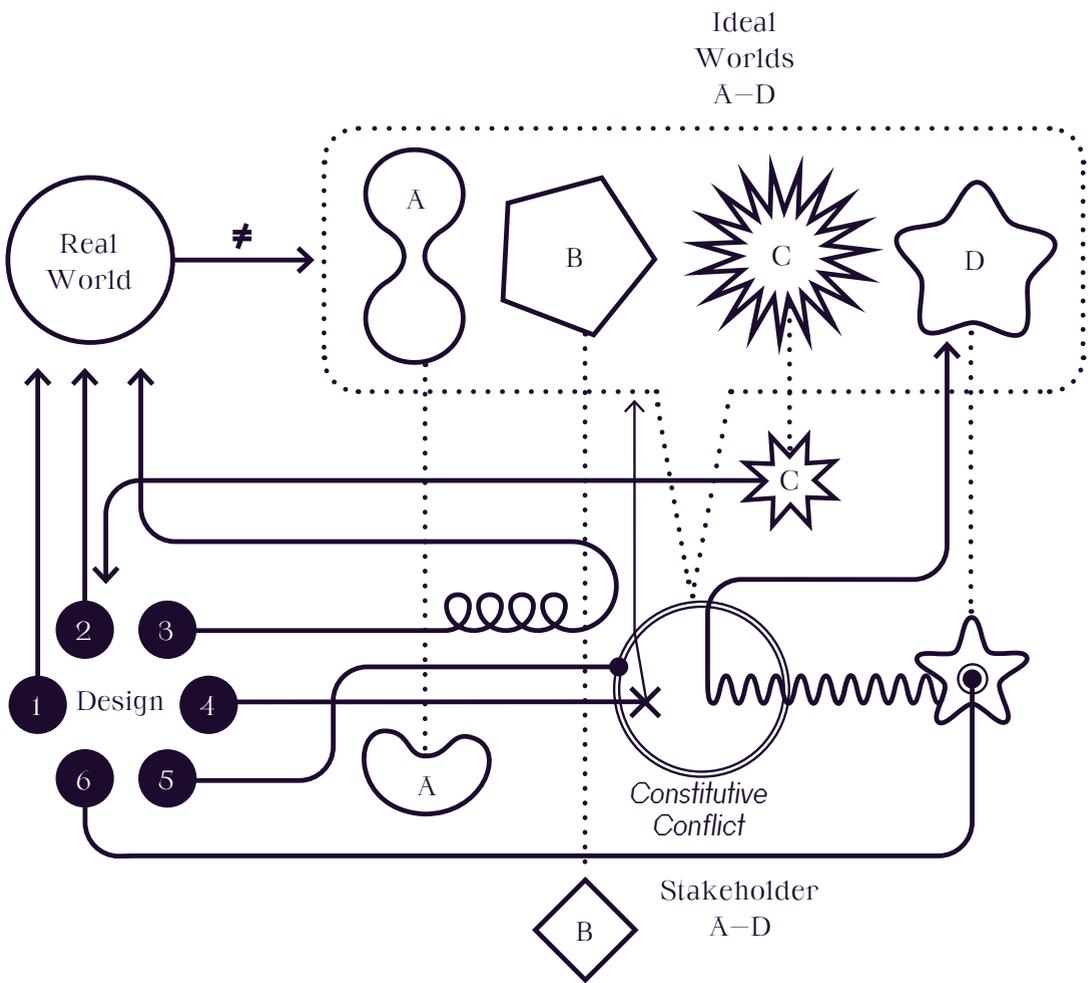
Design 1 Heroic design with a capital D, also called author design, knows what it wants to do.

Design 2 Affirmative wish fulfilment, or customer-friendly design, is content to be told what to do.

Design 3 Design seeks to understand reality through systematic market research, intuitive and sensitive observation, and research-based knowledge.

Design 4 Critical design, also called adversarial design, poses critical questions, encourages reflection, and disorients.

Design 5 A framework for negotiating conflicts is created by approaches such as participatory design and moderating forms of social design.

Design 6 Biased design (see text).

Different social actors (Stakeholders A–D) represent different views of the direction in which the social circumstances of the present (Real World) should develop (Ideal Worlds A–D). There are connections between the social positioning of the different groups of actors (which

can overlap and contain each other) and their objectives for social change (which can be similar on certain levels or completely contradictory). Classical patriarchal design approach (Design 1) processes the real world in a way that enables transformation according to its own vision, without regard to any social groups and their agendas. Serviceable design (Design 2) works, often implicitly, on behalf of hegemonic social groups and makes their particular interest the basis for design intervention. This interest is thereby equated with a common good and eventually naturalized. Through empathy, research and analysis, investigative design (Design 3) strives to gain an understanding of existing needs and to integrate them into design considerations. Without getting too close to stakeholder groups, the goal is to capture a general empirical picture of needs and objectives. Instead of aiming at an ameliorative transformation of the real world, as Design 1–3 did, the critical-activist design approach (Design 4) aims directly at the social actors, whom it stimulates to critical reflection and action in relation to their values and ideals (Ideal World A–D). Similarly, participatory design (Design 5) operates in this social conflict situation as well, but strives to support negotiation processes about the goals and means of changing the world. Social actors are to be included through certain frameworks of consensus and compromise building. While Design 4 seeks to stimulate the dispute (*Constitutive Conflict*) and Design 5 seeks to frame it, Design 6 instead tries to work in it. The model of biased design (Design 6) presented in the text openly gets behind an interest group or certain actors and, through design, supports them in the socio-political debate and the implementation of their causes and concerns.

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Undesign and understanding

Björn Franke

Introduction

At a recent corporate presentation, Volvo introduced an app that allows the customers to share the «car keys» with a swipe on their mobile phones as their latest innovation in vehicle design.[1] This may be seen as an ingenious innovation to solve some pressing problems of their customers, or as an unnecessary gadget. While it may solve some problems, the question is whether these are the most pressing problems of vehicle design and would thus qualify as an innovation in this area.

John Thackera describes his response to the focus on gadgety technical innovation in vehicle design as diminished amazement, which is not necessarily a matter of technical functionality but of an appropriate technological response to the problems of vehicle design (Thackara 2006: 187). Do these technical features really solve the problem at hand? Are the features built into these vehicles – including their development and the network of things supporting them – appropriate for improving the problem of mobility and transportation? Are cars even a solution to the problem of transportation and mobility or are they actually counterproductive objects? Do not vehicles themselves create problems of available space in cities? Do cars create more possibilities for human experience or do they limit possible experiences? How should designers respond to the challenge of improving a design object?

In this chapter, the concept of «undesign» is used to investigate some of the ideologies of design that may be limiting to design – for example, viewing design as a problem-solving activity or the tendency to see issues in the world as design problems that can be solved by adding design.

Professional deformation

Like any body of knowledge, design is prone to see the world in terms of problems that can be solved or approached with the mechanisms of that very discipline. For economists, problems are economic problems; for lawmakers, problems are legal problems; and for designers, problems are design problems. In this respect, bodies of knowledge often have a biased or conditioned view of the world. This view may be unavoidable and is a consequence of professional deformation (*Déformation professionnelle*) through education and is thus built into the foundation of the respective body of knowledge (see Merton 1968: 252). On the one hand, this deformation or conditioning may be a good process as the respective approaches are studied in great depth; on the other hand, this may be problematic when these views become

ideologies and one is unable to have alternative perspectives on the world.

Additional to the deformed view of the world, the accessible technology may add to the narrowing of the perspective, as it influences how an issue surfaces as a problem and determines what options are available for responding to that problem. In other words, problems often show up in terms of the available tools.

This principle is also known as the «law of the instrument» articulated by Abraham Kaplan. It describes a cognitive bias that leads to an overreliance on a specific tool or technology. This diminishes creativity in solving problems by relying on the approaches, methods, tools and technologies that one is already familiar with. Kaplan argues that «we tend to formulate our problems in such a way as to make it seem that the solutions to those problems demand precisely what we already happen to have at hand» (Kaplan 1964: 303). Abraham Maslow furthermore observes that it may be «tempting, if the only tool you have is a hammer, to treat everything as if it were a nail» (Maslow 1966: 15). For Maslow, this, too, has implications for how problems show up for someone. A problem-centred approach lets one figure out what the problem actually is and how best to approach it. A method-centred approach leads one to stick to the techniques that one knows and is able to use well. Silvan Tomkins additionally observes the primacy of tools and methods in thinking, as there is a

> tendency of jobs to be adapted to tools, rather than adapting tools to jobs. If one has a hammer one tends to look for nails, and if one has a computer with a storage capacity, but no feelings, one is more likely to concern oneself with remembering and with problem solving than with loving and hating. (Tomkins 1995: 445)

One tends to approach problems through the currently available technology or, worse, to create problems to which the currently available technology is a good solution.

Designers look at the world from the perspective of design. For design, issues in the world are understood as design problems that can be solved with design; and design is often understood in a very narrow way as imposing order (Papanek 2006: 4). Donald Norman, for example, highlights the urge of designers to simplify seemingly messy forms of interaction. In air traffic control, for instance, the communication channel between the tower and the approaching airplanes is open to all the approaching airplanes. This creates a lot of chatter in the communication that may seem irrelevant to the individual approaching pilot. A designer may thus conclude that it would be better to restrict the communication of a pilot with the tower to the exchange of information that is relevant for the individual airplane only. This would make the

communication more organized, but would reduce safety as it would limit the situational awareness of the pilots, which requires them to listen in on all the other conversations. This is also the reason why the control rooms of industrial plants are large and often equipped with toggle or push-button switches. This creates a situational awareness of what other people are doing. If someone switches a switch this can be observed by others spatially, which again adds to the overall safety of the system. They can also see the switch being switched. Designers, however, may perceive this situation as problematic and attempt to organize the control rooms better by making the controls smaller, adding soft buttons or limiting the focus of each operator only to the tasks that they are concerned with (Norman 1994: 139–146).

There are dangers in simplifying, reducing and ordering if one approaches the situation with a biased view and does not understand the requirements of the situations and the implications of the design decisions fully. In some cases, it would be better to leave the things as they are, or to employ an older technology that may actually produce better and more robust results. Technology should be used according to what is appropriate to a situation, in terms of both resources and social conventions, rather than in terms of what is possible.[2]

This may be difficult as one of the defining features of design seems to be that it produces change and new things. But can the outcome of a design process also be the decision not to change anything or not to produce something new where this may seem appropriate? Can the decision «not to design» be seen as a design decision and thus non-design as design?

Within the context of designing human–computer interactions, Eric Baumer and Six Silberman argue that a design process may lead to the conclusion that the implication may be not to design anything; and that the implication not to design should be valued in design. Aiming to develop a more reflective awareness for specific design situations and to allow one to see that design decisions may be inappropriate or even harmful, they encourage designers to ask three questions when designing. First, «could the technology be replaced by an equally viable low-tech or non-technological approach to the situation?» (Baumer / Silbermann 2011: 2271). Many problems to which computational technology may seem to be a solution have been addressed before with a different technology. While a mobile phone may be used for quickly writing up grocery lists, pencil and paper are just as effective in most instances. So the question is, which system is more appropriate to the

271

problem. Second, «does a technological intervention result in more trouble or harm than the situation it's meant to address?» (Baumer / Silbermann 2011: 2272). While designers see opportunities to deploy computational solutions everywhere, the question is whether these may turn out to be counterproductive to the problems that they aim to address. Using mobile phone applications, for example, to promote more ecologically sustainable behaviour may be questionable, since the production, use and disposal of these devices themselves is ecologically problematic. Third, «does a technology solve a computationally tractable transformation of a problem rather than the problem itself?» (Baumer / Silbermann 2011: 2272). The project One Laptop Per Child, for example, has reduced education to a problem that can be addressed through the accessibility of computers. While computers may be helpful for education, education is not equivalent to using computers and is thus not a problem that can be solved with computers. The results of studies investigating the project thus showed that the areas of educational improvement were «cognitive skills and competences related to computer use» (Cristia et al. 2012: 20; cf. Ames 2019). For Baumer and Silberman, part of design is thus also to articulate the value of absence and not to design.

More often than not, design is concerned with adding features to things rather than simplifying things, as in the case of air traffic communication or control room design. Adding safety features, for example, is often regarded as appropriate to make an overall system safer – and, of course, this is often the case. However, adding more features does not automatically increase the safety of the entire system.

