

Care-politics in design: Towards an inventive feminist research practice

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Thesis submitted for the degree of Doctor of Philosophy (PhD)

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June 2022

Declaration

Except where I state otherwise by reference or acknowledgement, I declare that this thesis and the work presented are entirely my own.

Sarah Pennington, June 2022

Abstract

This thesis aims to build a sensibility of matters of care into the practice of design research and pedagogy. It is written from the perspective of Science and Technology Studies (STS) and Design Research. While care in design may seem to be a given, on closer analysis, the rhetoric of care is confused and underdeveloped in the discipline. Therefore, to explore a sensibility of care in design, I have developed a typology of 'Care-politics' as a means to detect different versions of care that instantiate and operate in design, and have reviewed the notion of 'matters of care' that has recently arisen as a problematic in feminist STS. This body of work reveals care as an affective practice with 'ethico-politics' and speculative characteristics. I argue that the notion of matters of care has implications for design practices that have hitherto focused on matters of concern, as it offers a renewed criticality with the worlds that we study, construct and are implicated in. Consequently, the typology is taken up as an analytic framework as well as a sensibility for the practice research developed in the thesis. The practice research included in this thesis consists of a structured discussion on gender issues in design institutions, a post-graduate teaching project, and the search for a lost design research device. This is to say that the academy and my prior practice are used as locations for a situated inquiry into care through the case studies. Key to the research is a methodology that combines participant observation with affective methods, a 're-doing' and revisiting of existing materials, as well as a responsive approach to ethics – a methodology that is deeply informed by, and indebted to, studies of care in feminist STS. Throughout the thesis I argue for ways of considering the multiple versions of care that are being enacted and reproduced in design practice and its outcomes. The difference a feminist STS matters of care offers is an attention to the limitations and constraints of an affirmative, gendered practice of care, and leads me to propose 'inventive ethics' in order to renew and 'thicken' speculative processes of inventive problem making in design.

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List of abbreviations

ANT	Actor-Network Theory
CCQ	Care Quality Commission
CD	Critical Design
CHI	ACM Conference on Human Factors in Computing Systems
DIS	Designing Interactive Systems
DRS	Design Research Society
EPSRC	Engineering and Physical Sciences Research Council
HCI	Human-Computer Interaction
HE	Higher Education
ICT	Information and Communications Technology
IRS	Interaction Research Studio, Goldsmiths University of London (2005-2021), Northumbria University (2021-ongoing)
LASF1W	Look After Something For One Week
NOT	Noticing Overlooked Things
PD	Participatory Design
RCA	Royal College of Art, London
REF	Research Excellence Framework
SCD	Speculative and Critical Design
SD	Speculative Design
STS	Science and Technology Studies
UKRI	UK Research and Innovation

Acknowledgements

My immense thanks to my supervisors, Alex Wilkie and Michael Guggenheim, for your patience, for steering me through the field of STS, and for guiding me to transform the ways I write and think with practice. Thanks to the collaborators who have greatly enriched the practice in this thesis: Tanveer Ahmed and Mathilda Tham and the participants of the DRS Conversation; Katherine May, Liam Healy, and the Goldsmiths MADEP students who undertook the ‘Caretakers’ teaching project; and to Bill Gaver, Andy Boucher and Mark Blythe for their insights on the missing research device. To the Laurie Grove PhD community, past and present – Alison Thomson, Becca Rose Glowacki, Danah Abdulla, David Chatting, Liam Healy, Mike Thompson, Paulina Yurman, Tim Miller, Tom Critchley, Tom Keene, and Tom Marriott – thank you for the motivation, the nourishing conversations and thinking through shared confusions. This project would have been impossible and a lot less fun without you all. My thanks to my examiners, Alex Taylor and Daniela Rosner, and to those who gave feedback on drafts of this work, including my upgrade examiners, Rebecca Coleman and Bill Gaver, and my friends Eleanor Margolies and Gillian Russell. Bill – your question about the relationship between care, maintenance and speculation became central to the writing of Chapter Five, and our conversation led to the case study of Chapter Six. Thanks to my colleagues at Goldsmiths, especially to Ruby Hoette, whose matchmaking sparked the teaching collaboration, Tobie Kerridge for your encouragement and energy, and Jade Vu Henry for your perfectly timed insights on matters of care. This research was funded by the Design Star Centre for Doctoral Training and supported by the administrative team at Design Star and Goldsmiths University, notably Polly Harte, Rosamond Eele, Chris Price, Morgan Bach, and Lucy Last.

To my family and friends – Mum, Dad and my sister Helen, and to Tara Bell, Stella Dunn, Sarah Rodrigues, Alex Macleod, Kate Sclater, Janis Finnigan, Yolanda Chiaramello, Jo Blair, Rachel Traeger, Linda Sandino and Pamela Stang – thank you for your unconditional support, and the much-needed Rivoli nights out. There have been some significant challenges in completing this PhD, not least parenting and a pandemic, but also a serious health issue in the final months of writing up. Thanks to

everyone who looked after me and checked up on me during this time. Finally, I would like to thank Chris for your clarity and encouragement, and for making time for me to do this work, and my children Cooper and Howie – you were both in primary school when I started this project; now you are both taller than I am and you let me know it every day. Thank you for being amazing.

1

Rethinking design with care

Why care?

What is the position and role of care in Design? Arguably, care is a core assumption. Design strives and claims to attend to care, whether care is present in the concrete ambitions of the design of services of welfare and healthcare; the efficient design communication of textual and visual elements; the care of, and for the user through ergonomic designs and human-centred processes that are empathic and inclusive; in traditional concerns with competencies in form giving; a care for the built environment through sustainable materials; a care of the client needs; or the ability of designers to materialise forms that encourage debate on matters of concern. And yet, on closer analysis, and surprisingly, what is understood as care is underdeveloped in design. The position and role of care in design is also a question that has recently been posed in sections of the design community, who have used care as a provocation and point of reflection for what designers and design researchers do, or should care about in design research (e.g., Rodgers et al., 2019; Mattelmäki et al., 2019). As the design community questions what it might mean to rethink design with care, it would seem paramount to reflect on the assumptions that underpin the notion, including approaches and outcomes that might be seen as caring. This thesis is intended to contribute to these discussions, specifically, by taking understandings of care from feminist scholarship in the social sciences, and

in particular, recent work in feminist Science and Technology Studies (STS) as a critical lens for a practice-based enquiry in design research and design pedagogy.

A key argument of this thesis is that certain design research and teaching practices, including practices that I have been involved with historically, have been preoccupied with design that opens-up complex issues, or “matters of concern” (Latour, 2004). However, scholars in feminist STS have recently problematised matters of concern with a call for “matters of care” in our engagements with knowledge-making practices (namely Puig de la Bellacasa, 2011, 2017). This has implications for design research practices too. Put succinctly, this call for care encourages a particular affective and ethical repertoire for research practice. The implications of this call will be explored in the case studies of this thesis – that are a structured discussion on gender issues at a design research conference, a post-graduate teaching project, and the account of a missing research device – all of which are set in my situated position of knowledge-making within the Design academy. Through them, I aim to consider the challenges and possibilities of matters of care as a sensibility in design research practice, and to reconsider design processes that are conceived as issue-gathering, problem-making and speculative. Moreover, a crucial aspect to conducting and analysing the case studies is the development of a new typology that identifies and multiplies concepts of care, and through which I am able to differentiate between versions of care that are made in practice.

This introductory chapter discusses the context and background of the thesis. First, I provide a concise overview of care in feminist scholarship, notably in STS care studies. Next is a description of how I arrived at care in this research enquiry, connecting prior practice in speculative design research practice and curation to feminist STS concerns with matters of care. Following this, I describe how I have applied a ‘care in practice’ approach in this research, to understand ‘types’ of care and their instantiations in design practice and outcomes. I preview my three practice-based case studies. I then outline an underdeveloped area of ethics in design, including in speculative or problem-making design practices. This PhD operates within the established trading zone of Design and STS, and I provide a synopsis of scholarship in these overlapping fields, including practices that have similarly taken up the call for reconsidering design ‘with care’. Throughout this chapter, I point to the three key contributions I make in this thesis. In brief, they are a typology of care in design, an empirical understanding of the limitations of care,

and a thickening of inventive problem-making processes with what I call ‘inventive ethics’. Finally, I provide the research questions and aims, and a summary of how the thesis is structured.

Care as a feminist concern

While care has become a recent provocation in design research, it is also an issue of acute public concern. In the present day, in the UK (where I am writing this thesis) a rhetoric of crisis frames care (Gill et al., 2017, p. 4). The ‘crisis of care’ is a phrase used to describe a variety of pressures around caring activities that range from being squeezed in the ‘work/life balance’, to the lack of state funding and value given to the services of care provision, such as health, social care, as well as the privatisation of care services that are run for profit, through to the precarious working conditions of those who do care work, all of which have been amplified during the Covid-19 pandemic.¹ However, in this thesis, I will not intentionally foreground this political crisis of care in my practice. Furthermore, this research is not located in healthcare, the dominant context for care in design (Vaughan, 2018, p. 1). Even in Chapter Six, when the practice addresses a care home, the chapter is not centred on healthcare. Instead, this thesis aims to explore the possibilities for matters of care as a theoretical and methodological sensibility in design research and teaching.

In the social sciences, care is not a new topic. Since the 1970s, care has been a central concern in the work of feminist scholars in relation to gendered and devalued labour, and a long tradition of scholarship has worked to expose the politics in relations of care. This scholarship includes a feminist ethics of care that underscores the necessity of relational care work to survival, politics and knowledge (e.g. Fisher & Tronto, 1990; Gilligan, 1977; Sevenhuijsen, 1998). Here, care as a feminist concern becomes simultaneously a political activity and a moral orientation towards others; for example, political theorist and care ethicist Joan Tronto (1993, p. 118) describes care as a practice and a moral disposition. Feminist researchers also emphasize that care is marginalized and devalued

¹ A number of collectives have been established to respond to the crisis of care, including *The Pirate Care Project* – a network of scholars and activists who operate in the “grey areas of the law”, initiating collective practices to plug the gap of neglectful care policies that exclude the vulnerable (Graziano et al., 2020); and *The Care Collective*, originally a London-based reading group who aim to understand and address the multiple crises of care (Chatzidakis et al., 2020).

in contemporary society and science. Typically, care was bracketed as outside of knowledge production, relegated to ‘women’s work’ in the domestic sphere, or the subjective experience of the body, and was not taken seriously as an intellectually interesting topic. Likewise, standpoint feminist science studies scholar Hilary Rose (1983) argued that “thinking from caring” would enable a more responsible science. Therefore, these precedents offer an attention both to the problems of care (such as how care is feminized), and to its potential to transform society, science and technology. In Chapter Two, in a section called Feminist Epistemologies, I will describe and analyse this perspective further, as one version of care.

The STS studies that my research draws on are rooted in this scholarship based on a feminist ethics of care. STS is a broad and interdisciplinary field, but largely consists of research on the role of science and technology in society as well as knowledge practices, and how these shape, and are shaped by society, politics, and culture. In particular, I look towards feminist scholars in STS who have been developing empirical and theoretical accounts of care over the last decade for guidance on the problems and possibilities for care in design research. Over this timeframe, the notion of care has proliferated in STS, with diverse theoretical and empirical engagements (Gill et al., 2017, p. 7). As sociologists Lisa Lindén and Doris Lydahl describe, care has recently become something of a buzzword in STS (2021, p. 3). As such, next I sketch out the engagement with care in STS, tracing key contributions in the field, and that are taken up through this thesis.