A case where increased safety features actually turned out to be a disaster is Germanwings flight 9525. In 2015 the airplane on that flight crashed into a mountain. First it was unclear what had happened but it slowly became clear that the co-pilot has steered the plane deliberately into the mountain. After the captain left the cockpit to visit the toilet, the co-pilot locked the reinforced safety door, a safety feature that was installed in all commercial airplanes after 2001 to prevent hijacking. Although the captain had a code for opening the door from the outside, the code panel could be disabled from inside the cockpit for at least five minutes, leaving no option for opening the door in time and preventing the crash from happening (Henley 2015; Hammer 2016). Installed as a safety feature, the door became a trap for the captain, the cabin crew and the passengers. Was the cause of the accident too much design, too little design or inappropriate design?

One may consider several causes for the crash: *Human error*, such as the captain trusting the co-pilot and leaving him alone in the cockpit or not checking the psychological ability of the co-pilot. *The environment*, such as people needing airplanes for transport.

Undesign and understanding

The design of the system, such as reinforced doors that can be locked and prevent authorized people from re-entering the cockpit. *The procedures used,* such as weak psychological screening of pilots or no requirement for two people in the cockpit at all times (see Perrow 1999: 7). Of course there is no single cause for the crash, but it nevertheless shows how added safety features can become a threat. What other options are available for preventing the hijacking of airplanes apart from doors? Airplanes flown entirely by auto-pilots? Pilots carrying weapons? Passengers having military training? Armed law enforcement officers escorting the flight? Stronger background screening of all passengers? No added features? What would be an appropriate design approach to the problem? What exactly is the problem and is this a design problem or rather a social problem?

For designers, the imperative is often to find an issue in the world, turn it into a design problem and provide a design solution. The concept of undesign may provide a conceptual framework to overcome the professional deformation of seeing issues in the world as design problems.

Limited and extended possibilities

Any new design object opens up new possibilities and experiences and at the same time limits the possible experiences to those made possible by the design object. Through the design of a particular artefact a limited set of possibilities of doing things is fixed while other possibilities of doing things are somewhat undesigned through the design of that very solution. In some way, design objects both open new possibilities and at the same time limit possibilities of doing things differently. Design not only produces new possibilities, it also creates new conformities. Undesigning can thus be understood as opening up possibilities.

This, for example, becomes visible in the demise of public transport in the United States. Until the 1950s many cities had public transport systems in the form of streetcars, which were increasingly replaced by individual modes of transport in the form of cars. The demise and eventual elimination of this mode of transport was a combination of unprofitable businesses, interests of car manufacturers as owners of many streetcar companies and change in transport demands. Some lines were replaced by buses; the majority, however, were replaced by individual auto-mobility. Of course, cars made new ways of doing things possible, such as suburban living or strip-mall shopping. At the same time, the primacy of cars made other things increasingly difficult or even impossible, such as using public transport, not owning a car, using a bicycle or walking. The proliferation of cars often leads to the demise of the infrastructure for public transport. Particularly in the case of street cars, it is furthermore difficult to reinstate this system of

273

transport once the infrastructure is gone, as the required space for tracks and the rail network may have been repurposed for the use of car lanes or parking lots. Once the infrastructural system is eliminated, the supporting infrastructure is eliminated as well. While the use of cars is possible (supposing that the economic conditions make this option possible), the use of public transport is often not an available option and thus impossible (Greene 2004; Norton 2008).

The phenomenon of extending and limiting options has been described by Ivan Illich as radical monopoly, which, for him, is the dominance of one product far beyond what is usually understood as monopoly. For Illich, cars can create a radical monopoly for traffic, as «they can shape a city into their image – practically ruling out locomotion on foot or by bicycle» (Illich 1975: 66). In other words, «radical monopoly imposes compulsory consumption and thereby restricts personal autonomy. It constitutes a special kind of social control because it is enforced by means of the imposed consumption of a standard product that only large institutions can provide» (Illich 1975: 67). For Illich, radical monopoly is not only a matter of lack of alternatives, it is also a matter of how the products and tools we use may limit or even subvert the range of possibilities to engage with the world by being over-efficient. For him, over-efficient tools can also create radical monopoly as they «can upset the relationship between what people need to do by themselves and what they need to obtain ready-made» (Illich 1975: 65).

Once a system reaches a radical monopoly, such as the car for transport, it may be difficult to break that monopoly by only providing alternatives. The transport system «car» consists not only of the individual vehicles but also of the infrastructure supporting the car and the living arrangements made possible by the car (McLuhan 2001: 8–9). Since these infrastructures and arrangements are in place and cannot easily be abandoned, the discussion about ecologically better forms of transport is often reduced to the improvement of cars in terms of their ecological footprint rather than in terms of radical alternatives to problems of transport and mobility.

As Tony Fry argues, it may not be enough to replace existing objects with more ecologically friendly objects but to eliminate the unsustainable altogether (Fry 2005: 145–147). While he is a bit vague on what this would actually imply and despite the fact that elimination may have a totalitarian connotation in terms of possible degrees of freedom, the idea of elimination and thus intended impossibilization is quite interesting in this context. If one way of doing something becomes impossible (perhaps a resource or procedure), different ways of doing things will have to be employed or invented. This may be actively designed, not for the sake of making the world less comfortable, but as an incentive for coming up with new ways of doing things.

274

Perhaps it may already be helpful to actually see ways in which the design of one thing impossibilizes the existence of other things. This may be what the Situationists had in mind when they sprayed the slogan «Under the Pavement Lies the Beach» («*Sous les pavés, la plage*») on the walls in Paris in 1968, indicating that a different reality is possible (Wark 2011). Of course, there is no actual beach under the pavement, but the slogan nevertheless asks one to consider the possibility of a beach instead of the street and thus invites one to reflect on how this would change the constitution of city life. While streets render one condition of life possible, beaches would render a different one possible and both render each other as impossible. Pavement is often seen as the natural environment of a city and opening the pavement (even if only conceptually) opens up new possibilities for living in cities. Of course, one can also take the slogan as an inspiration for actually opening up and removing pavement, and replacing it with community gardens, as the organization Depave promotes (see Thackara 2015: 54–55; Litman 2011: 38–46).

A danger of functional and efficient approaches to design may also be that it often produces sterile environments that limit the amount of possible experiences, a phenomenon that Matthew Crawford calls «the flattening.» He distinguishes between an open environment where the world and its problems and demands are apparent, and a designed environment that aims to remove the world and its problems and demands. He elaborates this based on a personal experience of visiting a gym that played predetermined and commonly appealing music. He did not like the music and asked the desk clerk whether he could play some different music. This was not possible as the clerk was not at liberty to do so. This experience contrasted sharply with the experience he had in his youth with gyms. There, the dominant group was playing their preferred music on a stereo. If one wanted to change the music, one would have to engage with that group and, if one was convincing, they would do so. The predetermined playlist eliminates this possibility as well as engagement, argumentation and negotiation. This total and predetermined environment eliminates individual freedom and possibilities of expression (Crawford 2015: 181–183).

This is similar to what Illich describes as industrial tools as opposed to convivial tools – using the term «tool» very broadly. Whereas industrial tools «allow their designers to determine the meaning and expectations of others,» convivial tools «give each person who uses them the greatest opportunity to enrich the environment with the fruits of his or her vision» (Illich 1975: 34). For Illich, most tools are not convivial as they work with the user rather than for them. Such tools would be least controlled by others and allow the highest degree of autonomy. As such, they would have to be relatively small in scale as «the growth of

tools beyond a certain point increases regimentation, dependence, exploitation, and impotence» (Illich 1975: 34).

Undesigning along these lines may be conceived as opening up new possibilities and deconstructing the objects that hinder these alternative possibilities. It would necessitate a state in which no order is imposed to allow these new possibilities to emerge. It is thus also a critique of designing tools, technologies and environments that aim to guide human behaviour.

A critique of design

Undesigning can also be considered as a critique of design – as a critique of the solution to problems produced by professional designers. These are often narrow in scope and solutions to the problems of design rather than real-world issues.

Victor Papanek, for example, criticizes not only a particular field of design but «Design» altogether, as it seems to be interested in preserving a system of thought rather than addressing real issues. Designers are interested in producing objects for a type of society that they deem desirable. They thus design within the realm of what is needed, desired and possible for them rather than for others.

Papanek illustrates this vividly with an anecdote of a presentation of his Tin Can Radio at the Hochschule für Gestaltung Ulm, the former high castle of modernist design, in 1967. Upon presenting his radio, which was built using locally and readily available materials, the audience expressed their concerns about the inferior aesthetic appearance of the object. This was not according to their design standards although it worked and was possible to be built within a local community without the need for designers (at least in the sense of the audience). Their suggestion on how to improve the radio was to paint it grey (Papanek 2006: 227).

This highlights the dichotomy between the problems of designers and the problems of the users in the real world. In this sense, Papanek tried to undesign the professional and institutionalized form of design, which claims to have a more enlightened view on how to solve problems. Their design decisions are often not necessarily based on what people actually do and want, but rather on what they themselves want and thus prescribe what is good design and a good society.

Undesign may furthermore contradict the desire to make an ideal (or idealized) product as it highlights the limitation of knowing others. Martin Brigham and Lucas Introna have articulated this problem based on Emmanuel Levinas' perspective on the relationship between the Self and the Other. They highlight both the difference between «need» and «desire» and the difference between «saying» and «the said»

within Levinas' ethical philosophy. For Levinas, need focuses on the Self and the fulfilment of egocentric wants. Need is instrumental and aims to produce control, categories and order. Desire, on the other hand, is about the Other, whose interests, needs and desires the Self can never fully know. Levinas contrasts this with the difference between «saying» and «the said.» Whereas «saying» refers to the active communication between the Self and the Other, «the said» refers to the remains of a communication that has been ordered and categorized by the Self. «The said» puts a primacy on the language and content of the speaker's communication and how reality is represented to the Self through categorization and labelling. «Saying» is fluid, active and open and exposes the Self to the Other in the conversation. For Brigham and Introna, similar to the way «unsaying the said» would open a communicative process between the Self and the Other and reveal what is hidden in «the said,» «undesigning the design» would open the design process and reveal what is made invisible by design (Brigham / Introna 2007: 1–10; cf. van der Velden 2010: 117–123). Designing could thus be understood as an open communication process, in which there is no need to impose order in the form of design objects as solutions to problems. When designers (Selves) interpret the desire of users (Others) as need, they limit the scope of articulating desire as any design object is just one possible form of articulating that desire. The focus on designing rather than design objects would emphasize articulating possibilities instead of implementing order. If designers would focus more on saying/designing rather than on what has been said / designed, they may also focus more on changing themselves in this process before they attempt to change the world. Here, undesigning could be regarded as a form of design articulation.

The prescriptive views of designers are, however, very noticeable, for example, in advertisements for the design of domestic or office interior where people are conspicuously absent. A recent advertisement by a Swiss kitchen and bath manufacturer, for example, shows their quite conventional cubic products in people-free and standard domestic arrangements but placed in odd environments, such as the surface of the moon or on a meadow with a cow drinking from the bathtub (see Figs. 15.1–2). The images furthermore suggest that the walls of the houses in which these objects would be placed are still missing. Though these images aim to humorously advertise the products, they also highlight the focus of the designers on the form of these objects rather than their real-world use or their potential dialogue with the environment. After all, how would these objects change if the designers had taken the environmental conditions seriously? What would a bathroom on the moon look like and what kind of interesting experiences could it provide? How would the bathing experience change if the bathtub was
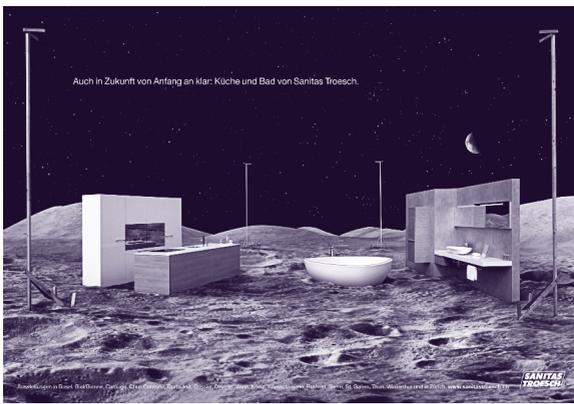
Fig. 15.1 Sanitas Troesch, Moon, 2014.
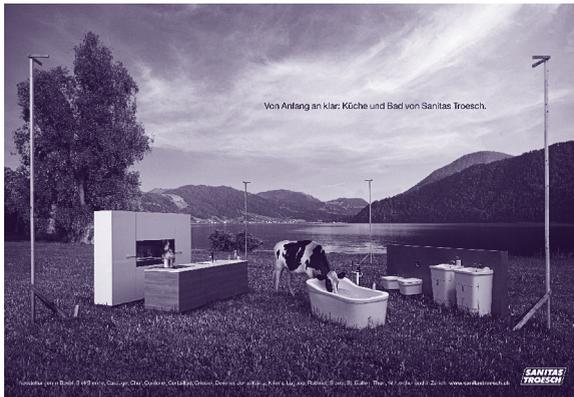Advertisement by Ruf Lanz.

Fig. 15.2 Sanitas Troesch, Lake and Cow, 2014.
Advertisement by Ruf Lanz.

literally standing on the meadow and cows were taking a drink while someone was bathing?

Furthermore, the question is whether these objects actually fulfil the desire of their users or if those adapt to the logic of these objects. Are designers designing bathrooms for bathing or kitchens for cooking that actually create desirable experiences or are they repeating conventions (see Aicher 1982)? The relationship between actual activities and the thoughts that designers have about these activities has also been explored and articulated by Leonard Koren. He investigates the idea of undesigning the bath both argumentatively and through photographic exploration that searches for less conventional and more interesting bathing experiences. These experiences do not necessarily require a designed environment of predetermined functionality, but can incorporate communal, natural, uncontrolled and perhaps even wild elements into the bathing experience, thus making it more spiritually rewarding (Koren 1996: 10–13).

The difference between the needs imagined by designers and real human needs has also been described by Tony Dunne and Fiona Raby through their conceptions of «critical design» and «design noir.» For them, «beneath the glossy surface of official design lurks a dark and strange world driven by real human needs» (Dunne/Raby 2001: 6). This world, however, can never be fully addressed by design, but design can take inspiration from this world of unofficial design and develop new approaches that may address more complex human needs and desires. For them, design objects could create existential moments and thus «would not help people to adapt to existing social, cultural or political values. Instead, the product would force a decision onto the user, revealing how limited choices are usually hard-wired into products for us» (Dunne/Raby 2001: 46). In some sense, these objects would

reveal the limitations of human experience and make them visible and thus undesign design.

A critique of design is often criticizing the conceptual limitations of design understood as problem solving. It thus shows that a less imposing approach to design could lead to a greater variety of experiences through objects that are open and grounded in the messy reality of human life.

Design as inquiry

Undesign as a concept may also be useful to disengage design from the production of useful objects and to understand design as a form of inquiry. Design objects can thus be understood not as solutions to problems but as media for articulating issues in the world. The aim of design as inquiry is thus not to change the world but to understand it (cf. Marx 2000). Since the aim is not to solve problems but to problematize the world, design may even be understood as a form of philosophical inquiry (Franke 2016).

A project that exemplifies such an approach is *The Toaster Project* by Thomas Thwaites (see Figs. 15.3–4). In some sense, following the philosophical experiment by David Henry Thoreau, who wanted to live on what he could make himself with his own hands, Thwaites attempted to build an equivalent to an industrially produced toaster from scratch over the course of nine months. Conventionally, one would buy a toaster, walk home and make toast without giving it much thought. What may seem to be an impossible and perhaps even silly task – as it seems to be clear from the outset that this is impossible to do – is actually a pungent philosophical investigation into the condition of contemporary industrial society.

Fig. 15.3 Thomas Thwaites, The Toaster Project, 2009. Photo by Daniel Alexander.

Fig. 15.4 Thomas Thwaites, The Toaster Project, 2009. Photo by Nick Ballon.

Thwaites starts the project with opening a cheap industrially produced toaster. He then analyses the components and working principles and sets out to acquire the raw materials, of which the components are made, by himself. Afterwards,
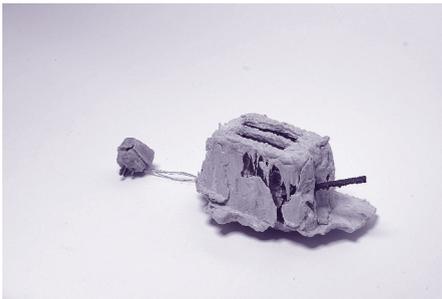
he tries to transform these raw materials into the components for a toaster. Ultimately, he fails in building a working toaster, but this was also not the primary aim of the project (Thwaites 2011). Rather, the project aimed to uncover the various layers of knowledge that the manufacturing process of industrial goods involve. These industrial objects are essentially black boxes and when they are opened a whole network of people, services, skills, materials, connections, forms of knowledge and problems emerge that constitute a toaster (see Latour 1999: 183–185).

The first-hand experience of failing to build a quite simple industrial object furthermore shows the limitations of individual knowledge and understanding as well as the impossibility of building almost anything by oneself. Thwaites undesigns the design and reveals the infrastructural and economic conditions of the production of industrial goods and asks what the «real» costs of a toaster are.

Another project that highlights the dialogical condition of design in understanding the Other is *paraSITE* by Michael Rakowitz (see Fig. 15.5). In this project he takes an investigative approach to the living conditions of homeless people through the medium of design. In individual conversations with homeless people in Boston, Cambridge and New York City, Rakowitz discusses their requirements for shelter, which he then builds as inflatable structures from cheap and readily available material such as plastic bags and tape. These shelters are portable and can be attached like parasites to the warm air outlets of the heating, ventilation and air-conditioning system of buildings. The air then both inflates and heats the structure.

Fig. 15.5 Michael Rakowitz, paraSITE, shelter for Joe H., 1998.

The project does not aim to provide a solution – in the form of a design object or product – to the living situations of homeless people. Rather, the design objects serve as media for discussion and investigation. Each shelter is custom-made and the design process for each shelter begins with a conversation between Rakowitz and the occupant. Rakowitz develops the individual shelter together with the individual homeless person in order to understand their individual desires and needs.

Some requirements were unexpected and included, for example, making the shelter somewhat transparent so that the occupant could see potential attackers. Another requirement was to add a tube that could be run down a gutter so that the occupant could pee without leaving the shelter – thereby essentially adding a bathroom to the unit. Often the requirements also touched on laws affecting the homeless.

In New York City, for example, one occupant wanted the shelter to respond to a local anti-tent law, which states that any structure of 3.5 feet or taller that is set up on city property has to be considered as an illegal encampment. The requirement thus became to construct a shelter below the maximum height, which resulted in a sleeping-bag-like structure. Whenever the occupant was questioned by the police the occupant argued that the shelter was not a tent and had the police measure the height (Rakowitz 2003).

Through dialogue with the occupants Rakowitz investigates their lifeworlds, and by involving them in the design process the design objects emerge from the requirements of those worlds rather than imposing solutions according to abstract design principles. The project provides shelter to individual homeless people, makes their world visible and reveals wasted resources, such as hot air or the influence of building laws on the possible shape of these structures.

A further project that radically questions the validity of generally accepted approaches to design is *A Measurable Factor Sets the Conditions of its Operation* by Marloes ten Bhömer. The project aims to challenge the typologies of fashion-oriented approaches to the design of high-heeled shoes by employing an engineering approach to the problem of supporting the high-heeled foot while in motion. Conventional approaches to the problem often produce impractical results, clichés and restrictive roles to which the women wearing the shoes have to conform (Bhömer 2019: 5).

Fig 15.6 Marloes ten Bhömer, Bluepanelshoe, 2015.

Fig 15.7 Marloes ten Bhömer, Material Compulsion, 2013.

Starting with studying the anatomy and biomechanical factor of the foot and ankle led ten Bhömer to realize that the high-heeled shoe would require a radical new design approach in order to be able to serve as a working support structure. From the analysis, she deducted a set of parameters that she could then address as a structural engineering problem. This resulted in a variety of different hypotheses, design proposals and prototypes for high-heeled shoes with a more appropriate supporting structure for walking, such as the *Bluepanelshoe* (see Fig. 15.6).

Ten Bhömer furthermore analysed the role high-heeled shoes play as objects in society and particularly as plot devices in movies. In collaboration with Noam Toran she produced *Women in Various States*, a collection of cinematic moments in which women's mobility is undermined by their wearing

high-heeled shoes. The collection shows scenes of women slipping, tripping, sinking or tumbling on ground like sand, grass or mud. This analysis led ten Bhömer to recreate some of these scenes in *Material Compulsion* (see Fig. 15.7), a slow-motion film in which she uses high-heeled shoes to walk through substrates like oil films, baked beans or a rubber block. The question then becomes: how would a shoe need to be constructed to allow a better support in these situations?

The project shows novel design opportunities that are often difficult to see by taking a radically different approach to design questions. Here it seems that ten Bhömer had to undesign the high-heeled shoe in order to see this different approach. The resulting shoes thus question the conventional design of these shoes and the seemingly fixed societal roles that these objects attribute to their wearers.

All three projects highlight how design can be understood as a form of inquiry that investigates issues rather than solves problems. These forms of inquiry undesign design, as they open the black boxes of industrial production, aim to understand the Other or question the form, function and logic of design objects. They produce a cultural understanding in the form of design objects which allow the audience to gain a new perspective on these issues.

Conclusion

This chapter has used the concept «undesign» in order to explore issues such as the professional deformation and biased views of designers, the intentional or unintentional limitation or expansion of experiences through design objects, the critique of professional design, and the use of design objects as media for inquiry that can facilitate different forms of understanding.

The aim was to articulate the problems of understanding design as problem solving and of design as solving problems by adding solutions to the world in the form of design objects. The concept of «undesign» may allow one to conceive design differently. It may open up avenues for design as a form of articulation and critique, design as a way to remove rather than add objects to the world, design as not designing where it may seem inappropriate, or design as leaving things unfinished.

Design objects are thereby conceived as media – or as a means rather than ends – that are used as a vehicle to engage with issues in the world through designing. The aim is furthermore not necessarily to provide solutions or to give answers, but to show new perspectives on the world through design objects whereby design may be understood as a form of philosophical inquiry.

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283

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World   World

Post-Disciplinarity   Critical

by   by   Post-Self   ?

Post-Capital

Understanding   Speculative Design   ?   Politics   by

by

by   Understanding

?   World   ?

Post-Self   ?

?   ?

Epilogue

Post-Self   by   ?

Post-Disciplinarity

Critical Practice   by   Critical Design   ?

?   Care   Politics   ?

?   by   Speculative Design   ?

Human   by   Understanding   ?   Speculative

World   World   by

Post-Self   World   by

World   ?

Ontological   Critical   by   ?

Speculative   World   ?

Design   by   ?   Social

by   ?   Critical   ?

by   ?   by

Post-Disciplinarity   ?   Critical Design

World   Ontological

Understanding   Life and Death   by

World

World   Speculative Design   ?

by

?   Understanding

by   ?   World   Social   ?

Post-Truth   by

by   ?   Social

Critical   Critical   by

World   by   Social   ?

by   by   ?

by   World

Design Culture   ?   Social   by

Critical   by   Building

Understanding   ?   Post-Self   by

World   Post-Self   by   Care

by   ?

Speculative   Critical   Understanding

Human   Social   Epistemic   by   ?

Critical   by   by   World   ?

Speculative   Critical

Critical   ?   Critical   by   World
                          World   World   ?
Design Culture   by   Critical Practice   ?
                                                                by   Critical   ?
                          Post-Self   ?   Critical   Social
Post-Disciplinarity   Care   ?
                          Critical   World   Speculative Design   ?
Human   by   Ontological

                    by   Critical Design   by
                    by   Social   ?   by   ?
                                              Design Culture   Politics   ?
                          Critical   Social   Post-Capital
Understanding
                          World   Critical Design   ?
                    by   ?   Speculative
                    by   by
World   Post-Self   ?   Understanding
                    by   Understanding   by
Understanding   Post-Self   Speculative
                          Understanding ?   Post-Truth
                                              Understanding   ?
                                              Social   Post-Truth
Care   ?   Post-Self   by
Ontological   Critical
                    by   Critical   ?
Understanding   by   ?   Critical Design
                                              World   Speculative
                          Critical   ?   ?
                          Social   World   ?
                                                                   by
                          Understanding   Care   by
                                              World   ?
Critical   World   ?
                                        ?
World   ?   Critical   ?

                    by   Human   Critical Practice
                          Critical   by
Critical   by   World   by
Life and Death   Speculative Design Politics   ?
                    by   Understanding   Care   ?
Social   Critical   ?   Post-Self   ?