Earlier work on care in the social sciences, notably Joanna Latimer’s ethnographic study of elderly nursing in a UK hospital (2000), highlighted the day-to-day relational and intimate aspects of nursing and being nursed. Latimer’s work is significant to studies that come after because it argues for considering mundane, affective and embodied experiences, and the validity of care in knowledge practices. Subsequently, when STS scholars Annemarie Mol, Ingunn Moser and Jeanette Pols (2010) published their collection of ethnographies of *Care in Practice: On Tinkering in Clinics, Homes and Farms*, they reaffirmed that care is not only a domain, “but also, and more importantly, a mode, a style, a way of working” or a “logic” (p. 7; also Mol, 2008). The authors describe a variety of “practices to do with care, all the while wondering what care *is*” (2010, p. 7). This includes the practices of telecare service operators that adapt formalised procedures to specific situations (López et al., 2010, p. 82); or of inspection practices of cattle tracing systems in

farming that set up frequent collisions between the ambitions of governmental control and farm-based practices of care (Singleton, 2010, p. 241). According to feminist STS scholarship, care is something that is done in practice – specific practices – and this is a material practice, in these examples, involving technologies and animals, as well as humans. Two important consequences here are that an understanding of care from STS does not settle on an overarching definition of care, and, furthermore, counts both human and non-human actors in configurations of care. What follows from this is a conception of a logic of care as a responsive, situated, and experimental practice. Then in 2011, technoscience scholar Maria Puig de la Bellacasa published *Matters of care in technoscience: Assembling neglected things*. In this article, Puig de la Bellacasa’s concept of “matters of care” is presented as a problematic and a development of Latour’s (2004) “matters of concern” which attests to the constructed nature of facts and knowledge. I will return to the differences between concern and care in Chapter Two; and as I will describe in the next section, it provided an important juncture to how I first arrived at care in this thesis. The reason that Puig de la Bellacasa foregrounds care is to not to replace concern, but to revitalise a mode of critical engagement with the technoscientific worlds that we study, construct and are implicated in (2011, p. 89). This thesis aims to contribute to a critical sensibility with care in the domain of design research and teaching practice.

These precedents of “care in practice” and “matters of care” indicate two layers, of 1) practices of care that are enacted and encountered in research field sites, and 2) care as a theoretical and reflexive sensibility. At times, the distinction between these layers is blurred – such as Puig de la Bellacasa’s reflexivity with a care sensibility while practicing care for soil (2015). This scholarship underpins subsequent STS care studies (e.g., Martin et al., 2015; Gill et al., 2017). For example, the special issue on *The Politics of Care in Technoscience* presented a collection of articles that responded to Puig de la Bellacasa’s call to think with a “critical care” in STS, and focused on the thematics of the politics, power relations, non-innocence and “darker sides” of care (Martin et al., 2015, p. 3). In sum, although there are different concerns and settings in these publications, what is developed is an understanding of care as having three ‘rough’ dimensions of: an affective state, a practice, and an ethico-political obligation or commitment (Puig

de la Bellacasa, 2017, p. 5-6).² These dimensions of care will be used throughout this thesis, and I will give them more detail throughout. They will be used to investigate and construct a sensibility of care in design. They also give structure to the chapters. In Chapter Three, I describe the methodological approach to ethics that this study takes, and in the empirical chapters, I will review affect, practices of maintenance and repair, and obligations, to support the analysis.

Arriving at care

I did not begin this PhD with a proposal about care in design. I began with a proposal to investigate the curation of speculative design. I understand curation, not necessarily as an act of presenting an existing design, but as an exercise that connects to a concept of care, where ‘cura’ etymologically means care. (For example, a curator typically cares for a collection). I also understand that speculation in design can be located in different practices and outcomes, and in Chapter Five, I will describe different versions of speculative practice.³ This includes the at times referred to as speculative practice of my own prior work as a design researcher with the Interaction Research Studio (IRS) between 2000 and 2015, based first at the Royal College of Art and then at Goldsmiths University, London, developing and deploying computational devices (Fig. 1). Processes and outcomes are arguably speculative in this practice, in as far as they do not provide a fixed articulation of socio-technological issues, but seek out and open up complexity, ambiguity and interpretation (Sengers & Gaver, 2006), or in other words, are concerned with “inventive problem making” (Michael, 2012b, p. 172, quoting Fraser, 2010).⁴ This practice forms the backdrop to my interest in speculation presented in this thesis, and particularly the case studies of Chapter Five and Six, where I explore entanglements between care and speculative processes in design.

2 Puig de la Bellacasa (2011) understands care “as something we do” that “extends a vision of care as an ethically and politically charged practice” and “one that has been at the forefront of feminist concern with devalued labours” (p. 90). It also involves an “affective perspective” where “transforming things into matters of care is a way of relating to them, of inevitably becoming affected by them, and of modifying their potential to affect others” (p. 99). In other words, care is a material practice, with ethico-politics, and draws attention to how we affect and are affected by the things that we study.

3 I agree with Mike Michael’s suggestion that “a certain amount of care is required” when using the word speculation in relation to design (see Boucher et al., 2018, p. 116) because of the shifting alignments and classifications of practices that are associated with speculative and critical design. Furthermore, speculation in design is also not restricted to SCD practices, as I will discuss in Chapter Five.

4 The Local Barometer project (Gaver et al., 2008) – where custom-built devices that served to prompt and reconfigure a participant’s understanding of neighbourhood demographics, the weather, commerce and politics – is an example of “inventive problem making” through design (Michael, 2012b, pp. 176–177).



Fig. 1: On a deployment with the the *Drift Table* (Interaction Research Studio) in 2003.

Alongside the work of the IRS, I have also witnessed the development of Speculative and Critical Design (SCD) – a combination of a set of practices including Critical Design and Speculative Design. SCD indicates a range of ‘speculative design’ (e.g. Auger, 2012; Dunne & Raby, 2013) and ‘critical design’ (Dunne, 1999) practices where, rather than using design as a means to solve problems, material outcomes are used to question the role of science, technology and design in society, and open up issues of concern on contested futures to public debate, often in exhibitions. In the last decade, speculative design approaches have been critiqued on several points including: the authorship of speculation and the privileged perspective of designers (Thackara, 2013; Prado de O. Martins, 2014) and deterministic stances around technological progress (Cogdell, 2009);

the efficacy of public debate (Kerridge, 2015); the view that exhibitions of SCD suffered from oversimplification (Malpass, 2012, pp. 6-7) and that museum conventions restrict a more participatory engagement with audiences to promote criticality and speculation (Russell, 2017). These issues formed the topic of my MA dissertation in Design Curation in 2014, in which I researched how curatorial techniques inhibit or enable debate and critical engagement with SCD. I made work to think through these critiques in the form of curated events, including a participatory and situated speculation around a matter of environmental concern, called Antarctica SE3, a curated walk outside the gallery environment in south-east London (Pennington & Margolies, 2019).

However, this practice invited the following questions: if curation is a practice of care, then what were the possibilities of care in design?; and if making a work that gathered publics around a matter of concern was a mode of practice in SCD that was under criticism at that time, then what was to be done with matters of concern in design? These questions coincided with my recognition that the critique of concern and the possibilities of care was also a timely and pertinent debate in feminist STS, and in particular, the work of Maria Puig de la Bellacasa, who explicitly points to the differences between matters of concern and care. Therefore, these formative practices partly directed and sensitised me to the call for care in STS, and the possibilities for care in design. At this point in the trajectory of my research, I shifted the focus to care, and set about to understand what this sensibility might require in design practice.

Care in practice

However, during the early stages of this research, I found a problem, namely that discourses around care are confused. As STS scholars Aryn Martin, Natasha Myers and Ana Viseu put it, care has “ambivalent rhetorics and practices taken up in its name” that require attention (2015, p. 6); and similarly social scientists Rob Imrie and Kim Kullman suggest that care has “contradictory definitions” (2017, p. 3). At the same time, identifying and applying the aforementioned ‘care in practice’ approach of feminist STS lets me attend to care in design research and teaching, not as a fixed set of procedures, or an idealised version, or necessarily located in the healthcare domain, but as something that can be made in varied and multiple ways.

Therefore, in order to sort out the confusion around the rhetorics and practices that surround care, in Chapter Two, I develop a typology that analyses and distinguishes versions of care. This also provides a framework for reviewing the theoretical context of this study. By way of preview, the versions of care that I identify are called: Care-politics-1 (Matters of Care), Care-politics-2 (Matters of Concern), Care-politics-3 (Pastoral and Protective Care), Care-politics-4 (Feminist Epistemologies), and Care-politics-5 (Biopower). I then connect these versions of care to indicative examples of design practice. This helps me to answer a key research question in this thesis – to identify and locate versions of care that can be found in design. This is also to say that it is not my intention to make judgements about design that is ‘more or less caring’ in this study, but to assert that there are different types of care in design. The typology is the first key contribution of this study and is relevant to scholarship on care in design and the social sciences. Furthermore, this typology becomes a heuristic tool to examine the different versions of care in the settings of my case studies. However, this study aims not only to follow the different versions of care in design practice that I set out in the typology, but also to understand what a version of care from feminist STS offers design practice in research and teaching. In other words, I aim to use care as both an orientation for analysis, and well as a sensibility for practice in design.

Design in this thesis is conceived as a process of research through design (Frayling, 1994), which I understand as a form of practice mutually informed by theory, and prior research and teaching. I treat the processes of design research and pedagogy as episodes for empirical analysis (Kerridge, 2015, p. 176), and I consider novel artefacts, existing materials, formats for social interaction, teaching outcomes and research investigations to be designed objects in this thesis. I have made three different case studies, in collaboration with participants and a community of practitioners. As an overview, they are 1) a participatory ‘Conversation’ at a design research conference, on the matter of concern of sexism in Design; 2) two iterations of an eleven-week teaching module with MA Design students at Goldsmiths University, London, that took the possibilities of thinking and practicing with care to the pedagogical setting of my teaching in design studio practice; 3) and the practical search for a missing speculative design research device called the Photostroller (Blythe et al., 2010; Gaver et al., 2011) to consider how to care for this ongoing account of practice. Each case study provides a

different empirical object to examine and investigate the typology, the aforementioned three dimensions of care, and the question of the potential of a care sensibility in design research practice. Presented chronologically, the analysis of one case feeds into the practice of that which follows: the first event at the conference required unsettling an affect of gendered care, an analysis that guided my research thereafter; the teaching brief and student responses produced examples of ethics that emerge in practice, and an attention to practices of repair and overlooked artefacts, and was part of the reason why I noticed the overlooked research device as a lure for a project.

Given the settings of my practice-based research, I am also aware that what counts as a location for care in practice is not necessarily limited to domains traditionally associated with care and design – such as health, social or elderly care. As a sensibility or ‘logic’, care can potentially be applied to any number of situations, topics, or settings. However, located in Latimer’s concerns with care and knowledge-making, is her argument that institutions with a ‘duty of care’ should not just include the obvious ones of medicine and nursing, but can also include universities, research institutions and disciplines, where there are responsibilities to care for the production of knowledge (quoted in Latimer & López Gómez, 2019, p. 249). Therefore, in feminist STS care scholarship I recognise the following appeal: to consider how the notion of care can offer a way of working and a mode of criticality in our knowledge-making practices of scholarship (e.g. Martin et al., 2015, p. 3), in my case, design research and teaching practices.

Care and ethics

In learning from STS researchers working on ‘critical care’, I also do not believe that care is automatically good nor necessarily desirable (Duclos & Criado, 2020). Instead, I recognise that care has both problems and possibilities. Furthermore, I understand that the problems and possibilities of care are not fixed, and arrangements of care can change over time. A second contribution this thesis makes is to use the case studies empirically to point to the ways in which care and repair can be burdened with normative and essentialised affects in the design of activities. This is also how ‘feminist STS studies on care’ differ from an earlier ‘feminist ethics of care’ because the former attend to different notions of ‘good’ care in practice through case studies as an “empirical ethics

of care” (Pols, 2008, 2015), whereas the latter was arguably more concerned with clearly defining ‘good’ care as a normative ethical theory. It is important to stress that STS care studies view ethics as a practical doing rather than an idealised or moral action that embeds ethics in general principles, in part to remain aware of automatic associations between care and women. In other words, ethics are made through “situated, complex everyday practical entanglements of matter and ethics” (Latimer & Puig de la Bellacasa, 2013, p. 155), that is, from the located specificities and practices of care.

My research takes up an understanding of ethics from feminist scholarship as a navigational tool for rethinking ethical dimensions in design research. Theoretical discussions on design ethics span several decades and include the need for responsible decision-making in technology development (Verbeek, 2008) and the ethical challenges for design in the context of the Anthropocene (Chan, 2018). However, it has been claimed that design has not paid enough attention to its implications (Miller, 2014) and that design is “quintessentially an ethical process” (Devon & Van de Poel, 2004, p. 461). As design scholar Jeffrey Chan argues, “Which problems designers choose to solve – and why – and who to include or exclude as beneficiaries of this design not only presume choice preferences but also more fundamentally, value positions on the good or worthwhile life” (2018, p. 184). Chan’s argument implies that design is a process that implicitly engages ethics. Explicit ethical principles and guidance for design practitioners is offered from professional associations, such as the AIGA Standards of Professional Practice and the Society of British Interior Design code of ethics,⁵ and in academic design research, there are institutional ethical codes to abide by. These are ethics that limit responsibility to the competency of disciplinary standards (Donahue, 2004) or codes, but may not cover the principles involved in design research (such as gaining the trust of participants, Light & Akama, 2019, p. 137), or the uses to which a design is put. As such, it appears that design ethics are an underdeveloped area (Chan, 2018; Fisher & Gammon, 2019, p. 1) and are also marginal within design education (Fry, 2009, p. 3).