Social   Post-Self   World
Critical
                    by   Social   ?
                    by   ?   Understanding   by
                          Social

The life and death of critical and speculative design:

post-disciplinarity, post-truth, post-self and post-capital

Matt Ward

Preamble

‹I feel like giving you a hug.› (Jamie Allen,
Critical by Design? conference, May 2018)

This chapter began life as a keynote at the Critical by Design? confer-
ence in Basel, Switzerland. Given the task to translate my lecture into
written form, I find myself caught in a conundrum; how do I resist
the critical distancing of academic language, method and style when
writing for an academic publication? The motivation behind my
lecture came from a frustration with a form of language that doesn't
fully translate or transfer into the intuitive, emotional or «affective
realm» of design practice and pedagogy. My aim was to speak in a
different way, to try to articulate a different account of critical design.
I hoped to introduce a «radical historical specificity» mixed with
a form of situated knowledge in order to «to learn with our bodies»
(Haraway 1988: 582).

The lecture pushed me emotionally and intellectually. It was, to
some extent, cathartic and it seemed to resonate with attendees of
the conference. After the talk, over coffee, sandwiches and later wine,
I had many conversations about the emotional impacts of research,
teaching and practice in the age of neoliberal education. Some of my
peers connected with the vulnerability on display,[1] which induced
a form of «solidarity» in how we manage, resist and survive the isolat-
ing forces of academic life in the 21st century.

But now, typing at my keyboard, I get pulled back into the lan-
guage and form I wished to resist. How do I convey the intuitive
moments that drive the maintenance and care needed to sustain a
positive, creative learning environment? How do I articulate a new
type of rigour within the frameworks of academic convention? Within
Sociology, the work of Carolyn Ellis was particularly inspiring. In
Evocative Ethnography: Writing Emotionally about Our Lives, Ellis looks
to reframe the rational voice of the academic, utilizing the personal
as a resource to investigate broader sociological conditions. Ellis'
chapter uses multiple voices – both real and fictional – to create a
dialogue with the sociological imagination. What captivated me about
Ellis' account was how she repositioned notions of «truth» by moving
from «representation to evocation» (Ellis 1997: 127). In Ellis' attempt
to counter the «rational actor model of social performance that domi-
nates social science» (Ellis 1997: 127) she reveals the affective realm
of social discourse. As a designer, this resonates with the ways in
which designers often navigate complex social dynamics through more
intuitive, instinctual practices, for example in their examination and
account of «users». By adopting Ellis' approach and ethos, I wish to

289

give an account of the evocative experience of living whilst teaching, of *being in the world* whilst trying to design it.

Annemarie Mol's seminal book, *The Body Multiple: Oncology in Medical Practice*, is an ethnography of the «day to day diagnosis and treatment of atherosclerosis» (Mol 2002). The mode of Mol's writing allows the reader to move between different «diseases», bringing a nuanced reading of the different social contexts in which the disease is given different meanings. This resistance to making singular truth claims, allowing the multiple to exist, is something I hope to achieve in this chapter. In my case, I want to recount moments within my life that shifted my understanding of design, critique and education, whilst also building a network of references that resonate with my aim: to make the personal, affective experience of teaching, loss and design multiple through the development of different theoretical and material trajectories.

The pedagogic cultures that produce new realities for design are often represented through the singular; design gods and canonical objects that travel most smoothly through our intellectual, institutional and media landscapes. The following text aims to disrupt the smoothness of the singular in favour of the multiple, messing up the narratives of design education to uncover some of the personal complexities in how we struggle to build educational culture and «communities of practice» (Lave/Wenger 1991); drawing together of voices of «limited location» (Haraway 1988: 583).

Introduction

This chapter is a reflection on my practice as an educator, as well as a deeply personal articulation of four events that changed my life. This personal approach, an autotheoretical impulse, aims to distance me from current critiques of critical and speculative design, whilst exploring the personal impacts of death, disease and dementia on my understanding of design education. Through a subjective account of an educator's «trials and tribulations», I hope to reveal some of the hidden narratives that surround both critical and experimental design practices, whilst exposing the vulnerabilities involved in maintaining a culture of learning. Looking «under the bonnet» of an education, where knowledge is produced in dialogue with students and discourse evolves through pedagogic, material experimentation, I hope to uncover the ways in which new knowledge leaks into mainstream perceptions of design, influencing and creating new possibilities.

The four events, the deaths of my friend Nic Hughes, my father Tony Ward, my student Tom Wagstaff and my colleague Mark Fisher, have acted as ruptures in time, moments that altered my understanding

of the world. Evolving a position through moments of trauma allowed me to nurture a form of thinking that was close, raw, embodied and emotional. It pushed me to question how critique (and some critical design) often disguises epistemic rationality, hiding the politics and vulnerabilities of the self. In an age of post-truth, climate crisis and political chaos, clarity and transparency about the privilege and vulnerabilities of the academic is essential to counter the dark forces that are acting as barriers to global justice.

Each section of the chapter pivots around a certain *post*. As with death, the *post* demarcates a move away; the articulation of a different reality emerging from a tradition or body of thinking and making. The first section focuses on the idea of *post-disciplinarity*, where I unravel how design, as a field, is conceptualized through the intersection of teaching histories (pedagogic cultures), material practices (cultural and knowledge production) and epistemic categories (disciplinary specialisms). In doing this I hope to point towards an expanded notion of disciplinarity. The second section, *post-truth*, examines how fiction operates as a method to understand the world, simultaneously reflecting current positions and producing new realities. Through a case study, I expose different ways that *fiction becomes reality* and how designers employ narrative methods to understand, transform and reimagine the world. The third section, *post-self*, looks at how we move away from normative hero narratives within the discipline, to find new ways to educate, structure and mediate a new role for the designer. The final section, *post-capital*, is informed by the work of Mark Fisher and looks at how Mark's work has influenced and produced new ways to think about design beyond capitalism.

Post-disciplinarity (NIC HUGHES 1968–2012)

I met Nic Hughes in 2005 when he joined the MA Design: Critical Practice at Goldsmiths. He arrived with years of experience as a graphic designer and his level of craftsmanship was incredible. He had that rare skill of being able to combine text and image in a way that just worked, a visual refinement that comes from years of practice. However, he was frustrated with his practice and with the lack of criticality in Graphic Design. He was steeped in the Swiss modernist tradition of visual communication but Nic was truly post-modern: he had mastered the rules, and then he set about breaking and rewriting them in the age of acid house and dance culture of the 1990s.

Most design education in the early 1990s was still based on the «Bauhaus ... model that advanced an apolitical universal aesthetic» (Boelen et al. 2018: 43). Undergraduate programmes focused on «core material skills» and «basic principles» that have not changed for

291

100 years. These modernist dogmas continue to restrict the evolution of the discipline. As the context, condition and understanding of the «materials» of design have changed, it has become widely acknowledged that the key task for design education is to reassess and redesign «the basics». In order to do this, we must ask: how do we define the basics in today's complex world, when the material, political and economic role of design has changed so dramatically?

Using the 2018 Istanbul Design Biennale «School of Schools» as a platform to discuss the future of design education, Jan Boelen categorized emerging pedagogic practices into three distinct areas: critical, speculative and relational. Boelen's articulation of design builds on an educational history (a renegade history) that has been evolving over the last 20 years, in places like Design Academy Eindhoven, the Royal College of Art, Goldsmiths, Parsons and Hyperwerk in Basel. A marginal approach to design education aimed to focus on the social, cultural, economic and environmental impacts of capitalism, highlighting the responsibility, role and agency of the designer.

Through the reconceptualization of the role of the designer, the old material specialisms appear incongruent to the changing pressures and possibilities for design practice. At the heart of this incongruence is the tension between what design *does* (the impacts it has on our material consumption and the chains of consequences it has on our ecology, politics, identity and economy) and *how* it does it (the materials, methods and tools employed to embody, produce and distribute change). Expanding our understanding of the «material» of design, to engage a broader, more complex and nuanced concept of «matter», is at the heart of what, in other fields, has been described as New Materialism (Coole/Frost 2010; Dolphijn/van der Tuin 2012) or the Material Turn (Hicks 2010).

This material turn played out in its own way in the early days of the BA Design at Goldsmiths. Initially, my colleagues and I struggled to question our own preconceptions of what constituted *material* and *matter*. We pushed our understanding of design beyond (or outside) the traditions, in what we described as «fucking the canon». By drawing influence from a more diverse range of visual and theoretical cultures, we invested our approach with a conceptual rigour, distancing ourselves from design's obsession with «things on plinths» or shiny objects of desire. We saw this as an expansion of the tools open to us as designers; stepping into a vulnerable space of the non-expert, making *us* the imposters.

When Nic arrived in 2005 we had moved into a different period of development – our early rejection of *material over concept* had evolved into a more sophisticated understanding of practice. It was Nic's continual dedication to his specialism, or more precisely his

material practice, that brings him into this chapter. His approach was not to reject material practices or the histories of a specialism, but to expand the notion of materiality. He was so convinced that graphic design could command the same *agency as things* that he even put some typography under an electron microscope (Fig. 16.1) to prove to me that letters are things too (Fig. 16.2). His approach was not to call into question the validity of the material practices, but to revitalize them through a renewed attention to how they connect and conjoin semiotic chains of meaning. How they move from the computer, through the press, into the hands, minds and desires of people; how they travel, transforming the bodies they connect. This is graphic design as «vital materialism», a rethinking of «thing power» (Bennett 2010: xvii).

Fig. 16.1 Type under an electron microscope. Nic Hughes, 2011.

Fig 16.2 Letters Are Things. Nic Hughes, 2011.

Nic died in October 2012 of cancer of the gall bladder. To his last day, he approached his life with the same sensitivity and care as when he was discussing design and education. In our last conversation, the boundaries between bodies («me» and «we»), between life and death, between human and non-human fell away:

We all have a contract with finitude and share the same destiny. There are so many diversions and schemas that navigate this fact. Hard as it seems, we have to acknowledge that each of us at the table will eventually be part of the meal. We will eventually become echoes in the «field-of-beings». It is the paradox of the «me» and the «we», the journey made alone and together. (Hughes 2012)

Nic's ability to see forces as things, to see the invisible as matter, to see hope as material is what persists in my memory. He saw the critical possibility of design as part of a material-semiotic struggle to bring about change during perilous times. As Nic said at the time, «the world is fucked, we're not going to kern our way out of this one» (Fig. 16.3), but he understood that liberation from late capitalism had to begin with a form of radical subjectivity. Marcuse described this as the «great refusal», where art was the

Mark Fisher, in his last piece of writing, builds from Marcuse, moving beyond the «neutral-ising» and «absorbing» forces of capitalism to find a plasticity in the possible, to evolve an «unprecedented aestheticisation of every-day life» (Fisher / Ambrose 2018).

Fig 16.3 «We're not going to kern our way out of this one!» Nic Hughes, 2010.

«rational negation» (Marcuse [1964] 1991: 63) of the order of things.[2] With this, design needs to move away from understanding material as «mere matter» towards «an excess, force, vitality, relationality, or difference that renders matter active, self-creative, productive, unpredictable» (Coole / Frost 2010: 9) and subjectivities that are «constituted as open series of capacities or potencies that emerge hazardously and ambiguously within a multitude of organic and social processes» (Coole / Frost 2010: 10).