Moreover, ethics are also an issue in design that shifts away from a problem-solving orientation. For example, Jeffrey and Shaowen Bardzell make the point that critical design foregrounds the designers’ *own* ethical values on technoscientific issues (2013,

5 See: <https://www.aiga.org/resources/aiga-standards-of-professional-practice>; and <https://www.sbid.org/accreditation/sbid-code-of-ethics/> [Accessed 21 March 2022].

p. 3300); and in SCD, designers have been criticised for a lack of commitment to any specific object of study, choosing to move on as soon as the project has been exhibited, and thereby forsaking a more engaged political enquiry into a project's implications (Tonkinwise, 2014; Prado de O. Martins, 2017, p. 38), such as in reflexive accounts (e.g. Kerridge, 2015). So while a premise of SCD is to open up public debate on the ethical implications of scientific and technological research,⁶ the ethical repercussions of the design work that is made, or the scenarios that are imagined, are rarely addressed. This also leads to me to question what happens when a 'non-problem-solving design project' ends, including design research objects that are made and deployed, and where 'after-the fact' ethics may have emerged. This is a key consideration in my research and is part of the rationale for the case study to locate the missing research device. Furthermore, an attention to ongoing ethical repercussions that emerge in design practice is not considered a negative problem in this thesis, but is seen as holding potential for further invention (e.g. Maniglier, 2019) – a point that will be exemplified in my analysis of student responses to the teaching brief. In the concluding chapter, I argue that the third contribution of this thesis is the notion of 'inventive ethics' in relation to speculative processes in design practice, and as a contribution to the existing literature on inventive problem making in design (e.g. Michael, 2012a, 2012b).

Design and STS

Drawing on scholarship in STS and feminist STS, I situate this study within an interdisciplinary crossover between STS and Design, and in particular, feminist STS studies on care. There are precedents of research at the intersection between STS and design (as well as with art and architecture, Marres et al., 2018). As design researcher Li Jönsson articulates, engagements in "STS-Design" offer great potential in the combination of material making practices and empirical written enquiries (2014, pp. 12-13). For STS scholars, inventive processes and designed artefacts provide a source for empirical research on the role of science and technology in society (such as Hughes' foundational historical analysis of the evolution of engineering and electricity, 1993). For designers,

⁶ As one example, *Evidence Dolls* (2005) by Dunne & Raby were designed to stimulate critical reflection on the ethical implications of genetic engineering (Available: <http://dunneandraby.co.uk/content/projects/69/0>). [Accessed: 25 May 2022].

STS analyses of technologies offer theories and methods, notably actor-network theory (ANT), the inclusion of humans and non-humans in research, ethnomethodology, and the role of publics and artefacts in democratic processes, through which the designers, technologies, objects, publics and so on are understood as situated, emergent and undetermined actors. STS theories and methods can be seen in relation to the democratic design experiments in Participatory Design (Binder et al., 2015), publics-in-the-making and “patchworking” (Lindström & Ståhl, 2014), SCD and public engagement (Kerridge, 2015) concerning speculative processes (Michael 2012a, 2012b; Tironi, 2018); the use of conceptual figures (Wilkie, Michael, & Plummer-Fernandez, 2015); and the uptake of matters of concern to inform the practice of design research and pedagogy (e.g. Binder et al., 2011; Wilkie & Ward, 2009; Wilkie, 2019) to name a few. (Also see Chapter Two – section ‘Care-politics-2: Matters of concern’).

Furthermore, feminist STS scholars have sought to expose the gender politics embodied in designed objects, including domestic technologies (Cockburn & Fürst-Dilic, 1994; Cowan, 1983; Wajcman, 1991) and ICTs (Rommès, Van Oost and Oudshoorn, 2003). In design there has recently been an explicit and sustained interest and uptake of feminist scholarship from STS. This includes a proposed integration of feminist STS values into interaction design research and Human Computer Interaction (HCI) (Bardzell, 2010), how ubiquitous computing replicates visions of gender relations of the ‘household unit’ (Bell & Dourish, 2007), the use of figuration in participatory design (Lindström & Ståhl, 2014), as well as inventive practices on topics such as non-anthropocentric design (Jönsson, 2014), relational capacities in bio-sensing (Taylor, 2016), feminist approaches to SCD (Forlano, Ståhl, Lindström, Jönsson & Mazé, 2016), the clothing of women cyclists (Jungnickel, 2018), and “critical fabulations” recovering the gendering of electronic circuitry (Rosner, 2018). This is by no means a complete overview, but clearly there is dialogue and collaboration between STS, feminist STS and design that has been productive in fostering concerns, analysis and practices.

A number of other design researchers and practitioners have recently begun to question what care might mean in relation to design, also informed, to a greater or lesser extent, by feminist STS studies on care. This includes work in urban studies (Imrie et al., 2017), architecture (Brolund de Carvalho & Linna, 2017; Petrescu & Trogal, 2017), Fitz & Krasny, 2019), speculative design (Elzenbaumer, 2018), interaction design and HCI

(Toombs et al., 2015, 2016), in participatory design (Light & Akama, 2014; Lindström & Ståhl, 2014, 2019, 2020) and design education (Jönsson et al., 2019; González & del Castillo, 2018) – and these latter two projects have particularly inspired some of the teaching activities developed in the research and reported on in this thesis. Often these design studies use the notion of interdependencies and reciprocity from care thinking (that can be located in Puig de la Bellacasa’s (2012) reading of feminist scholars such as Haraway) to highlight the entanglement of design with the setting and participants at hand (e.g. Light & Akama, 2019., p. 135; Toombs et al, 2015, p. 629).

It is important to underscore the specificity of this interest and uptake. For example, design theorist Lauren Vaughan promotes questions of care in design “cultures”, as she calls it – meaning a relational mindset relevant for all design research practices, rather than a specific domain (2018). However, unlike this thesis, Vaughan does not draw on STS, and initially pivots her provocation using a feminist care ethicist who takes a human-centred, problem-solving approach to define care as a moral ideal grounded in an inquiry and empathy (p. 16). As I will describe in the next chapter, the theorists from feminist STS that I draw on aim to unsettle this approach to care, and view care as including non-humans with ongoing, speculative ethics.

Elsewhere, the recent practice of Kristina Lindström and Asa Ståhl is set in the context of a Scandinavian tradition of Participatory Design – a tradition that has a sustained engagement with ANT and STS – and takes up perspectives from feminist technoscience. Lindström and Ståhl (2020) have been concerned with a move from engaging publics with issues of science and technology, to, as they put it, living in the “aftermath” of industrialised design as a more-than-human entanglement.⁷ They describe this as a way of practicing design that has the potential to transform matters of concern into matters of care (p. 137). Through participatory “plastiglomerate walks” set in Iceland, they look to find a situated and practical approach to taking care of plastic waste, composting Styrofoam plastics, that are part of the legacies of industrial design production, as a form of “material participation” (Marres, 2012). Here, a focus on care offers an alternative to science and technologies that espouse continual human innovation through extractivist practices, contributing to the destruction of the planet,

7 “More-than-human” is a term coined by geographer Sarah Whatmore, to argue for the hybridity of humans and non-humans and their co-fabrication of the socio-material (2006, p. 603).

practices that arguably underpin design. While my thesis does not take issues of care to the complicity of design with ecological concerns, as important as this is, I similarly use a care sensibility to relate to existing materials and devices already in the field, as a renewed criticality with the worlds that I study, construct and am implicated in.

Therefore, an aim of this thesis is to contribute to developments in STS-Design. Two of my interventions have taken place in the pedagogic setting and research practices of the Design Department at Goldsmiths and to experiment with a feminist-STS care-inflected approach in research and teaching in this context is significant for two reasons. First, there have already been many substantial engagements between STS and Design in research activities in the department (e.g., Beaver et al., 2009; Boucher et al., 2018; Michael & Gaver, 2009; Wilkie, 2010; Gaver et al., 2015; Wilkie et al., 2015); as well as through the longstanding engagement between the Design Department and the Centre for Invention and Social Process (CISP), an internationally renowned STS research centre based at Goldsmiths. Second, there are varying approaches to speculation in the department, including staff who have developed engagements between the field of the 'public understanding of science' and SCD (Kerridge, 2015) as well as the aforementioned work of the Interaction Research Studio. In this setting, academics and designers have also been developing novel theoretical approaches to speculation in design, drawing on a particular tradition of pragmatist and speculative thought of William James, John Dewey, Alfred Whitehead, Gilles Deleuze, and Isabelle Stengers (e.g. Wilkie et al., 2017). For example, Liam Healy (2020) has recently problematised speculative design practices that engage with politically complex matters (such as the European borderscape) through drawing on speculative and process philosophies. This is to say that this thesis has been produced and supported in a setting where there is an exploration of design, STS and speculative approaches. At the same time, my practice and analysis are made using a logic of care from feminist STS, which differs from what others have done in this setting.

To summarise, in this opening chapter I have argued that care is an important preoccupation in the social sciences and, more recently, in design, where, although care is a core assumption, it has been highlighted as a question and provocation for practice and scholarship. While care can be understood in relation to infrastructures and services of healthcare and social welfare, and is in crisis in the UK, this rendering of care does not dominate the topics and settings of my research. Instead, the questions

of care in this thesis relate to a theoretical and methodological sensibility, to ask, why and how does care matter for scholarship and teaching in design? I have outlined how my formative practice sensitised me to the important pivot from matters of concern to matters of care in STS, as offering a renewed criticality to knowledge-processes. I briefly described how feminist scholarship has historically been interested in types of work, including care work, typically done by women, and then sought to understand why it was gendered and/or undervalued, and furthermore, that care offered a perspective for responsible knowledge production. While feminists have been preoccupied with care, feminist STS scholars have argued for a non-normative care. In other words, they seek to differentiate care from an automatic association with practices of virtue and nurture, and assumptions about what is 'good' to care about, and instead understand care as a situated, affective, ethical practice, involving non-humans as well as humans. How to practice with a non-normative, non-essentialised and speculative sensibility of care is a question that persists throughout this study. By using theories from STS to guide this research, I situate this study at the trading zone between STS and Design, that has a lineage of precursors, including the scholarship in the environment in which I work and teach, and that shape my arrival at the question of care.

Questions and aims

Given the above, the research questions of this thesis are: Why and how should care matter for design? Indeed, what versions of care operate in design? What emerges when design research and teaching, concerned with inventive problem making and speculative processes, are approached through the lens of a feminist matters of care? Moreover, what are the limits or constraints of care?

The thesis entails three tasks to explore these research questions. They are 1) to identify different versions of care in the literature where accounts of care feature and understand how these versions operate in design processes and outcomes; 2) to deliver a set of case studies to observe and examine versions of care in design practice; and 3) to invent ways in which design practice can operate with and contribute to an understanding of matters of care from feminist STS.

Thesis outline

In Chapter Two, I investigate how and why the notion and practice of care matters for and in design, and propose a theoretical typology to identify and analyse different versions of care. The development of the typology is an essential task because of the ambiguous and contradictory rhetoric around care. I trace five different ‘Care-politics’ alongside associated theories. Care-politics-1 draws on care studies from feminist STS where care is unsettled as ‘good’, and viewed as involving non-humans and an ongoing, speculative temporality. This section builds on the discussion in the current chapter. Care-politics-2 distinguishes care from matters of concern – and that matters of concern emphasise how complex issues are assembled and come to be. This shift from concern to care is a pivotal moment in STS and, I argue, has repercussions for designing with matters of concern. Care-politics-3 draws on Michel Foucault’s notion of pastoral care. Care-politics-4 is identified in feminist epistemologies, where care is a practice of downgraded labour and offers a position of responsible knowledge-making. Care-politics-5 uses Foucault’s notion of biopower to outline the organisation of bodies as a form of care. I relate these Care-politics to examples of design outcomes. Thus, rather than taking care as a core assumption of design, I examine a multiplicity of versions. The product of this chapter is a ‘Typology of Care-politics in Design’ that functions as a device for organising the literature on care in this chapter, and as an analytic device that I will use to reflect on and apply to my practice-based research and teaching.

In Chapter Three I present the methodological implications of the theories and interests set out in Chapters One and Two for my practice-led research in design. My intention is to identify and understand care in design as a practical matter, and to intervene with a version of care informed by feminist STS, as an affective, ethical doing. First, I introduce the settings in which I conducted my practice-based research, and I describe my history within, and access to these field sites. Second, I discuss the methodological rationale for identifying and encouraging Care-politics through inventing methods. This study primarily employs an ANT-inspired ethnographic method of participant observation suitable for studying the practice that I have developed, and that include non-human participants. As well, methods of re-scripting, repairing and rehearsal point to the ways in which the material doing of this study is not intended to

develop novel designed devices, but rather to consider what is already going on, and potentially overlooked, and to re-arrange it. I use affective approaches, specifically disconcertment, to identify emergent ethical issues. Throughout, I work collaboratively and in various configurations, but this sets up key challenges for this study concerning presumptions of shared concepts, accountability, and positionality. Finally, I argue for an ethics that acknowledges both explicit, institutional ethics and responsive, speculative approaches.

In Chapter Four, the first empirical chapter, I examine the practice of a designed ‘Conversation’ in the setting of a renowned design research conference. The conversation was called *Design and Sexism: Assembling a community of care*. How to care for a matter of concern was an explicit and strategic motivation in the development and staging of this session. In this chapter, I use the typology to reflect on the various constellations of Care-politics that circulate in this example, and that are sometimes in conflict. I highlight the dimension of affect in care and unsettle the use of “affective protocols” (Murphy, 2015, p. 718) that were used in this session to elicit feelings in participants and flatten the organisational structure. I argue that these protocols were not felicitous to the issue of concern and worked to ‘script’ a feminine and gendered way of doing care. In the move from engagement with concerns to care in design, I see that this slip into reproducing a gendered care requires attention and consideration, and it is a pitfall and limitation of care.

Chapter Five reports on two iterations of a post-graduate teaching brief called ‘Caretakers’ that I developed in the Design department at Goldsmiths University. I use this practice to analyse some pedagogical challenges of teaching with matters of care, and consider the student outcomes as prototypical examples of the problems and possibilities of care in design. The structure of the 11-week brief was designed to introduce the students to the dimensions of care – that is, an affective practice of maintenance and repair with ethico-politics. For example, the brief began with hands-on activities of cleaning, looking for and repairing damage, and the students were invited to collectively map concerns and look for versions of Care-politics in different settings. However, between the dimension of maintenance of the existing, and speculation in care, the question motivating my analysis is whether care enables new arrangements of possibilities to come into being, or are existing arrangements merely re-presented,

literally maintained or repaired? This question echoes a key dilemma in Participatory Design (PD), between supporting prevailing practices or enabling new ones, that persists through this case study. Teaching design with a feminist-STS inflected matters of care was contingent on and added to the existing obligations of my teaching practice and introduced to some students a speculative and inventive approach to ethics that emerge through design practice.

In Chapter Six, I turn my attention to the Photostroller – a computational research device made by the Interaction Research Studio (IRS) at Goldsmiths University. Between 2010 and 2011 it was carefully designed, deployed in a residential care home, an ethnography undertaken, and peer-reviewed academic articles written and presented. However, since then it has been missing, and its ongoing story is unknown to the IRS. What happens to research devices once their deployment and analysis are over is not generally considered in design research. In this chapter, I present and reflect on the work I made to find out what happened to the lost Photostroller, and to invite the question of how we might “keep on caring for accounts” (Jerak-Zuiderent, 2019) of design research practice. To do this, I foreground Mike Michael’s (2012a, 2012b) mobilisation of the figure of ‘the idiot’, used to slow down and explore “overspills” of knowledge and the processes and outcomes of speculative design research; and Wilkie and Michael’s (forthcoming) reading of the idiot as an epistemic figure concerned with what ‘we’ know. The idiot and care have a set of behaviours that are embodied in my practice of the search. I provide an account of how idiotic processes contribute to the research, but where other values of care also come into play.

In Chapter Seven I conclude the thesis by returning to my original research questions, summarising the contributions of my empirically driven discussion, outlining the implications for practices in design research, teaching and STS. The typology of Chapter Two facilitates an empirical description of the versions of Care-politics that I have encountered in design practice, that I will summarise in this chapter, and I show that arrangements of care can change over time. I describe limitations and constraints for care in practice – when making work in the name of care, care has sticky associations of moral affirmation and gendered labour that are problematic yet easily reproduced, and situations where a practice of maintenance and repair serve to reproduce the present, rather than open up possibilities for the new. I take up an understanding of ethics from

feminist scholarship towards inventive problem making in speculative processes and develop a methodological contribution of 'inventive ethics'. This is also to say that this research uses key concepts derived from STS, such as inventive problem making and figuration, already applied to the doing of design research, in relation to a sensibility of care. Finally, I reflect on future directions that this research can take.

2

A typology of care-politics in design

“Following the trope of care into an ‘unexpected country’ (Haraway, 2011) of blurred boundaries – moral as much as material – requires opening up its possible meanings.” (Puig de la Bellacasa, 2017, p. 17)

Introduction

In this chapter, I investigate how and why the notion and practice of care matters for design, and in doing so, propose a theoretical typology that helps in identifying and analysing different aspects of care in design. Ostensibly, the question of care in design may seem to be anodyne and therefore redundant. Surely care is already part of design’s core assumptions? If we consider design practices and their outcomes, then, arguably, we see care everywhere. As design theorist Lauren Vaughan observes, care is made manifest in the design of materials, communications, products, services, buildings and infrastructures that enact care in any number of settings (2018, p. 1). For example, in the domains of health, social care and education we see care in design enacted in standards and performance measures, in design that celebrates handcraft, in design that protects or mitigates risks, in design that gathers publics around matters of concern, or design that asks questions about ‘who’ or ‘what’ does care. As social scientists Rob Imrie, Charlotte Bates and Kim Kullman argue, writing in the context of urban design, there are diverse understandings and approaches to care in design (2017). While care is a core assumption and key preoccupation of design and the design of objects, experiences and the built

environment, for instance, our understanding of the notion of care in design remains poorly understood in design discourse and practice (Imrie and Kullman, 2017, p. 1). Care seems obvious but is underexplored. The purpose of this chapter is, on the one hand, to survey how care matters in design, and, on the other, by drawing on scholarship in Science and Technology Studies (STS) and, in particular, feminist STS, to consider how care may matter differently.

To investigate how and why care matters in design discourse and practice involves two key tasks. First, I will detect and unravel different versions of care that are mobilised and enacted in design. Here, rather than adjudicate as to what counts or qualifies as care, I survey various instances of care and develop a heuristic typology of care and its relation to design. To do this I will adapt Bruno Latour's typology of politics (2007, p. 818). Second, drawing on a longstanding engagement in feminist scholarship on care as well as recent developments in feminist STS, I aim to develop an understanding of care that both enables new ways to reflect on how and why care operates in design, as well as to develop entirely new ways of practising and considering care in design. A growing body of work asserts that the question of 'how to care' is not simply a matter of how care is actualised in practice (or discursive practice for that matter) but it also concerns the problems and possibilities of care as a modality of doing. It also insists that care isn't only a human preoccupation nor is it limited to human agency but is also a capacity of non-humans. As the various encounters between design and STS have revealed, non-humans play an active and necessary role in design, which I will elaborate on in relation to care. Alongside non-human modes of care, this chapter also develops the argument that modes of care are not necessarily 'warm' and 'pleasant', but also include or relate to the non-affirmative; moreover, care's relation to temporality and the speculative will also be considered. This discussion will feed into the practice-based chapters of the thesis.

I begin by summarising and then adapting Latour's paper *Turning Around Politics* (2007) and I focus on the way he traces five successive meanings of the 'political' through which issues move. My adaptation of this typology involves identifying and naming versions of care, and their attendant politics, and how they can be understood to intersect with design in different ways: biopolitically, in feminist epistemologies, as a pastoral or protective care, as matters of concern, arriving finally at matters of care and recent scholarship from feminist STS. In short, the adaptation of Latour's typology of politics

allows me to develop a typology of care as a multiplicity where 1) versions of care are not discounted; 2) different enactments of care can be identified; 3) the simultaneous enactment of different versions of care is enabled; and 4) the possibility of further versions of care are allowed.

A device to trace versions of politics

STS has a longstanding concern with demonstrating that the materials of science and technology – and design – are political. From the late 1990s, a disciplinary debate centred on Langdon Winner’s account of the design of Robert Moses’ Long Island bridges revealed that the properties of ‘politics in artefacts’ needed scrutiny (Joerges, 1999a, 1999b; Woolgar & Cooper, 1999).⁸ As part of this debate, in his 2007 paper *Turning Around Politics*, Latour responds to the philosopher Gerard de Vries (2007) who suggests that the STS community direct the attention given to the sciences towards politics. Latour welcomes this suggestion because he sees that by taking political theory ‘off-the-shelf’, or concluding that ‘everything is political’, the use of the adjective ‘political’ becomes meaningless. I suggest that the term ‘care’ can suffer the same fate. To avoid lumping all politics together, Latour proposes to follow different meanings of ‘political’ in order to consider how politics ‘turns around’ issues. He asks, “Are we able to qualify different moments in the trajectory of an issue with different meanings of the adjective ‘political’?” (Latour, 2007, p. 815), and argues that an issue passes through different modes of politics, and consequently, issues help to reveal how politics is a process. Latour’s summary of his argument in *Table 1*, reproduced below, identifies five meanings of political, what is at stake in each meaning and theories associated with each meaning (Fig. 2). He suggests that all five must be part of our study of cosmopolitics, adopting Isabelle Stengers’ terminology.⁹

Tracing five versions of politics through the issue of a maternal blood screening

In the 1980s, the Dutch government introduced a maternal blood screening test to

8 To briefly summarise Latour’s response in this debate, he argues that politics are not baked into material or technical objects, such as bridges, but are an upshot of particular actor-networks.

9 Cosmopolitics is a more-than-human version of political theory proposed by Isabelle Stengers who argues for an “ecology of practices” rather than a ‘universal’ politics (2005, 2010).

TABLE 1

Summary of some of the successive meanings of political through which a given issue might pass

<i>Meanings of 'political'</i>	<i>What is at stake in each meaning</i>	<i>Examples of movements that detected it</i>
Political-1	New associations and cosmograms	STS
Political-2	Public and its problems	Dewey, pragmatism
Political-3	Sovereignty	Schmitt
Political-4	Deliberative assemblies	Habermas
Political-5	Governmentality	Foucault, feminism

Fig. 2. Table 1 (Latour, 2007, p. 818)

identify pregnancies at risk of birth defects. It was controversial due to the inaccuracy of the test and the stress that this would cause women. De Vries uses this issue to argue for attention to the “sub-politics” of technological societies that are outside of official political institutions and arenas (2007, p. 806). Latour (2007) takes up De Vries’ example of the maternal blood screening test to trace various politics that turn around this issue, and associates each version with a particular theoretical movement or approach (pp. 815-818). Here, Political-1 – New associations and cosmograms¹⁰ – is used to highlight how the prenatal blood tests produce new associations between human and non-humans (including scientific research groups, pregnant women, doctors and nurses, blood samples, foetuses, health councils, the Dutch government) and modify what it is for women of a certain age to have babies. Political-2 – Public and its problems – emerges whenever the blood screening test entangles unanticipated actors and generates a concerned and unsettled public. The work of scientists evaluating the efficiency of the ‘triple test’ is picked up in the press and circulated. Political-3 – Sovereignty – happens when the Dutch Cabinet attempt to turn the screening test into a question of the common good, and of what it is to be Dutch. Political-4 – Deliberative assemblies – describes another fate for an issue, that views the public as the solution for a participatory democracy. Thousands of women take the test as a way to aim at public health, and through their participation, contribute to the gradual improvement of the test. Political-5 – Governmentality –

¹⁰ John Tresch describes cosmograms as an external depiction of elements of a cosmos, or ‘world view’, that “have been built to make explicit what a cosmic thing can be shown to imply” (2007, pp. 92-93). Cosmograms function to draw attention to more-than-human politics. Examples includes encyclopaedias, maps, trees of knowledge, search engines.

happens when an issue has stopped being Political-4, -3 or -2, even temporarily, and is consumed or naturalised within routines of political administration or management. The maternal screening for birth defects becomes de facto. Latour notes this does not mean an issue is apolitical (p. 817) – in this example, politics remains at work in how the blood test becomes an unsolicited means of population control or excludes those who cannot afford the test.