Post-truth (TONY WARD 1937–2013)

The death of my father marked a moment where I began to question the idea of a subjective reality and the role of fiction in understanding and navigating a cruel world. During the last 15 months of his life, he made me reflect on how design and designers interpret, read, script and perform the possibility space of their «users»: constructing and fictionalizing desire and behaviour. The construction, whether fictional or not, of «the other», the mythical user, means that we constantly seek and invent empirical methods to grasp the reality of other people's lives. As we know, whether through the history of psychology, philosophy, anthropology or sociology, understanding the subjective reality, the internal world, of another person is a complex affair. As design educators, we aim to expose some of these complexities to our students, arming them with methods and techniques to uncover the motivations and behavioural norms of their users. Through the examination of *the other* we hope to build empathetic connections with those people for whom we design.

We are fully aware that the approximations we generate, through user profiles and personas, are limited fictions. Wilkie formulates a detailed analysis of how users are conceptualized within design and technology innovation. He develops the idea of the «user assemblage» as a means to uncover how «users act as devices of and devices for persuasion» (Wilkie 2010: 197). In the process of innovation and design we essentialize and operationalize people to achieve a shorthand for a «target market», translating the people we design for into data points on a sales graph. In the age of big data, where

3   Buolamwini (2017) and Noble (2018) are the beginnings of a wave of computer scientists interested in deconstructing industries' «algorithmic gaze».

companies like Google and Facebook can have ever more finely detailed understandings of our moods, motivations, desires and consumption patterns, our understanding of users is still based on crude algorithmic assumptions that mask difference. There is a growing field of research examining *algorithmic bias,* uncovering how automated systems carry with them the «priorities, preferences and prejudices» of those in power (Buolamwini 2017).[3]

My Dad suffered from vascular dementia. During the two cruel years that I witnessed his physical and mental decline, I had time to see the world differently. I described those years as watching death in slow motion. My Dad's dementia, a post-operative condition, shifted his understanding and interactions with the world, but his illness also gave me insight into how his damaged brain forced him to rethink the world around him through fiction. Neuroscience, as a discipline, is founded on case studies of damaged brains. In *Phantoms in the Brain,* Ramachandran and Blakeslee (2005) give an account of what they describe as «enigmatic disorders»: how non-normal neurological conditions can give us access to the inner working of the human mind. In design, I believe we can also learn from those who see the world very differently from ourselves. My father navigated a strange material world full of half-truths and semi-fictions. These fictions ranged from regular thefts of imagined possessions to the non-existent affair that my mother had with a major TV celebrity. His fictional view of the world had a direct and tangible reality, not just on him, but on those around him. His subjective reality demanded attention, care and engagement from others. Everyone struggled with how much of his fiction they should entertain. Whether they should *play along* to avoid upset and confusion.

To play along meant to *entertain* or *accept* the fiction that my father had conjured in his mind. Jon K. Shaw and Theo Reeves-Evison, in *Fiction as Method* (2017), outline how «entertaining belief» in a myth or fiction doesn't lessen the effect the fiction can have. Fictions move into the world, through different mediums, and are shared and collectively experienced. To fully understand the power of *fiction as method*, we need to focus on «the operative effect of something, irrespective of its objective existence» (Shaw/Reeves-Evison 2017: 17). Within Critical Design or Design Fiction this has been described as «suspending disbelief about change» (Sterling 2013), where «diegetic prototypes» (Kirby 2011) are utilized to explore possible futures.

Shaw and Reeves-Evison outline two strands that clearly link to the processes and practice of design:

295

1. «those that reveal structures and gain agency in the construction of the everyday»;
2. «those that are deployed as holes to let in the ‹future› or ‹abstract-outside›» (Shaw / Reeves-Evison 2017: 8).

Over the last decade we have seen a growing body of practice that aims to «make visible» the underlying political and technological infrastructures of everyday life. The work of James Bridle, Trevor Paglen, Tactical Technology and Wes Goatley look to use artistic and creative techniques to uncover the inner workings, aesthetics and ethical complexities of our technological «black boxes» (Latour 1987). Designers often design ways to mask, mediate or translate the inner workings of technical systems to the external world. The level to which designers reveal or conceal system complexity ranges from the most practical decisions to an evolving body of work that aims to provoke, engage and stimulate the popular imagination. Arnall and Martinussen (2010; Arnall 2013) and Tharp and Tharp (2013, 2019) categorize such work as *discursive*, in that «discursive design engages with the popular cultural imagination, and is concerned with the socio-cultural representations and mediations of technology» (Arnall 2013: 150). Arnall, through Anne Balsamo, sees an opportunity for design, as a material and communicative practice, to shape and form «new narratives, new myths, new rituals, new modes of expression, and new knowledges» (Balsamo 2011: 7).

As designers, we have the power to blur the lines between the real and the fictional; I like to consider this as a process of *Hyperstition*. Hyperstition, a neologism from the words «hyper» and «superstition», was coined in the 1990s by academics who worked at the Cybernetic Culture Research Unit (CCRU) at the University of Warwick. Hyperstition is a «fiction that makes itself real through time travelling feedback loops: it operates as a future vision thrown back to engineer its own history» (O'Sullivan 2017). CCRU saw reality «to be composed of fictions – consistent semiotic terrains that condition perceptual, affective and behavioural responses» (CCRU 2004). An example of hyperstition within the field of Critical Design is a cautionary tale I like to tell about Auger-Loizeau's Audio Tooth Implant – an upsetting account of how designing *fictions* and *speculations* operate in the «real», an unintentional hyperstition that had impacts on the mental health and life of a person I shall refer to as «M».

The Audio Tooth Implant, a seminal piece of Critical Design, was produced in 2001. Jimmy Loizeau is a colleague and good friend of mine, so I have been familiar with the background story and evolution of the project for nearly two decades. The project was developed when Loizeau was a researcher at the Helen Hamlyn Centre for

Design and James Auger was in the second year of his Masters in Design Products at the RCA. The work was shown at the Science Museum and it took off. The idea was inserted into mainstream media and they loved it. What started as an idea, a speculation on a possible direction for mobile telephony, a fiction that questioned the role of micro-electronic miniaturization and the development of augmented biotechnology, became the invention of the year in *Time Magazine* in 2002.

Auger-Loizeau receive continual feedback about how this university project, this fiction, became real. They have even been told about it appearing in a pub quiz as a real invention. Loizeau has always been interested in the role of media and popular cultural forms as the site for discussing technological futures; in this case, «the debate» took place in the tabloid media. But as with all design, when inserted into the world, when left to roam free, unintended consequences will always arise. With this project, this happened in the form of a series of text messages Jimmy received 16 years after the project was completed from a person, «M».

Over a period of a month M sent numerous text messages to Jimmy, included threats of grievous bodily harm and visitations to his home. M demanded that Jimmy remove his fictional implant. It became clear that he believed that someone, possibly a government agency, had inserted the Audio Tooth Implant into his jaw. The device had been activated and had enabled someone to interfere and control his thoughts; whispering ideas of murder and violence into his ear, 24 hours a day.

A project that started in the safe space of a university was taken as real and built into the delusional thoughts of someone with severe mental health issues, someone with violent tendencies and a history of violence. This was indeed a speculation that Auger-Loizeau discussed back when they did the project, it was a possible future; one of the dark dystopian futures that they worried about. What they did not realize was that they could facilitate that future with a scale model using bits of an old TV.

Often when we discuss «the real» in design, we miss a more nuanced understanding of the term. It is commonly used to undermine or critique work that doesn't fully fit into our conservative notions of the future. The «real world» is wielded as a weapon to undermine the imagination. «For that's what ‹realism› amounts to: not a representation of the real, but a determination of what is politically possible» (Fisher 2005). However, forms of speculative design will always be real, as are all forms of fiction; they move into our collective imaginations, their affective agency ripples out into the world, changing our consciousness.

The Audio Tooth Implant has been accused of being a scam, a ruse, a con and almost 20 years later it is hard not to consider it as *fake news*. However, the relationship between news and fiction has always been a complex one. As forms of media they have co-evolved. Lennard Davis (1983) writes about the origins of the novel, tracing it back to the 18th century and the singing of the *Newes* to avoid slander. This publicly performed, single sheet *Newes* would commonly intertwine what we know as news with supernatural events and folk-lore. Catherine Gallager (2007) describes the evolution of the novel between the 18th and 20th centuries as evolving a «protective enclosure», a «free space in which to temporarily indulge imaginative play» (Gallager 2007: 347), allowing readers to invest in ideas with little risk to their daily lives.

In the context of dementia care, environments have been designed to support the fictions that patients experience, indulging them in the space of their imaginations. Hogeweyk Dementia Village in Weesp (NL), pioneered by Yvonne van Amerongen and Jannette Spiering, defined seven different «lifestyles» to accommodate dementia sufferers. These lifestyles were approximations of *lives once led*; semi-fictional environments aimed to reduce confusion. Each of these architectural fictions – cinematic sets designed to alleviate restless minds – were conceptualized after interviews held with families of dementia sufferers. The results and popularity of Hogeweyk seem to confirm a need to engage with dementia sufferers in a different way; to smooth the discord between their perception of the world and how it appears to «us». Hogeweyk's lifestyles are ordered and vary in category, for example; «*Indisch* for individuals from Indonesia and with an affinity with the Dutch East Indies ... and *Huiselijk* for homemakers» (Verderber 2018). Once reality is stripped from the residents, they are connected only through social status, colonialism and capitalist dreams. The «fragments of their material selves» (Ward 2013) are collected together and presented back to them without context or nuance; they are left with the weak signals of fictional lives they never lived. With a «care philosophy centred on reminiscent therapy» (Verderber 2018), Hogeweyk allows its residents to live in a «real-unreal world». A space (architecture), programme (service) and practice (interaction) that frames reality through semi-fictions; a collective fiction that produces and formulates the reality of the individual; a *diegetic cue* that supports real-world interactions; a materialized and performed *suspension of disbelief*.

How we construct ourselves, our identity, is often through the stories we tell. In *The Self as a Centre of Narrative Gravity*, Daniel Dennet examines the role of fiction and narrative in the construction of the self. Dennet theorizes that our sense of self is determined by

continuously updated and rewritten fictions of ourselves and the narratives we tell. He goes on to use «psychological disorders, or surgically created disunities» to examine the robustness of the «gravity centre» of the self:

> After all, when a human being's behavioral control system becomes seriously impaired, it can turn out that the best hermeneutical story we can tell about that individual says that there is more than one character «inhabiting» that body. (Dennet 1992: 114)

When my father's dementia worsened, his centre of narrative gravity was knocked off alignment. The shifted centre was compensated by those around him, his fictions became ours and we remade our reality according to his stories. We became characters inhabiting his ageing body and his fractured mind. There are times when reality and truth become less settled, when they become «an array of possibilities – similar to the idea of parallel universes, but with all those parallel universes in one universe» (García 2017: 172). The last months with my father was like living in a parallel universe, an embodied experience of someone else's fictional self.

Post-self (TOM WAGSTAFF 1995–2016)

Tom Wagstaff was my student until he died in May 2016. In the preparation for his final exam, he took his own life. Tom brought a wonderful energy to the studio; he had a strong network of friends, was loved by everyone and was a force for good in a tight-knit community. He was a talented designer and thinker, excelling at his work throughout his degree. His death brought shock and a collective mourning that I had never before experienced. Tom's death shook our community to the core. In the years since his death the department has struggled to «make sense» of the loss.

Over the last ten years, I have witnessed a changing role in how design education and culture values and assigns agency to the individual. Much of design culture still celebrates the auteur; the bold, creative genius. The individual who makes waves in the design world – getting headlines, demonstrating their unique creativity and talent. These forms of hero narrative are deeply engrained in both academia and design culture; however, times are changing. The celebrity designer (usually male, white, straight and cis-gendered), with their life goal to help society or single-handedly change the world (or at least save us from poor taste, ugly PCs and weakly sucking vacuum cleaners), is a fallacy. Design has always been a team sport; however, the teams have always been exclusive. As a practice, design sits at a relational intersection between many other forms of knowledge,

transforming ideology into material form. However, it has failed to open its cultural practice to underrepresented, disenfranchised voices, so we must demand a process of decolonization and queering to find the true space of representational intersectionality. To do this we must foster caring, safe and welcoming communities, where ideas and values are collectively shared and individual identities are fostered through socio-political diversity. This has been our aim at Goldsmiths over the last two decades: a shared process, practice and philosophy of design, a «community of practice» (Lave/Wenger 1991) aimed at addressing complex socio-cultural problems.