Latour distinguishes the types of politics that are enacted through an issue, all the while avoiding judgement on a ‘better’ politics. To adapt Latour’s typology for the purposes of care, I similarly do not discount versions of care but reveal different and simultaneous enactments of care in relation to politics and design. In addition, identifying versions of care is concurrent with the points that care “requires attention to the ambivalent rhetoric and practices taken up in its name” (Martin et al., 2015, p. 6). To adapt this typology is also to acknowledge that care and politics are always entangled (p. 3), and I will combine them as ‘Care-politics’ in this thesis.

A device to trace versions of care

The table below (Fig. 3) traces five different meanings of Care-politics alongside associated theorists: Care-politics-1 – Matters of care, Care-politics-2 – Matters of concern, Care-politics-3 – Pastoral or protective care, Care-politics-4 – Care in feminist epistemologies, and Care-politics-5 – Biopower. As a heuristic typology (Winch, 1947; p. 68) it allows me to capture and analytically organise my observations of instances of care deduced from theory and practice, and from the growing literature on care, but I also understand it to be partial and open to further adaptation.

First, I will familiarise the reader with the different versions of Care-politics through a short narrative describing possible issues with the introduction of autonomous vehicles. This will help to illustrate my typology of care. The review that follows describes each version of care and how it relates to design. The reader should note that in the review I begin with Care-politics-5, biopower, and end with Care-politics-1, matters of care from feminist STS, because this is the version of care that is important in the empirical chapters of this thesis thereafter, to describe the challenges of designing with matters of care.

<i>Meanings of 'Care-politics'</i>	<i>What is at stake in each meaning</i>	<i>Examples of movements that detected it</i>
Care-politics-1	Matters of care	Feminist STS
Care-politics-2	Matters of concern	Latour
Care-politics-3	Pastoral / Protective care	Foucault, Tronto
Care-politics-4	Feminist epistemologies	Gilligan, Harding, Haraway
Care-politics-5	Biopower	Foucault

Fig 3: Five meanings of Care-politics.

Tracing five versions of care-politics through the issue of autonomous vehicles

Autonomous Vehicles (AVs) hold a promise of a safer traffic system. In 2015, a UK House of Lords committee argued that research on AVs had only focused on technical aspects. To expand from this focus, approaching AVs as Care-politics-1, or as a matter of care, reveals new configurations of humans and non-humans that require care. Care-politics-2 comes about when the death of a pedestrian killed by a self-driving taxi during a test in the US raises the physical safety of passengers, road users and pedestrians as a matter of public concern. Care-politics-3 – pastoral/protective care – emerges when expert communities of professional drivers take a pastoral role to test and train the AV technology, effectively ‘shepherding’ vehicles. Care-politics-4 – feminist epistemologies – uncovers gender biases in mapping systems and draws attention to the devalued role of those training the AV. Care-politics-5 – biopower – emerges through an entanglement of new design standards, legal frameworks, the government ambition for smart cities and corporate development in sensor technologies that expedites AV adoption and ‘mobility for all bodies’. This version of care can be seen in the way that cyclists and pedestrians are forced to wear beacons that can be sensed by AVs for their safety.

A typology of care-politics in design

Care-politics-5: Care and biopower

I will begin with the last of these five categories, biopower. Latour’s use of ‘governmentality’ at Politics-5 is inspired by the work of Michel Foucault, and a series of lectures he held at Collège de France in 1978 and 1979. It is a way of thinking about governance, or “the conduct of conduct” (see Lemke, 2001, p. 191) and the logics of power that lead people’s

behaviour. In short, governmentality aligns the individual and political populations, and includes the biopolitical disciplining of the individual as a productive member of a population. This is understood as a “biopower”, literally as power over the body (Foucault, 1978, p. 139). It is not my purpose here to discuss the history or limits of governmentality or biopolitics, but to explore and relate this concept to care and its materialisation in design processes and outcomes.

Biopower describes the relations between political power and the body, but rather than conceiving of power as a relation of dominance, the governmentality perspective asserts that the individual and the population co-determine each other’s emergence (Lemke, 2001, p. 191). Biopower is embedded in various apparatuses that are dispersed through the social system, and that work to construct ‘norms’ or ‘standards’ (of ‘the body’, ‘fertility’, or ‘sexuality’, for example). Following this, to think with care through biopower is to recognise that care can organise, classify and discipline bodies, right through from the individual body to the collective body of the population. This demonstrates that care is part and parcel of disciplinary techniques and practices, that are repressive as well as productive, and not simply “a warm and pleasant affection” (Rosengarten & Savransky, 2019, p. 6).

It follows then that materials, technologies and institutions of care are implicated in biopower, for example, ‘the clinic’ organises and operates ‘norms’ of health or what determines a ‘good’ body (Foucault, 1975, p. 184). As Andrew Barry (2001) describes, logics of governance are also enacted through technologies, embedded in the tools and instruments used by ‘active citizens’ as an interactive model of governance, through which “subjects are not disciplined, they are allowed” (p. 129). In their study of nursing homes, farms, telecare and medical practices, Mol et al. (2010) argue that technologies, tools and instruments are active participants in the doing of care (pp. 14-15). In this way, design processes and outcomes can be seen as instruments of care governmentalities, revealing and shaping biopower in material terms.¹¹

To return to the example of autonomous vehicles, in the design of AVs, frameworks and standards require designers to enact biopower through the production of vehicles

¹¹ Examples of design and governmentality are in the ways in which UK policy is shaped through design processes (such as the work of Policy Lab: <https://openpolicy.blog.gov.uk>), and the design of government services online (such as the Government Digital Service: <https://www.gov.uk/government/organisations/government-digital-service>). [Accessed 25 May 2022].

that conform to standards; and national traffic law gets articulated through the design of transport infrastructures, street signage and seatbelts that work to discipline bodies and produce norms of road conduct (Silbey & Cavicchi, 2005). This is care based on “refraining from harming” (Engster, 2005, p. 51) or a mitigation of risk (Beck, 1992, p. 21). Standards, safety or performances codes, such as building or product standards, exemplify common ways in which care is detected in relation to design (Imrie & Kullman, 2017, pp. 7-8). However, most design can be considered biopolitical in its concern with scaling-up from the individual user to the population. As design scholar Alex Wilkie argues, biopower can be seen in practices of user-centred design that perform a “speculative alignment between individual practice and population management” (2014, p. 483). For example, in the prototyping of ‘obesity futures’, the design of a mobile body-worn technology reveals the alignment of the self-governance of a future user’s health routine, corporate ventures that colonise healthcare markets, and government apparatus for population control in an obesity crisis (p. 484). This ‘speculative alignment’ is not restricted to problem-solving design practices such as the one just described, but extends to “problem-finding” practices (Dunne & Raby, 2009), such as SCD. An exploration of biopolitics can be seen in the project *United Micro Kingdoms* by Anthony Dunne and Fiona Raby (2014).¹² The designers have projected the consequences of emergent technologies on transport futures through imagining the governance of the UK divided into four fictional ‘shires’. Models and photographs represent transport in those shires and the impact on the bodies of the populations that live there – the ‘Digitarians’, ‘Bioliberals’, ‘Anarcho-evolutionists’ and ‘Communo-nuclearists’. The Anarcho-evolutionists, for example, are conceived as a clan who adapt and genetically modify their own bodies in relation to particular forms of transport, such as the ‘Cyclists’ who have well-developed thighs, and ‘Balloonists’ who are tall and thin (Fig. 4).

Latour contends that governmentality is a moment when issues become less noticed, consumed in everyday life, yet this does not mean it is an apolitical phase. As feminist scholars reveal, and as I will discuss next, not only are there biases in the design of the material culture of care – including the design of the seatbelt (Criado-Perez, 2019) – but who or what is designated a ‘valid’ caring subject or object of care requires attention.

¹² See: <http://unitedmicrokingdoms.org> [Accessed 22 February 2022]

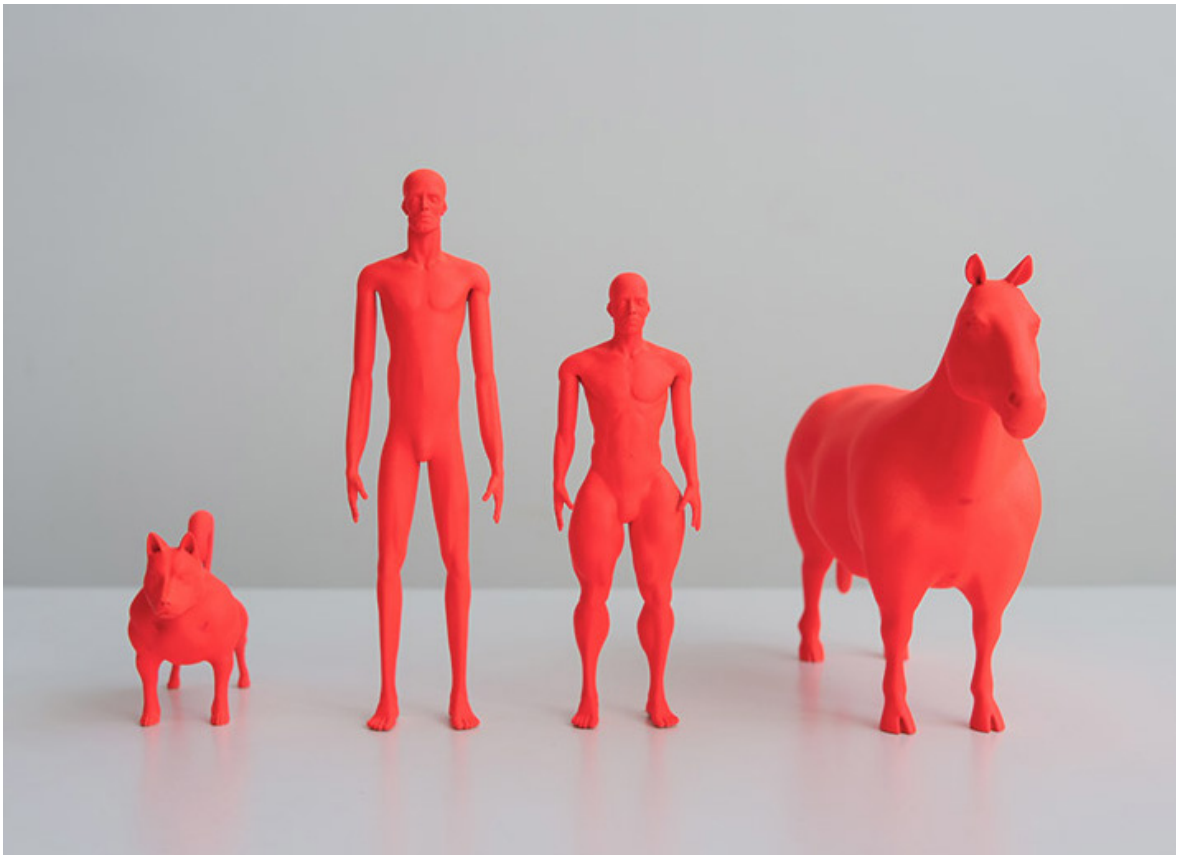


Fig 4: 'Anarcho-evolutionists' in *United Micro Kingdoms* by Dunne and Raby (2014).

Care-politics-4: Care in feminist epistemologies

Care has been a sustained topic of interest in feminist scholarship revealing care as a signifier of devalued labour (e.g. Collins, 1991; Finch & Mason, 1993; Gilligan, 1977; Glenn, 2010; hooks, 1984; Noddings, 1984; Sevenhuijsen, 1998; Tronto, 1987). The topic of care comes out of feminist scholarship for social and political reasons. For example, a central concern of Marxist feminism is the process of 'social reproduction' and how the essential labour of care has been downgraded when compared to that of economic production, through its gender, race and class position (Bhattacharya & Vogel, 2017). Mundane and overlooked practices of care have been elevated through feminist scholarship, shaping feminist epistemologies of an ethics of care, standpoint theory and situated knowledges that I now trace in this section.

Many feminist scholars cite psychologist and ethicist Carol Gilligan's work as pivotal in relation to an ethics of care. Gilligan (1977) argued that female subjects have a "different

voice” than males in her challenge to Lawrence Kohlberg’s theory of morality.¹³ In contrast to the ‘ethics of justice’ of universalised rights proposed by Kohlberg, Gilligan asserts that a different moral voice, often heard in the experiences of women and rooted in the mother-child relationship, asks practical, relational and situated questions as an ‘ethics of care’; setting out a sensibility toward care as something that is often hidden, devalued and feminised. Gilligan’s work provided a starting point for subsequent work on a feminist ethics of care, including by Selma Sevenhuijsen (1998) and Joan Tronto (1993), who emphasise relationality, interdependence, responsiveness, responsibility, and attentiveness in care. However, Gilligan’s work is not without controversy. The argument that women have a different moral voice to men has received criticism on a number of points, including: for essentialising gender (Tronto, 1987, p. 81); for conflating the concept of care with femininity and nurture (see Korth, 2003, p. 489); for relegating care to the private domain (Tronto, 1993); and for an overemphasis on gender to the exclusion of other factors of difference (Collins, 1989, p. 769). In other words, at the same time as an interest in the embodied experience of women as a resource to inform care ethics, scholars are also cautious about associations between a notion of care and femininity. This is a challenge that I pay close attention to in the empirical analysis of my practice in Chapter Four.

Feminist standpoint theory employs the notion of care to question the production of ‘responsible’ knowledge in science. Sandra Harding (1986, 1991) argued that all knowledge is socially situated; and that the experiences of subjugated groups, in particular those doing less-visible care work, could provide alternative modes of knowing to reconfigure the privileged epistemic terrain of science and technology. As an example of this, standpoint theorist Hilary Rose (1983) described how women peace activists at Greenham Common in the UK used images and objects associated with care to disrupt the workings of the industrial-military-scientific complex and nuclear weapons. Rose argues that the nuclear, “anti-human” (p. 77) direction of capitalist science is a result of the separation of “hand, brain and heart” (p. 90); and contrasts this with the activists’ threading of materials of care, such as baby socks, into the fences of the military base, displacing their

13 Psychologist Lawrence Kohlberg argued that more men reached a stage of moral reasoning than women. His theory is considered gender-biased (see Tronto, 1987; pp. 647–648).

caring labour from private to public settings. Through Rose's descriptions, care becomes a position for more responsible knowledge, alerting us to the importance of the relation between care and a practice that has a material and hands-on doing. But at the same time, she celebrates care as affectively charged, using the metaphors of motherhood and love. Those who care for uranium, for example, are excluded from this narrative.¹⁴

Therefore, on the one hand, the legacies of feminist scholarship can offer a route for a more careful and rigorous science, but on the other, can reproduce arrangements of gender, difference or power. Donna Haraway's notion of "situated knowledges" (1988) problematises standpoint theory, and as I understand, offers a route through the conflation of care with gender and difference. While standpoint theory privileges subjugated knowers, Haraway shifts this privilege to partiality or "the particular and specific embodiment of the knower" (p. 190). As social theorist Kirsten Campbell (2004) explains, while both Harding and Haraway are concerned with revealing the construction of knowledge, Haraway does not confuse this with identity politics (p.170-171). For Haraway, situatedness requires "mobile positioning" in which the standpoints of the subjugated offer, not the only, or even necessarily the best, but a better vantage point for knowing (Haraway, 1988, pp. 585-586). This is to argue, therefore, that while the marginalised carer may offer a better position, there is no innocent subjugated feminist position that holds epistemological privilege.

Joan Tronto's project in the political sciences has a similar aim: to take seriously the sensibilities of caring – that she describes as attentiveness (caring about), responsibility (caring for), competence (caregiving), responsiveness (care receiving) and trust and solidarity (caring with) – without falling into the trap of associating these values with essentialist notions of the female gender role as intrinsically nurturing (2013, pp. 34-35). This trap, she argues, would limit the potential of the transformative effect of care as a gender-neutral activity (Tronto, 1993, p. 103). Her ambition is to posit a view of care "intertwined with virtually all aspects of life" (p. 119). As such, Tronto and colleague Berenice Fisher (1990) offer the following definition of care:

14 A conflation of nurture with care is visible in certain design practices. In architecture, for example, Juhani Pallasmaa (2009) argues for an embodied design process where a "thinking hand" assimilates cerebral knowledge with touch, gesture and intuition using a rhetoric that makes implicit connections between craft and virtue.

On the most general level, we suggest that caring be viewed as a species activity that includes everything we do to maintain, continue and repair our 'world' so that we can live in it as well as possible. That world includes our bodies, our selves, and our environment, all of which we seek to interweave in a complex, life-sustaining web (p. 40).

This definition views care fundamentally as a practice, and as I discussed in Chapter One, is a point that later STS studies also emphasise. But while it extends care beyond the mother-child dyad, it is also a broad definition and considers almost all human activities as care. Yet, others find this view of care advantageous for being open-ended and not limiting the diversity of possibilities of care (Puig de la Bellacasa, 2017, pp. 3-6).

Scholars from feminist STS and technoscience have extended a lens of care from being human-centered to include sociotechnical networks.¹⁵ They argue that everyday technologies of care – such as domestic and childcare appliances, and ICT – are undervalued and worthy of scrutiny as technological innovations (Cowan, 1983; Stanley, 1995; Wajcman, 1991). Furthermore, this scholarship reveals the ways in which the materiality of technology can configure gendered biases (Wajcman, 2010, p. 150). For example, Lucy Suchman exposes how distributions of gendered domesticity are re-enacted in the design and use of software assistant technology, where everyday care tasks are performed obligingly and without evidence of the labour involved in the production of assistance (2007, p. 219).¹⁶ Suchman went on to show how sites of technological innovation can also be biased to privilege the “figure of the heroic designer and associated next new thing” (2009). She directs our attention to the maintenance labours – the practices of ongoing care – essential in the configuration and reconfiguration of sociotechnical assemblages.¹⁷ I will return to a review on maintenance and repair as a practice of care

15 The composite term 'technoscience' challenges a distinction of 'basic' and 'applied' science, and suggests that technology and science are related and co-produced. The term was originally coined by philosopher Gilbert Hottis (1984), used by Latour to study Science in Action (1987), and critiqued by Isabelle Stengers, who prefers to retain the specificity of technology and modern science (2010, p. 44-45). Feminist technoscience is a transdisciplinary field of research that emerged out of decades of feminist critiques of the fields of science and technology. Where mainstream STS sees innovation as a sociotechnical network, feminist technoscience, as a strand of STS, emerged to demonstrate that gender politics also inform these networks (Wajcman, 2000).

16 Furthermore, a UNESCO Report (2019) "I'd blush if I could: Closing gender divides in digital skills through education" examines how AI voice assistants such as Amazon's Alexa, projected as young women, perpetuate harmful gender biases.

17 Relatedly, there have been several studies on the practice of ongoing care in digital content and social media that include content moderators (Gillespie, 2018, Roberts, 2019) and 'data janitors' (Irani & Avery, 2015), and those who work to make the internet a 'clean' environment ('The Cleaners' a film by Block & Riesewick, 2018).

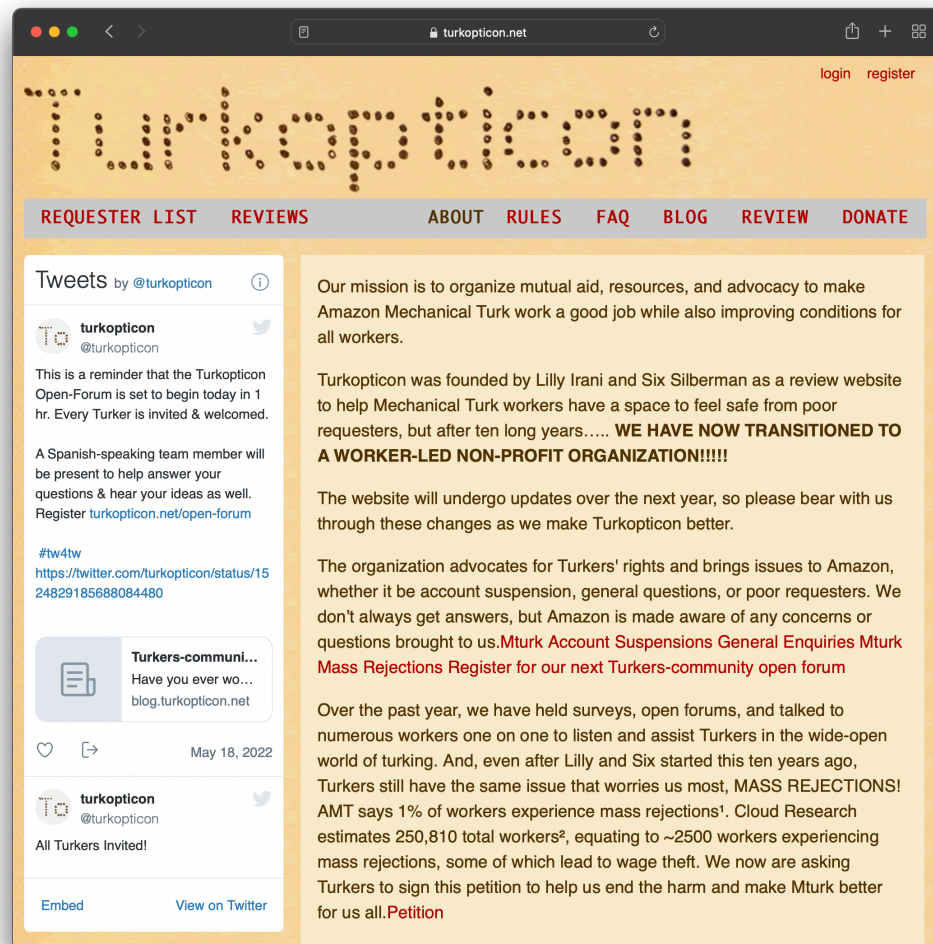


Fig. 5: Screenshot of the website *Turkopticon* by Lilly Irani and M. Six Silberman (2014).

in the case study of Chapter Five.

An example of a design outcome that I see addresses issues of low-status and invisible workers and decentred innovation is the “critical infrastructure” project *Turkopticon* by Lilly Irani and M. Six Silberman (2009, 2014). The *Turkopticon* project is essentially the design of a web application and browser plug-in that reveals the hidden human labour of working for Amazon as an Amazon Mechanical Turk (AMT), otherwise known as ‘M-Turk’ (<https://www.mturk.com/worker/help>) [Accessed 21 March, 2020]. M-Turk is a crowdsourcing marketplace where individuals and businesses outsource jobs that require human intelligence, using registered workers around the world, and that has been widely criticised for its use of unregulated labour. Concerned with ethical implications of M-Turk, the ambition of *Turkopticon* was to help people in “the crowd of crowdsourcing watch out for each other” (<https://web.archive.org/web/20220127234317/> <https://turkopticon.net/>) [Accessed 21 March, 2020]. The interface enables ‘Turkers’ to

augment the AMT website with reviews on employers, thereby mediating mutual support and accountability from participants. Furthermore, the design of the interface is guided by “the less glamorous and more labour-intensive processes of repair, maintenance, and communication with users” (Irani and Silberman 2014, p. 34) and as such, counters a view of design innovation as a high-status practice.

Care-politics–3: Pastoral and protective care

The film, *Koolhaas Houselife* (2008), is about the ‘Maison à Bordeaux’ designed by architect Rem Koolhaas in 1998.¹⁸ Rather than filming the splendour of the architecture, the filmmakers Ila Bêka and Louise Lemoine chose to follow its cleaner, Guadalupe Acede, to reveal a different story about the building (Fig. 6). This film illustrates three different versions of care in relation to architectural design. One speaks to a version of Care-politics discussed in the previous section, of feminist political concerns with revealing the gendered and othered care labour required for this design to be liveable; and here we see Acede’s routine of cleaning the masses of glass windows, drawing back endless curtains, attending to leaks and stacking books in an elevator.