Our[4] relationship with Tom and his relationship with his peers was constructed in and through «the studio». The studio is an essential place of learning for many designers, a «site of synthesis» (Michael/ Wilkie 2016) where a «heterogeneous» set of ideas, skills, relationships, materials, knowledge, emotions and politics are combined in and through the bodies of our students. These sites of pedagogic transformation have been under-examined within the field of design education. Although *studio culture* has been described as the «hidden curriculum» (Dutton et al. 2002: 4), an informal set of practices, expectations and pressures that influence how students learn, design, behave and perform, little has been done to understand how design educators set up the right conditions for a creative and supportive environment.

Mike Michael, in the «Afterword» of *Studio Studies: Operations, Topologies and Displacements*, believes that members of a design studio «are likely to operate with ‹similar models of the social›» and asks «how are these ‹models› derived?» (Michael 2016: 214). Although Michael's proposition may be true within the professional realm, where the commercial practices of recruitment produce a more uniform set of world views (or prejudices), I believe that the educational design studio contains a more diverse set of «social models» and, more importantly, needs to maintain difference in order to produce a more open future for design.

In Situated Learning Theory, the concept of «communities of practice» highlights the importance of the context of learning, seeing learning as a relational activity situated in a place with a specific group of people. Different to cognitivist theories of learning, Lave and Wenger describe knowledge as «provisional, mediated and socially constructed» (Handley et al. 2006), where practices have a limited and ambiguous form – communities of shared interest aiming to achieve a mutual, recognized goal. However, Handley highlights some key problems with Lave and Wenger's initial conceptualization of communities of practice, including the lack of emphasis placed on identity construction and conflict.

It is at the intersection between the studio as a site of heterogeneous synthesis (Michael/Wilkie 2016) and as a learning «community of practice» that I feel work needs to be done. By looking at the layered complexity of how student designers navigate social and relational dynamics whilst also trying to understand themselves as individuals and professionals; how they learn to engage with users, materials and social contexts, whilst trying to locate themselves in the future roles of an industry that is ever moving and ethically complex to navigate. It is essential for educators to understand and embrace how the studio is a site of projection, proposal and possibility, whilst also being a site of vulnerability and fragility.

Tom's energy and presence in the studio still haunts me. As educators we strive to produce environments that are supportive and open, but with this form of care comes an investment and responsibility that is difficult to shoulder when we lose one of our own. I hope that the spirit of generosity that Tom brought to Goldsmiths will remain, pushing us all to make the environment pregnant with hope, laughter and possibility.

Post-capital (MARK FISHER, 1968–2017)

I had been a fan of Mark's work for over a decade, through his writing on k-punk, when he made the move to the Visual Cultures department at Goldsmiths. I was a bit star-struck, but was lucky enough to get to know him. It was his care, a form of labour that aims to support creative communities, that brings Mark into this chapter. He was described by a mutual friend as having that unique energy so that he could *enthuse ideas into existence*. Mark took his own life in January 2017.

Mark brought a different quality to the culture of Goldsmiths, but also the culture of intellectual life around the globe. He was active, generative and engaging. He had the desire to produce something new in the face of the «slow cancellation of the future» (Berardi 2011: 18). In his memorial lecture, Kodwo Eshun described Mark as producing «[a]n interpretative community that gathers itself, that comes into existence, in and through the participation and the metabolisation of the possibility spaces opened by concepts, that are charged by beliefs» (Eshun 2018).

During the late 1990s it seemed that the internet would transform democratic engagement; however, it is now evident that it may be the mechanism of our downfall. In trying to think through alternatives (political and ecological), it often comes back to tangible changes in our material and social lives. Critical Design emerged at a particular time when it still felt like there was an alternative. Where the dominant

political and economic realities of technological culture were still open to different futures. By redesigning and rethinking our relationship to *matter*, whether through the reconfiguration of our domestic relationships or the redesign of our economic exchange system, we need to imagine through the visualization of material possibility.

Our current instantiation of speculative design came from a context of resisting the normative forces of design education (Ward 2013). In the early 2000s Critical and Speculative Design built up a head of steam; practitioners found new ways to communicate, disseminate and articulate the value of design beyond the inherent instrumental link to capitalism. But as with all resistances, as Marcuse highlights, eventually radical forms of expression become co-opted into the dominant system – in this case, a system of capitalist production where future speculation (visions of alternatives) become commodified, packaged, sold in the guise of entertainment, art or research. Conferences are run, books are written, PhDs are completed on the work that hope to find a different way of thinking about technology. Critical Design was the birth of many academic monsters, dozens of PhDs and peer-reviewed papers at conferences, where eager academics, climbing that slippery pole of academic promotion, state their claims, critiques and problems with this momentary, temporal resistance.

Critique, or more specifically the point of critical theory, is an attempt to resist the hegemonic forces of capitalism. In its purest form its goal is to liberate us; to find new alternatives to social and economic arrangements. The great refusal. Although many criticisms have been directed towards Critical Design, or more specifically that small group of practitioners coming from the RCA in the late 1990s and early 2000s, I think there was a deep desire to shift our culture away from normative futures.

In Mark's final writing, the introduction of his unfinished book «Acid Communism», he looks to expose capitalism's masking and blocking of «common wealth». In order to discover a new reality, one where the «red plenty» would run free (Fisher/Ambrose 2018). He returns to the psychedelic subcultures of the 1960s and 1970s. Although not interested in the use of psychedelic chemicals, but rather in «Acid» as an aesthetic approach, his final work looks for hope in finding alternative subjectivities, new realisms and an elevated collective consciousness. In Capitalist Realism he states:

> Emancipatory politics must always destroy the appearance of a «natural order», must reveal what is presented as necessary and inevitable to be a mere contingency, just as it must make what was previously deemed to be impossible seem attainable. (Fisher 2009: 17)

I feel that design has the tools and mechanisms to expose the fractures in our current social and economic systems; to show new desires and new possibilities. At the heart of this chapter was my desire to promote and produce new educational trajectories that support the creation of different futures – futures beyond the impossible barrier of capitalist realism.

Conclusion

By placing myself and my experiences with loss and mourning at the visible centre of this work, I aimed to uncover the «meshworks» (Ingold 2010: 10) of affective experience that pointed to-wards a different future for design education. As I reach the end of the chapter, I realize a key idea runs through each section: the urgent need to find a balance between individual and collective narratives; how the co-authorship of our myths and fictions open up collective possible potential futures.

With the despair and sorrow that came with loss, a sense of hope and potential emerged – a different way for me to think about my practice. Nic Hughes spent much of his time thinking about how philosophical and theological narratives of creation can empower collective experience. His spirit of vital materialism and expanded notions of disciplinarity continue to inspire me to push the boundaries of what is desirable to be designable. My father, Tony Ward, used fiction as a way to understand, engage and play with those around him. He sometimes used stories as a way to impose power or force social cohesion, but he also helped me understand that the narratives that drive our identity construction are local, subjective and contingent. As designers, we need to develop a form of deep listening, giving space to the subjective realities of the people we do not understand. The tragic loss of Tom Wagstaff has made me rethink the narratives and structures of how we support young designers in the studio context, finding new tactics to support their emergent identities in our complex, sometimes brutal world. And finally, Mark Fisher enabled me to think about how the limits of our imagination are laid down by the structural imperatives of late capitalism, how the mechanisms of neoliberalism resist and restrict our collective imaginations. But above all, in order to resist and find new realities, we need hope and optimism to shift us away from the individualization of contemporary life, to where endless generosity enthuses new realities into existence.

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Understanding   Human   by
by   Critical   Design Culture
Human   by   Human   Social
Understanding   ?   World
by   ?
Design Culture   Critical   Critical Design
                                    Critical   ?   Design Culture   Speculative
Critical   by   Social   Critical Design
                                    Critical   ?   Critical
                                    Collaboration   ?

                                                    ?   by
                                    World   Critical   Human   ?
by   ?   by   ?
                                    Critical   ?   Speculative Design   ?
by   Human   Speculative Design
Design Culture   ?   World
                                                        Critical   by   Discourses   ?
                                    Social
                                    Speculative   ?   Human
                                    Critical   ?   ?
by   Collaboration   Social   by
                                    Critical
Critical Design   Critical   ?   Critical
                                    Discourses   Speculative
                                                        Human   ?
Critical   by   Critical   ?   Design Culture   ?
                                    Critical   by
by   Collaboration   Discourses   by
Human   by   Understanding
                                    Human   by   ?
by
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Critical   by   ?
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by   Human
Critical   Speculative   Social   ?
Human   ?
                        by   Critical   Critical Design
                        by   Critical   ?   Social   Critical Object   ?
                        by   Human   Discourses   World   ?
                                    Critical
Critical   Discourses   Social   by   ?
                                                        World   Human
                                    Discourses   ?   Discourses   Critical
Social   Critical
                                                                World

Critical by design?

The book's design

as SF figures

Marius Förster &
Meike Hardt

Typography, especially in books, first and foremost ought to be functional, even invisible in the sense that it does not stand between the content and the reader. But indeed, as much as language itself is not neutral, its representation / visualization is deeply embedded in social, political, and technical histories. Consequently, the elements that editorial design is concerned with, such as typography and layout, configure discursive spaces that negotiate their situatedness and demand for reflection. «Embodied criticality»[1] (Rogoff 2006) is *taking place* in readers' hands or their screens, as much as during (and before) the design process. Criticality *lives out* as a continuation through which thinking, doing, and materialization cannot be understood separately. To render our thoughts tangible, we[2] make use of Haraway's SF figures (Haraway 2016). It is an ambiguous concept that describes a three-fold simultaneity: methods and practices, the things (as assemblages) in view, and their constituting processes. SF as an abbreviation brings together science fact, string figures, speculative fabulations, and so forth to show their interdependencies and familiarities. It takes metaphors seriously for the constitution of realities: the fiction of facts and the truth of speculations – not to unknot them but to get involved with the vastness of relations and relating as a practice to proceed. SF as an open-ended list of terms or wordplays invites its continuation – so do we playfully join in. For us, it is an approach to think thoughts or to design design, a practice of «worlding» by questioning modern design principles and deconstruct normalized knowledge. SF figures demonstrate the multi-perspectivity that is needed to deal with the present through critical design practices. Not bothering the reader with every detail of the various layers of practical and conceptual decisions regarding this publication's design: we want to shed some light on the typographical approach and the concept of the cover and section pages. The graphic concept viewed through the lens of SF figures tunes in with the criticality of the publication's authors and aims to make the topic's ambiguities and its materialization tangible.

1   «[C]riticality is not to find an answer but rather to access a different mode of inhibition. … it is a form of ontology that is being advocated, a ‹living things out› which has a hugely transformative power as opposed to pronouncing on them» (Rogoff 2006).

2   We see it as a privilege to work for a cause we consider relevant and, beyond the graphic «duties,» having the opportunity to reflect on our work and theorize our thoughts. We are aware of the privilege to have time to work on these issues – and as «white» Europeans, easy access to those discourses in the first place. Furthermore, it is our economic situation that seems to allow extra effort regardless of the connected payment. Referring to J. K. Gibson-Graham, economies are understood as a whole support system consisting of diverse practices and values beyond monetary values exclusively.

309

«Shape Frictions» becomes a design princi-
ple for the typographic concept of the book. It matters which letter-
shapes shape words that shape knowledge – and which knowledge
shapes letter shapes. Consequently, it is the situatedness of the letter
shape that determined our design process. We aim to translate the
volume's posture into a typographic polyrhythm that clashes various
socio-technical histories and ambitions, but at the same time does
not follow an aspiration of completeness. Readability remains part of
the equation, which makes it a subtle endeavor. But it is precisely
that subtlety that is intriguing because it demands to reflect on the
surface – possibly conceptualized as infrastructure – mingling func-
tional, technical, and cultural dimensions. Following the question of
what knowledge and perspective a font carries, we selected four
typefaces sharing similarities and contradictions alike. The extract of
fonts results from various discussions with companioned colleagues
and is informed by our everyday practice rather than acting as a
historical review.