A second aspect of care is a fundamental of architecture: satisfying a basic need through shelter and protection from the elements (Krasny, 2019, p. 33). A third aspect appears in this commissioned building concerned with demonstrating power and capital through patronage: a Foucauldian sense that one of the functions of architecture is to signal the sovereign power held by those who built or commissioned it (Foucault, 2007; Sudjic, 2011).¹⁹ Tronto argues that shelter and patronage operate within a logic of care that prioritises caring tasks of protection but assigns ongoing relational caregiving processes elsewhere.²⁰ In this section I shift the discussion to a protective version of care; and I take up ideas from Tronto that she has also applied to certain architectural practices (2019, pp. 26-32).

However, I want to first consider the logic of power that protective care operates

18 See: <https://vimeo.com/112101016> and <https://www.youtube.com/watch?v=7fLVMyGBFSU> [Accessed 21 March 2022].

19 Sovereign power involves the obedience of a population to a central authority figure, such as a monarch.

20 Tronto argues that “buildings protect people from the elements. But by themselves they do not provide care; what happens within the buildings, how the building fits within its location and context, how it was built, who it will house or displace, all of these aspects vitally affect the nature of the caring that the building does” (2019, p. 27).



Fig. 6: A still from the film *Koolhaas Houselife* by Ila Bêka and Louise Lemoine (2008).

within.²¹ Foucault's concept of pastoral power is significant here – also referred to as a “power of care” (Foucault 2007, pp. 169-171) – that is, a relation of power where individuals and populations are governed through protection and instruction, and where certain bodies are bestowed with a role of care to attend to the wellbeing of ‘the flock’ or population they serve, through observing and managing daily life. Rooted in early Christianity and the role of the shepherd, this mode of power is pertinent to care and design. For example, pastoral power can be seen in a study by Marc Schuilenburg and Rik Peeters (2018) that considers how the design of ‘smart’ city architecture can secure public spaces through sensory technologies that elicit positive behaviour, which is comparable to descriptions of ‘nudge’ techniques used in the design of public sector

21 Power for Foucault is not simply a property to be held by a particular actor, such as by the State, but relational, productive, and exercised through the social body (2007).

services (Rainford & Tinkler, 2011). Then, in the healthcare sector, Lorelei Jones argues (2018) that pastoral power moves in two directions, where government policies emphasise self-responsibility of patients but also seek to constitute pastoral subjectivities with responsibility for patients' conduct. The designed service onHand reveals this same double manoeuvre – where the social care of the elderly is shifted from state towards services that leverage the sharing economy through social ventures and volunteering (<https://www.beonhand.co.uk>) [Accessed 21 March, 2020].

Tronto is critical of protective care. She outlined five phases of care (listed previously) in which 'caring for' signals responsibility (1993, p. 131). The inverse of this is "privileged irresponsibility" that points to the ways in which societies' reliance on caring services is not necessarily acknowledged by those who are in fact dependent on them (1993, pp. 120-122, pp. 146-47). Privileged irresponsibility is manifest in ways that include protection, production, parochial care and charity. Protection is a logic of care that presupposes feminine subordination, reinforcing a binary of the protector and the protected. For example, policing can, according to Tronto (2002, p. 141) be seen as a form of 'non-caring' care or protection. Production, within a neoliberal ideology, values economic production as more important than the activities of social reproduction required to sustain it.²² Parochial care justifies prioritising 'caring for one's own' above others.²³ Charity gives people a 'pass' by claiming their 'quota' of caring responsibilities. This can be related to Uma Narayan's discussion of colonialism as a discourse of care, in which missionaries thought they were caring by spreading Christianity (1995); and Miriam Ticktin's work to reveal violence and the "casualties of care" in humanitarian projects (2011). While these versions of care prioritise economic and security-oriented protectionism, re-inscribe roles of gender, race and class, shift the burden of care from the state to individual, and show that care is shot through with bias and politics and may even do harm, it is nonetheless important to recognise them, and add them to the analytic of Care-politics in design.

22 A neoliberal governmentality was identified by Foucault in the 1970s (Lemke, 2001). It refers to a politics that "tries to render the social domain economic and to link a reduction in (welfare) state services and security systems to the increasing call for 'personal responsibility' and 'self-care'" (Lemke, 2001, p. 203).

23 Here we can think of a rhetoric of care in Donald Trump's words of "It's time to rebuild our own Country and take care of our own citizens" (Tillett & Watson, 2018) as having a reparative, nationalistic and parochial purpose. This speaks to the dangers of conflating with repair and belonging (Duclos & Criado, 2020).

Care-politics-2: Matters of concern

This section involves two tasks: first, describing Care-politics-2, matters of concern, and its instantiation in design; and second, reviewing the shift in STS from matters of concern to matters of care – the subsequent version of care-politics to be discussed in the following section. I centre the shift from concern to care around two key papers, from Latour (2004) and Puig de la Bellacasa (2011). These papers are a pivotal moment where a particular version of care comes to the fore in STS, and it is a discussion that has informed the trajectory of research in this thesis. As I will describe, Puig de la Bellacasa’s appeal to “thicken matters of concern with care” (2011, p. 89) is an assertion of a reflexive, affective and ethical approach to the study of technoscience, and problematises matters of concern. While this move from concern to care is an important internal debate in STS, I outline it here because of the uptake of matters of concern in design, thereby arguing that this debate has wider implications for current design practices.

In Latour’s article, *Why Has Critique Run Out of Steam? From Matters of Fact to Matters of Concern* (2004), he raises the ethico-political implications of constructivist accounts of science and technology in STS. Constructivist accounts, including formative studies in ANT, (e.g. Callon, 1986; Latour, 1987) argue that complex gatherings of things and issues – or socio-material assemblages – are being turned into objects and naturalised as given facts. These accounts emerged in the wake of the ‘science wars’.²⁴ The aim was to make more accurate studies of scientific practice and the dynamics of technological development by including humans and non-humans in social, ethical and political networks and concerns. However, Latour confesses that constructivist critique may have become counterproductive, such as when arguments for the construction of scientific facts get implicated in ‘post-truth’ conspiracies that discredit global warming as a fact (Latour, 2004, p. 226). Rather than debunking scientific knowledge in a reductive manner or dispensing with critique, Latour suggests that a “renewed constructivist” (p. 246) and critical account of science and technology would “get closer to matters of fact” (p. 231) in order to enrich facts as lively and complex, and add further articulations as matters of concern.

²⁴ The ‘science wars’ refers to the 1990s debates between a view of scientific knowledge as empirically factual, and the view that knowledge is constructed (see Hacking, 1999, pp. 3–4).

Staging matters of facts as matters of concern has been taken up by designers in three main ways: 1) to unsettle supposedly stable ‘facts’ of their practice, such as assumptions informing the doing of ‘participation’ in Participatory Design (Andersen et al., 2015, p. 2); 2) to ask how designers might act with matters of concern and a non-reductive criticality that embraces mess and complexity, such as in design pedagogy and the prospecting of futures (Wilkie & Ward, 2009) and to argue that design visualisation tools reduce complexity (Yaneva et al., 2008); and 3) to attend to Latour’s proposal for the inclusion of ‘things’ in issues (Latour, 1993, p. 142) and the role of materials and objects in democracy (Marres, 2012). Here, as design researcher Laura Forlano argues, design is increasingly understood as being engaged in “the active creation and curation of complex socio-technical networks, constituencies, and alliances that come together around problems, issues, and controversies that have distinct politics values and ethics” (2016, pp. 42-43). For example, in Scandinavian Participatory Design, ‘things’ feature as gatherings of actants where design is negotiated (e.g., Binder et al., 2011; Bjögvinnsson et al., 2012; Ehn, 2011; Lindström & Ståhl, 2014). And practices of SCD seek to construct publics (DiSalvo, 2009) and mediate public engagement (Kerridge, 2015) on issues of concern brought about by controversial issues in technoscience. As design scholar Carl Di Salvo describes, in SCD the role of design outcomes and processes, instead of being problem-solving, “may stop at the discovery and articulation of the issue” or concern (2009, p. 60).

The proposal to add care to concern comes from an article *Matters of care in technoscience: Assembling neglected things* (2011), in which Puig de la Bellacasa respectfully reads Latour in relation to feminist knowledge politics, especially the work of Donna Haraway (also see Puig de la Bellacasa, 2012). Puig de la Bellacasa engages with Latour’s 2004 concept of ‘matters of concern’ (itself a development from the ‘matters of fact’ of scientific knowledge – see Shapin and Schaffer, 1985), to propose ‘matters of care’. But why this move from concern to care? Aren’t concerns enough? Latour himself asked for an approach of care with concerns, as can be seen in this quotation: “Can we devise another powerful descriptive tool that deals this time with matters of concern and whose import then will no longer be to debunk but to protect and to care, as Donna Haraway

would put it?” (2004, p. 232).²⁵ In other words, Latour is questioning the efficacy of critique, arguing that the aim for STS is to exhibit the concerns that hold facts together, but not to dismantle them. Puig de la Bellacasa also takes seriously the vulnerability of facts “in a worrying world” (2011, p. 89), and coming from the perspective of feminist scholarship, matters of concern have been an important tool to respect the production of knowledge. However, Puig de la Bellacasa argues that “exhibiting entangled concerns at the heart of things increases the affective perception of the worlds and lives we study beyond cartographies of interests and practical engagements” (p. 89). We still need critical approaches in our engagements with the things we study and co-create, but care is reimagined as a form of critique (p. 89).

Importantly here, I want to argue that although design has already taken up an STS-inspired interest in matters of concern, we might, in fact, follow Latour, and acknowledge that concern has ‘run out of steam’. Thus, if the notion of concern is currently being questioned with a feminist STS interest in matters of care, it follows, then, that a rethinking of design ‘with care’, inspired by feminist STS scholarship, might have much to offer design discourse and practice as a reflexive, affective and ethical doing – not least around discussions of gender relations in design practice, or to reconsider speculative processes in teaching design, or to signal overlooked narratives in design research.

But what does care do to concern? What difference does care make? I detect four points here. First, care does not replace concern or produce a ‘better’ knowledge. If concern and care both have connotations of worry or trouble about an issue, they have different affective charges (Puig de la Bellacasa, 2011, pp. 89-90). Whereas ANT has historically overlooked affect, care enhances the affective dimensions of the researcher’s engagement, to underscore how ‘we’ affect and are affected by the things we represent in

25 In ‘Situated Knowledges’, Haraway (1988) unmasked the dangers of corrosive critique and described constructivism as a variant of the “gaze from nowhere” (p.581), where accounts failed to acknowledge the politically and ethically situated and partial positions of the knower. I discussed this at Care-politics-4. Moreover, Haraway (2016) described Latour’s 2004 article as “a major landmark in our collective understanding of the corrosive, self-certain, and self-contained traps of nothing-but-critique. Cultivating response-ability requires much more from us. It requires the risk of being for some worlds rather than others and helping to compose those worlds with others” (p. 178, fn. 32). While Haraway agrees that knowledge is socially constructed, her point is that constructivist accounts only analyse existing practices, and therefore are deconstructive, and furthermore, politics and power are ignored. Haraway’s project aims to provide “*simultaneously* a constructivist and a feminist account of science” (Campbell, 2004, p.162), that is “both deconstructive and reconstructive” (p.169). However, Kristen Campbell argues that Haraway does not fully develop how this might happen in practice (p.177). Thus, when Puig de la Bellacasa (2012) reads Latour’s matters of concern with Haraway’s project, as matters of care, to draw attention to knowledge as a situated and relational practice, she is both staying with these tensions between constructivist and feminist reflexivity, and offering care as a possible route.

our research. This is an explicit acknowledgement of the involvement and intervention of the researcher – that the researcher is not neutral to the thing being researched. Second, to pursue care is to treat concerns with an ethical doing, both for the subject of the research and the researcher themselves, and to foster reflexive and accountable knowledge practices (Puig de la Bellacasa, 2012, p. 199). Third, a caring account shouldn't merely expose, articulate or produce concerns, but also take care of "fragile gatherings" as a practice and an intervention (Puig de la Bellacasa, 2011, p. 90; p. 94). As such, Puig de la Bellacasa suggests that care indicates an involvement comprising "an affective state, a material vital doing, and an ethico-political obligation" (p. 90). I will take up these three dimensions of care – affect, care as a practice of doing and re-doing, and ethico-politics – and try to work with them through the substantive chapters of this thesis, in order to explore the problems and possibilities of care in design research. Fourth, care is a socio-material assemblage that is distinct from concern because it attunes to exclusions, but ambiguous because who or what is excluded is emergent and will shift over time. This creates an imperative for speculative thinking (p. 96).