The text is set with a version of Metafont. It is a programming
language for parametric font designs developed by Donald E. Knuth
in the 1980s. Knuth originally invented Metafont to improve the typog-
raphy of his publications: taking advantage of computer technology
to raise printing results that lack certain qualities during the transition
from metal type to phototype (Galson 2018). Rather than defining
the outline of the letter shape, Metafont follows the logic of the stroke
that constructs a character. That means the font is determined by
the customizable features of letter strokes – like choosing between
different pen shapes and hand expressions to draw a letter. Knuth,
a notable figure of the early digital computer age and its mindset,
aimed at an entirely mathematical definition of Latin type forms – to
create a programming language allowing everyone to design their
personal typeface. He failed to translate typography into a universal
mathematical playbook, as his system shows the limits for providing
a diverse variety of font design possibilities and lacks the granularity
implied by trained font designers. Nonetheless, Knuth created a
unique and powerful font universe that since 2012 is easily accessible
via the webpage metaflop, thanks to Alexis Reigel and Marco Müller.[3]

For the references, Noto Sans is applied. The team around
«Noto» is chasing another form of universalism. Initially released in
2013 by Google, the font aims to include every character from every
written language. Yet unfinished, this is only possible based on
the underlying logic of the font format; more precisely, it is software
itself. The Open Type format utilizing Unicode set the basis for it in

the late 1990s. Not mainly technical issues, but the normalizing Western computer culture is the reason for still-limited language support and range of available fonts. Especially if one is looking for context-specific fonts comprised of more than one language system, it can be disappointing. Noto is taking an important step and reveals technical limitations along the way. As much as it unites languages, it masks their idiosyncrasies. To hedge all languages in a «harmonious look and feel»[4] follows modernist claims: a one-dimensional worldview trifles with the sensitive space between a plurality of identities and a common ground.

Quite the contrary, the font Serifbabe, designed by Charlotte Rohde and released in 2020 is, at its core, a celebration of character. Serifbabe is applied for the titles and the page numbers of the publication. By utilizing variable font features, Rohde questions aesthetic norms of perfectionism, balance, and harmony. Much more, her font design can be read as a «psychogram,» a way of expressing personal narratives and, in her words, as an «extension of the body.»[5] This way, she explicitly frames a non-universal design position by incorporating a feminist perspective into her work.

A similar mindset is followed by Authentic Sans (2015), a font designed by Christina Janus and Desmond Wong. The Authentic Sans is used for the footnotes of this publication. Referencing CJK (Chinese/Japanese/Korean) fonts, which often include «anonymous»[6] Latin glyph sets, the designers humorously utilize their aesthetic to comment on Helvetica/Arial normalization. «The typeface aims to subvert the Eurocentric standards of typographic quality and refinement.»[7] The design of Authentic Sans critically reflects on and redefines the knowledge embedded in Western and universal font designs.

Authentic Sans, Metafont, and Noto are open source typefaces that bring together quite heterogeneous incentives towards opposing paid license models. Authentic Sans seems to be a critical contribution to typographic discourse and, like Metafont, is an effort to provide access to and democratize technological utilization. Noto is backed by Google. At first glimpse, there is nothing to complain about when a globally acting company is supporting a collective effort to improve computer-based literacy. But well-known companies like Google are actively enmeshed in «neoliberal» dynamics that

4   Google Noto Fonts, https://www.google.com/get/noto.

5   Studio Charlotte Rohde, https://www.charlotterohde.de/about.

6   The word «anonymous» is equivocally pointing to the intention of how the font is used, mainly to fill the gaps for Latin language on webpages using CJK fonts, and for the font designers (sometimes even the font names), which in the case of LiHei Pro and VL Gothic are not found easily and are not equally represented. See also «It has no name, that I can find. It lives in the latin part of the default Japanese font used in my browsers» (https://thatfont.slechte.info).

7   AUTHENTIC Sans, https://www.authentic.website/sans.html.

contradict, even deride, ambitions towards social and ecological equality and sustainability. Furthermore, critical and political strategies and ambitions are easily taken over by neoliberal mechanisms and therefore neutralized or limited in their transformative power. Simultaneously, «we» hinge on and relish the convenience of «our» technologies – even more during the pandemic – and are nested in socio-economic dependencies that are hard to grasp and transformed.

Embroiling the selected typography in a dialogue is our commentary as graphic designers: confronting ourselves with the complexities and contradictions of these troubled times, knowing all too well that the letters' shapes do not «change the world.» But by shifting our attention away from all-too-modernist design beliefs, we aim to multiply our sensitivity towards the world and contribute with infectious Shape Frictions – aware of our own limited (European) perspective. It is still a confined juxtaposition of fonts that needs to be extended and diversified.

Layout as script frictions

We «stay with the trouble» (Haraway 2016) of SF practices and complement the design concept with a further figure: «Script Friction.» Framing the publication's layout as a feminist, discursive space with its accompanied frictions, we are particularly interested in what is and is not said. The cover and the section pages play with and emphasize the constraints of the project. How does the layout hint at the incompleteness of the discourse: the snapshot or «congealed act»[8] (Viveiros de Castro 2015: 80) that a publication is obliged to be? An awareness of the situatedness of the publication's discourse is expressed through a coltish analysis of the chapters' key terms. Inspired by Metafont's automation approach, a script – developed in collaboration with the Belgian programmer Jef Van den broeck – creates areas of tension where the publication's most common terms appear in new relations and meanings. Based on their probability, those terms are spread randomly throughout the page, sorted into columns with various amounts of empty lines. This way, neither a horizontal nor vertical order is prevalent. The cover and the pages between sections utilize the script, whereby the latter is based on an analysis of keywords contributed by chapters within one section. The scripted combinations of titles allegorize an accompanying constant expansion and development of the discourse at the one hand. On the other hand, they question the ubiquitous terminology of «critique» by (re)placements of words, describing and representing

8   «Material embodiment of an immaterial intention» (own translation).

Critical by design?

the publication's take on the critical design discourse.[9] Additionally, intentional gaps are used as invitations for possible new narratives and speculative titles. They point to the non-represented and not yet articulated voices in the publication. Trying to make those reflections tangible and even more explicit seems to be essential for an inclusive design approach.

9   This gamble with the titles follows the design principle already used for the visual design of the 2018 conference «Critical by Design? Potentials and Limitations of Materialized Critique,» conceptualized and designed by Moritz Greiner-Petter and Meike Hardt.

The script design follows the ambition to create awareness of the situatedness of (designerly) knowledge and the conflict between its aspirations and disciplinary thresholds. Combining analysis (counting words) and randomness induce equivocations and, therefore, ongoingness: making explicit, visually, what is at stake and at the same time reaching out to what stays invisible. The letter shapes and their stories are accompanied by the situatedness of knowledge manifested in the book and the graphic design that presents it. It matters what knowledge produces knowledge and what design designs design.

The SF design for this publication is a play of thought and making to question how we look at and work with design. Dialogue and constant negotiations defined the process – a certain way of togetherness we enjoyed as the core of our decision-making. Moreover, there was a process of unlearning involved while designing the publication. Even though we did not neglect usability standards, we aimed to contradict common design approaches like «less is more,» keeping specific hierarchical orders, etc. By doing so, we questioned our personal aesthetic habits.

Critical perspectives demand time and engagement with current social, political and technical discourses and beyond. These ambitions are often opposed to commercial day-to-day (design) realities and connected to privileged positions. Thus, following the idea of «staying with the trouble,» we confront ourselves with the difficulties of unlearning and awareness creation of how knowledge is produced and established through design processes and decision making. There might be some distance between our SF design and Post-Human and Anthropocene discourses negotiating new ontologies. But very directly, the related feminist perspectives teach us about paying attention to neglected sensitivities.

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References 314

List of   Figures

Tables

Jeffrey Bardzell is Associate Dean of Graduate and Undergraduate Studies and Professor in the College of Information Sciences and Technology at Penn State University. In his critical computing and human–computer interaction design research, he has helped to shape research agendas surrounding critical design, design theory and criticism, creativity and innovation, aesthetics, and user experience. He has published over 100 peer-reviewed scientific papers, is co-author of *Humanistic HCI* (Morgan Claypool, 2015) and co-editor of *Critical Theory and Interaction Design* (MIT Press, 2018).

Shaowen Bardzell is Professor of Information Sciences and Technology at Penn State College of Information Sciences and Technology. Previously (2018–2020) she was Professor of Informatics in the School of Informatics, Computing, and Engineering at Indiana University. Bardzell holds a PhD in Comparative Literature from Indiana University and pursues a humanistic research agenda within the research and practice of Human–Computer Interaction (HCI). A common thread throughout her work is the exploration of the contributions of feminism, design, and social science to support technology's role in social change. Recent research foci have included care ethics and feminist utopian perspectives on IT, research through design, women's health, posthumanist approaches to sustainable design, computational agriculture and food justice, and cultural and creative industries in Asia. Her work is supported by the US National Science Foundation, Intel Corporation, and the Mellon Foundation among others. She is the co-editor of *Critical Theory and Interaction Design* (MIT Press, 2017) and co-author of *Humanistic HCI* (Morgan & Claypool, 2015).

Biographies

Michaela Büsse works at the intersections of design, anthropology, STS and political ecology. Her dissertation project analyses land reclamation projects in Southeast Asia and the Netherlands and based on sand's granular physics develops a performative reading of design. She currently works as Research Associate at the Institute of Cultural History and Theory and Associated Investigator at the Cluster of Excellence *Matters of Activity. Image Space Material* at Humboldt-Universität zu Berlin. Previously, she has held positions at the Institute of Experimental Design and Media Cultures, FHNW and the Institute for Design Research, ZHdK as well as fellowships with TU Delft, NTU/Centre for Contemporary Art Singapore, Museum of Contemporary Art and Design Manila, and Strelka Institute for Media, Design and Architecture in Moscow.

Emile De Visscher is a designer, engineer and design research associate. He initially studied Material Sciences at Université de Technologie de Compiègne (MA, 2009) and Design at the Royal College of Art and Imperial College (Double MA, 2012). In 2018, he obtained a PhD through the SACRe doctoral program at Paris Science et Lettres and École nationale supérieure des Arts Décoratifs. Entitled Technophanic Manufactures, his practice-based research explored the relations between technology and culture through the invention of new performative manufacturing processes. He notably developed a recycling machine for thermoplastics inspired by cotton-candy (Polyfloss, together with C. Machet, A. Gaulard and N. Paget) and a process to transform cellulose into stone (Petrification). He exhibited his work in more than 40 international exhibitions and was awarded several prizes (James Dyson Bursary, Innovation Hothouse). Along with his design practice, he teaches regularly in various design schools, curates exhibitions and directs an experimental design publication (*Obliquite*). Since 2019, Emile De Visscher has been part of the Cluster of Excellence *Matters of Activity. Image Space Material* at Humboldt-Universität zu Berlin as a research associate.

Carl DiSalvo is an Associate Professor at the Georgia Institute of Technology with appointments in the School of Interactive Computing and the School of Literature, Media, and Communication. His work combines methods and theories from design, the social sciences, and the humanities to explore the social and political qualities of computing. He is committed to engaged scholarship and he partners with communities, civil society, government, and industry throughout his work. He is also an editor of the MIT Press journal *Design Issues*. He holds a PhD in Design from Carnegie Mellon University.

Bianca Elzenbauer is a co-founder of *Brave New Alps*, a collaborative design practice based in the Alpine Vallagarina valley in Italy, whose 12 members are dedicated to the creation of commons and community economies. Since embarking on design studies in 2002, she has been looking for ways in which to activate design skills for eco-social causes. Since 2010, she has been doing research on the entanglements and worldviews that create precarious working conditions, which in turn make critical design practices difficult to sustain. Simultaneously, as a member of the international Community Economies Research Network, she has been activating empowering readings of the economy in order to create modes of practice and living that sustain herself and others who engage in transformative practice. Currently, besides working as part of *Brave New Alps*, she works as a Marie Skłodowska-Curie Individual Fellow at Eurac Research (IT), where she runs the *Alpine Community Economies Lab*.

Jesko Fezer works as a designer. In various collaborations he engages practically and theoretically with the social relevance of design. In cooperation with the *Institute for Applied Urbanism (ifau)*, he carries out architectural projects and is part of the exhibition design studio

Kooperative für Darstellungspolitik. He co-founded the *Pro qm* bookshop in Berlin and co-edits the *Bauwelt Fundamente* series and *Studienhefte für problemorientiertes Design.* He is professor of experimental design at Hamburg University of Fine Arts and has been running the student-led *Public Design Support* programme since 2011.

Marius Förster works at the intersection of design, research, and art. In his work, he examines possible roles and limits of design in socio-ecological transformation processes. He is part of RIBL (Research Institute of Botanical Linguistics) and co-initiated the speculative and participative project 3000 Peaks, a critical mediation that addresses consequences and effects of the global climate catastrophe for Switzerland. He is co-editor of the publication *Un/Certain Futures* (transcript, 2018) and co-founder of the design studio operative.space.

Björn Franke is a practitioner and theorist. He is Senior Lecturer in Design Theory and Practice at the Zurich University of the Arts and has previously taught at the Royal College of Art and the University of Applied Arts Vienna. He holds a PhD in Design Interactions and a MA in Design Products from the Royal College of Art and was awarded fellowships at the Akademie Schloss Solitude as well as the Artist Residency Schloss Balmoral. His work has featured in exhibitions internationally, most recently at the MUDAC Lausanne in Switzerland, the Triennale di Milano Design Museum in Italy and the Design Museum Holon in Israel. His academic research has been widely published in books and journals and he has participated in and convened lectures, conferences

and workshops internationally. Franke's research interests lie in the relationship between design, technology and philosophy; in particular how the shifting technological landscape alters human behaviour, relationships and self-conceptions.

Annette Geiger is Professor of Theory and History of Design at the University of the Arts Bremen. After studying communication science and cultural studies in Berlin, Grenoble and Paris, she completed her doctorate thesis *Urbild und fotografischer Blick* (Wilhelm Fink, 2004) on aesthetics and image theory in the 18th century, at the Institute for Art History, University of Stuttgart. Since 2009, she has taught and researched in Bremen and Berlin about design history, visual culture and aesthetic theories about art, design and everyday life. Recently she published the monograph *Andersmöglichsein: Zur Ästhetik des Designs* (transcript, 2018) and together with B. Holtschke *Piktogrammatik. Grafisches Gestalten als Weltwissen und Bilderordnung* (transcript, 2021).

Bruno Gransche has been a philosopher at the Institute of Technology Futures ITZ at the Karlsruhe Institute of Technology KIT (Germany) since 2020. He works as a scholar and Principal Investigator (PI) in the fields of philosophy of technology and ethics, socio-technical cultural techniques, and anticipatory thinking focusing, among others, on artificial assistants, AI, machine learning, shared autonomy, and digital colonization of the lifeworld. Between 2017 and 2021 he worked as PI and research group

leader at the interdisciplinary Institute for Advanced Studies, University of Siegen (Germany). He is a research fellow at the Fraunhofer Institute for Systems and Innovation Research ISI in Karlsruhe, where he worked as a philosopher and Foresight expert between 2009–2016.

Moritz Greiner-Petter is designer and researcher based in Basel. There he is researcher at the Institute Contemporary Design Practices (ICDP) as well as the Critical Media Lab, both part of the FHNW Academy of Art and Design. As a researcher and practitioner, he is interested in critical approaches towards the media aesthetics and epistemes of information technologies. In his research, he is primarily investigating design paradigms, materialities and epistemologies of digital interfaces and their role in conditioning processes of thinking, collaboration and design. His practice often addresses the generative and infrastructuring effects of media formats explored through experimental prototypes, tools and publishing formats. He studied visual communication with a focus on digital media and visual systems at the Berlin University of the Arts.

Anja Groten is a designer, educator and community organizer. In 2013 she co-founded the initiative *Hackers & Designers*, attempting to break down the barriers between the two fields by stimulating a common vocabulary through education hacks and collaboration. Groten's design practice evolves around the cross-over of digital and physical media, design and art education, and her involvement in different transdisciplinary collectives. She is a PhD researcher at PhDArts – a practice-led

doctoral program at ACPA (Academy of Creative and Performing Arts) Leiden University and the consortium *Bridging Art Design and Technology through Critical Making.* Since September 2019 Groten has headed the design department at the Sandberg Instituut Amsterdam, Master of the Gerrit Rietveld Academie.

Meike Hardt is an *in(ter)dependent* design researcher and designer currently based in Cologne, Germany. As a researcher and coordinator, she is involved in the re-search project Critical by Design?, as part of the study Critical Artifacts conducted by the Institute of Experimental Design and Media Cultures (IXDM), FHNW Academy of Art and Design in Basel, Switzerland. She is the initiator of Feminist Design Reading Group and part of the design research group RIBL, Research Institute of Botanical Linguistics. Hardt is specifically interested in the political dimension of design and design economies. She looks at sustainable, equitable, and inclusive (design) econo-mies and studies working tools that reflect an expanded feminist understanding of (design) economics.

Guy Julier is the author of *Economies of Design* (Sage, 2017) and *The Culture of Design* (Sage, 3rd revised edition 2014). A writer, academic and practitioner, he has over 30 years' professional experience observing and re-searching global changes in design, economics and society. He is credited with having established Design Culture as a field of study and research and in 2021 was awarded a PhD Honoris Causa by the Moholy-Nagy University of Art and Design, Budapest, for services to its development. He is Head of Research and Professor of Design Leadership in the Department of Design at Aalto University, Finland. In 2011 he was appointed as the Victoria & Albert Museum/University of Brighton Principal Research Fellow in Contemporary Design and Professor of Design Culture. Prior to this he was Professor of

Design at Leeds Metropolitan University (2001–10) where he founded DesignLeeds, a cross-disciplinary research and consultancy unit specializing in social design. Julier has been Visiting Professor at Glasgow School of Art (2005–10) and the University of Denmark (2013–14) and Visiting Fellow at the Otago University (2009). Recent publications include *Design Culture: Objects and Approaches* (Bloomsbury, 2019), co-edited with colleagues from the University of Southern Denmark.

Claudia Mareis is a design researcher and cultural historian. After initial training in Graphic Design, she studied Design, Art and Cultural Studies in Zurich, Berlin and Linz. Since 2021, she has been Professor of Design and History of Knowledge at the Department of Cultural History and Theory at Humboldt-Universität zu Berlin, where she is also the co-director of the Cluster of Excellence *Matters of Activity. Image Space Material.* In addition, she is a lecturer at the Institute Experimental Design and Media Cultures (IXDM) at the FHNW Academy of Art and Design in Basel, where she has built up an interdisciplinary research group converging design, media arts, anthropology, historical studies, and technology from 2013 to 2021. Her research interests include history, theory and methodology of design in the 20th century, knowledge cultures in design, experimental design and media practices, cultural history of creativity, and design and material politics.

Emanuele Quinz is an art and design historian and exhibition curator. He is an associate professor at Université Paris 8 and a research fellow at EnsadLab at the Ecole Nationale Supérieure des Arts Décoratifs. His research explores the convergences among disciplines in contemporary artistic practice – from the visual arts to music, from the

performing arts to design. He is the author of *Le cercle invisible: Environnements, systèmes, dispositifs* (Les presses du réel, 2017) as well as the editor of *Strange Design* (with J. Dautrey, éditions it, 2014), *Esthétique des systèmes* (Les presses du réel, 2015), *Behavioral Objects I* (with S. Bianchini, Sternberg, 2016), and *Uchronia* (with A. Vigier and F. Apertet, Sternberg, 2018)..

Mara Recklies is currently completing her doctorate with a thesis on philosophical design critique. Her research focuses on design philosophy, design critique, resistant practices, and the epistemology of design. She is particularly interested in the political dimensions of design, on which she works in consideration of intersectional feminist or decolonial perspectives. From 2015 to 2018, she was a research associate in the cooperative research network *Translating and Framing: Practices of Media Transformations* at the University of Hamburg and the University of Fine Arts (HFBK) Hamburg. Prior to this, she was a guest researcher at the Vilém Flusser Archive of the Berlin University of the Arts (UdK) and taught among others at the Köln International School of Design (KISD), Burg Giebichenstein University of Art and Design Halle, University of the Arts Bremen (HFK), and HafenCity University Hamburg (HCU). She studied philosophy at the Christian-Albrechts-University of Kiel. Her texts have been published by transcript, Merve Verlag, as well as form design magazine, among others.

Michael Renner experienced the digital revolution first-hand when he went to work for *Apple Computer Inc.* and *The Understanding Business* in California in 1986, just after completing his diploma as Graphic Designer at the Basel School of Design. Research and reflection upon the meaning of images in the context of digital tools became

the central theme of Renner's practical and theoretical design activities. He started teaching in 1990 in the Visual Communication Institute at the Basel School of Design (FHNW Academy of Art and Design) with an emphasis on Information Design, Interaction Design and Design Research. In 1999 he was named chairman of the institute. His approach to developing research activities in the field of design is based on the aim to further develop existing competencies of image creation. With this approach of gaining knowledge through the creation of images the design process becomes the central research theme and a methodology at the same time. Renner is on the advisory board of *Visible Language* and member of the Aliance Graphique Internationale (AGI).

Matt Ward is a dedicated educator, writer and designer. He has held leadership positions in the Design Department at Goldsmiths, University of London for 15 years (Head of Department and Programme Leader) where he managed and evolved the BA Design for a decade. He has held numerous External Examiner roles across the UK: Design Products at the RCA and Graphic Media Design at UAL. His research spans a wide range of interests from speculative design to radical pedagogy. He was founding member of *DWFE*, a post-disciplinary, semi-fictional design syndicate. Recently *The Illegal Town Plan*, with Jimmy Loizeau, explores inclusive strategies for local engagement and education through critical, spatial speculation. The project provides a platform to mediate community engagement with local government in the re-imagining of a coastal future.

Janneke Wesseling is Professor in Practice and Theory of Research in the Visual Arts at the Academy of Creative and Performing Arts (ACPA) of Leiden University, and reader in Art and Theory at the University of the Arts, The Hague. Wesseling obtained a doctoral degree at Leiden University with a dissertation on contemporary art and reception aesthetics. Wesseling has been writing as an art critic for the Dutch daily newspaper *NRC Handelsblad* from 1982 to the present. Wesseling is currently

working on a book that raises the question of the role and meaning of material artistic practices in our time (Valiz, 2022). It brings together authors that participate in collective practices that address and research urgent ecological, political and social problems and operate outside the established frameworks of art and design. The book is produced in collaboration with the working group *Making Matters* and is part of a research project funded by NWO (the Dutch Research Council). Recent publications include *The Perfect Spectator: The Experience of the Art Work and Reception Aesthetics* (Valiz, 2017), *Of Sponge, Stone and the Intertwinement with the Here and Now: A Methodology of Artistic Research* (Valiz, 2016), and *Why Write? On Writing as Art Practice* (SAR International Conference Catalogue, 2016).

Patrycja Zdziarska is pursuing a PhD in Informatics from the Luddy School of Informatics, Computing, and Engineering at Indiana University in Bloomington, USA. As a member of the Cultural Research in Technology (CRIT) Group, she is interested in combining insights from design, human–computer interaction, and science and technology studies to critically examine the role of design in developing socially responsible technologies. Her research focus is on the design and development of technologies for advocacy. She has engaged with a wide range of topics including cultural heritage, the future of work, bottom-up making and innovation, and currently women's health to develop her critical perspective on design.

329

Imprint

Critical
Design Culture

by   Social
                    ?

Jeffrey Bardzell

Human   ?

Human

Shaowen Bardzell

Grey Design   Human
Foucault   Social
                    ?
Michaela Büsse

Emile De Visscher

Carl DiSalvo   Speculative
by   World   ?

Critical Practice

Bianca Elzenbaumer

Jesko Fezer   by   Social
                    by   World

Disobedience   Marius Förster
Critical Design

Björn Franke

Annette Geiger   by   Critical Design   ?
World

Bruno Gransche   by

Social
Post-Capital   Moritz Greiner-Petter   World   ?
Critical   ?
by   Social

Anja Groten   ?
Critical   ?
Meike Hardt   Social

Guy Julier   Design Culture

Re-visioning   Claudia Mareis
Human

by   Speculative   ?
                    ?
World   Speculative
Critical   Emanuele Quinz
Social   Mara Recklies   by
Michael Renner   by
Social   Social
Critical   by
Matt Ward   World   ?
World   ?
Janneke Wesseling
Speculative Social   Patrycja Zdziarska   Critical
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