This shift from concern to care is already emerging in design research practices. Another example from designers Kristina Lindström and Åsa Ståhl is the project *Un/Making Soil Communities* (2019) that articulates "caring design experiments". Explicitly drawing on democratic design experiments that aim to gather heterogeneous actors around matters of concern (e.g. Binder et al., 2015), Lindström and Ståhl shift the focus towards how caring relations can emerge and be sustained as matters of care. Embodying Puig de la Bellacasa's call for more-than-human care and liveable worlds (2015), the designers consider how to care for the polluted soils and the aftermath of industrial design glass production in Sweden. In this project, soil concerns were visited in the field, and alongside participants, seeds were planted to encourage phytoremediation. The designers reflect that this activity did not emerge as a simple 'technofix', but brought risks and uncertainty, including questions of how to now care for the plants that were caring for the polluted soils? Then, to make the project available to a wider audience through a public exhibition, seeds of endangered plants were grown in glass pots hung from the ceiling to highlight "risky relationships" (p.7) between humans and non-humans (Fig. 7).



Fig. 7: Image from the exhibition of *Un/Making Soil Communities* by Kristina Lindström and Åsa Ståhl (Växjö Art Gallery, Sweden, 2019).

Care-politics-1: Matters of care

Having discussed the previous four versions of care, I now arrive at the notion of Care-politics-1 – Matters of Care, from feminist STS. This body of work suggests that the question of ‘how to care?’ is not just about how care is actualised in practices, such as in the field of health and medicine, for example, but it is also about raising care as a research modality. In this section I will review four aspects of Care-politics-1, and I introduce them first here.

Research developing empirical and theoretical accounts of care has proliferated in feminist STS over the last decade, as I outlined in Chapter One. Recent scholarship often cites and emanates from earlier feminist work discussed at Care-politics-4 on standpoint theory (e.g. Martin et al., 2015, p. 4) and care ethics and this includes Puig de la Bellacasa (2017, p. 4) who elevates Fisher and Tronto’s description of care, quoted earlier, as a point of departure for thinking about the significance of care in technoscience and

naturecultures.²⁶ I repeat it again here: “a species activity that includes everything we do to maintain, continue and repair our world so that we can live in it as well as possible. That world includes our bodies, our selves, and our environment, all of which we seek to interweave in a complex, life-sustaining web” (1990, p. 40). For Puig de la Bellacasa, this description renders care as an ongoing practice of maintenance, with ethical and affective consequences, that is never neutral. It also draws attention to material care practices that include the non-human (Mol et al., 2010). However, at the same time, feminist STS is also distinct from earlier care ethics, such as those described by Tronto, because of the commitment to the empirical rather than general ethical principles (e.g. Mol, 2008, p. 4-5), and as a “speculative ethics” (Puig de la Bellacasa, 2017). Feminist STS care studies reveals the problems and possibilities of care (Martin et al., 2015) – where, on the one hand, care can be a taken-for-granted or moralistic good of human exceptionalism that needs to be “unsettled” (Murphy, 2015), and on the other, can disrupt dominant configurations of time and our relationship with others.

These key aspects of care – unsettling care, distributing care to non-humans, care and speculation, and care time – are the focus of the forthcoming sections, and through them I aim to consider how Care-politics-1 might matter differently for design.

Unsettling care as affirmative

Care has certain stories that stick to it. Figure 8 shows a simple Google Image search I made to understand how ‘care’ is tagged visually – a story of care as an emotional activity between individuals; there are love-hearts, rainbows and hands touching. This is arguably an affirmative view of care. I have previously described how a focus on care has shaped histories of feminist epistemology. However, Michelle Murphy (2015) warns about adopting feminist legacies without consideration, and stresses the dangers of the conflation of care with “positive feelings” (p. 717), innocence, or a promise of harmony. This is important to recognise as a contribution to care that emerges from feminist STS. In an account of the enactment of care in US 1970s self-care groups on women’s reproductive health, Murphy points to the affectively charged protocols around self-

²⁶ “Natureculture” is a term introduced by Haraway (2003) to challenge the dualisms between nature and culture, human and non-human, and to promote thinking that ecological relationships are biologically and socially formed.



Fig. 8. Google Image search “Care”; March 2022, UK.

examination, where participants are encouraged to, “Sit in a circle”, “Take turns sharing your observations within the group”, “Attend to variations within yourself”, “Listen, feel and look carefully” (2015, p. 718) – an emotionally charged script that is characteristic of self-care practices. Murphy argues that “projects of care, feminist and otherwise, are full of romantic temptations that disconnect acts that feel good from their geopolitical implications” (2015, p. 725). Therefore, on the one hand, the self-examination group validates women as experts of their bodies away from male-dominated gynaecology. But on the other hand, and as a ‘matter of care’, Murphy wants to unsettle how the gendered care arrangements of these groups have been conditioned by white privilege and an ‘affective economy’ that is embroiled in the logics of capitalism and where positive feelings and affects serves to gloss over arrangements of power. In Chapter Four, I will give more detail to ‘affect’ and reflect on instances where a strategic use of ‘care’ and ‘feminism’ in practice produced a gendered affect, not dissimilar to the one Murphy is critical of.

The danger of engaging with care as innocent, or neutral, means that certain groups, or issues, will get overlooked, or that ethics lead to a false sense of security.²⁷ Furthermore, “a lure of reparative fantasies” can be identified in narratives of care (Duclos & Criado, 2020, p. 154), especially when practices of care are reduced to acts of repair and an idealisation of survival. We can also think here of marginalised maker cultures appropriated for capitalist purposes – such as the hacked solutions of ‘jugaad’ from India that have been adopted by Western innovation practices (e.g. Radjou & Euchner, 2016). I will give more description to maintenance and repair in Chapter Five. But to summarise the current section, drawing on Murphy, I understand care as not necessarily ‘good’ or ‘pleasant’ but multi-faceted and simultaneously inclusionary and exclusionary. And while it is problematic to ignore how affirmative care can work to reproduce hierarchies and exclusions, the act of tuning into different arrangements of care can itself be considered a kind of care work and practice of being accountable, in other words, to problematise the concept of care itself (Murphy, 2015, p. 717).

Distributing care to humans and non-humans

Both design and care prioritise the human: design by producing solutions to human user needs and problems, and care by prioritising human protection or feelings. Disrupting human exceptionalism, STS scholars have recognised that care is never a purely human phenomenon and pay close attention to non-humans in arrangements of care. The work of Annemarie Mol is of significance here. Mol reveals care as a relational ontology involving humans and non-humans (Mol et al., 2010); where non-humans, such as technologies or machines, are not just instruments for delivering care, but also require care themselves through constant, adaptive ‘tinkering’, repair or redesign (2008; Mol et al., 2010; p.14; de Laet & Mol, 2000). Caring for non-human technologies is crucial to keep “broken” systems working (Jackson, 2014). There is also a form of reciprocal care between human and non-human beings, that includes the environment (Puig de la

²⁷ Michelle Murphy argues that the aforementioned feminist groups emphasised positive feelings, and overlooked, for example, the forces of racism in the reproductive rights of Latina women in the 1970’s (2015, p.720). Lucy Suchman provides an example of ethics creating a false sense of security on the issue of autonomous warfare that uses drones and robots. While there is a technical capacity and ethical imperative to threaten violence from a distance with no casualties, this does not always work in practice and hence cannot be fully specified by ethical codes (2015, p. 11).

Bellacasa, 2015; 2017) and animals, such as companion dogs (Haraway, 2003).²⁸ In other words, in matters of care, ethical and affective concerns extend from being centred on the human to wider socio-material worlds.

This raises questions for design practices and how artefacts and entities gain attributes of care. Jerome Denis and David Pontille's (2015) ethnographic study of the design of signage in the Paris metro reveals two distinct stories of human and non-human arrangements of care. An initial description reveals a story we are familiar with: of designed signage as a stabilised social ordering device that cares for human commuters by directing them to the correct platform through clear communication. But a second description shows how the signage is vulnerable – it breaks, disappears, it is put in the waste bin by metro workers and requires care in order to do its job (Fig. 9). As they put it, "This care of things reverses the traditional view of the role of artefacts in society in that it concentrates on the material fragility of things and the constant necessity of taking care of them" (p. 341).

STS approaches make it possible for me to attend to human and non-human actors in arrangements of care. In this thesis, mundane teaching artefacts, administrative technologies of the university, a jukebox in a local cafe, a phone call to a care home, and more, get counted in configurations of care. Importantly, feminist STS begins from a position of the vulnerability and material fragility of that arrangement, even in supposed 'stable' or 'fixed' artefacts and entities (Puig de la Bellacasa, 2010; Mol et al., 2010; Denis & Pontille, 2015). This also works to inform my research about a lost design research device, described in Chapter Six, because rather than considering the project or device as finished and stable, by considering it as vulnerable the 'after care' of the device is made available for design practice. Furthermore, Mol reveals how the objects and logics of care are multiple and enacted (2002, p. 33, p. 41); that is, the way in which a non-human is cared for, or not, can be related to different settings, what people do there, and what they use to do it, and how artefacts and entities are imbued with attributes of care, as well as how these things "hang together" in human non-human compositions (p. 60) that can be understood as an ontology of care. In the empirical

28 An example of a speculative design project that considers multi-species relations is Lenskjöld & Jönsson's (2017) prototypes that elicit new relationships between birds and people living and working in a retirement home.



Fig. 9. Images from Jerome Denis & David Pontille's (2015) ethnographic study of the Paris metro (2015). Left: Changing of a wayfinding sign in the Paris metro. Right: A signboard in a trash bin.

chapters I will ask questions about how the 'objects' of my research gain attributes of care, and whether there are occasions when an object should not, or cannot, be cared for because of certain settings and constraints.

Care and speculation

Questions of 'how to care', 'what counts as care?', and 'at what cost to whom?' are speculative ones (e.g. Mol, 2008; Puig de la Bellacasa, 2011, pp. 91-92). As STS scholar Michael Schillmeier puts it (2017), although previous care solutions may be appropriate to use in a situation, they also risk carelessness, and situations emerge, and therefore an openness is required concerning the question of how to care (p. 58). Puig de la Bellacasa asserts that practices and reasoning associated with care involve speculative questions. For this reason, matters of care is framed as a 'speculative ethical' project: a "speculative exploration of the significance of care in more-than-human worlds" (2017, p. 1). Here, Puig de la Bellacasa is drawing on feminist traditions of speculative thought.²⁹ This project

29 Citing Haraway in particular (see Puig de la Bellacasa, 2012).

arguably connects to a wider set of practices concerned with reclaiming the speculative in order to resist probable or plausible futures and explore “(im)possibilities latent in the present” to make alternatives available (Savransky et al., 2017, p. 10).³⁰ Speculation in design is most often associated with the work of SCD. In Chapter Five I will give versions to speculation in design. But what is meant by speculative ethics in Puig de la Bellacasa’s proposal, how does speculation interface with care, and what might this mean for the practice of design?

By creating a ‘speculative ethical’ project, Puig de la Bellacasa (2017) is promoting an avoidance of normative ethical discourses on care, alongside others from STS (notably Pols, 2008, 2015). A normative discourse would think of ethics in an abstract way, “defining in advance a code of conduct or a normative definition of right and wrong” (Puig de la Bellacasa, 2017; p. 152) and may work to idealise care and exhort moral orders. Alternatively, a speculative attitude understands ethics as messy, embedded and emergent from the material and affective constraints of ongoing and situated practices of care (2017, p. 143, p. 154). As Puig de la Bellacasa describes, care “makes of ethics a hands-on, ongoing process of recreation of ‘as well as possible’ relations and therefore one that requires a speculative opening about what a possible involves” (2017, p. 6). This resonates with Mol’s proposition of care as a constant tinkering to *search* for good practice (2008). In other words, rather than doing care in a certain way through the application of a set of resources, the generic and open-ended appeal of ‘as well as possible’ care requires a thinking and doing that is contingent on speculation. As a design researcher who has been involved with speculative practices, this alignment between speculation and care captures my interest, but raises questions to be explored further through practice. In Chapter Five in particular, I will consider the ways in which to design with a non-normative care requires, what Wilkie, Rosengarten and Savransky (2017) describe as “speculative techniques”, that are “indexical and respond to the demands and requirements of a particular empirical situation” (pp. 113-114) in order to stay close to evolving obligations and retain an openness to the situated requirements for care.

If care requires a speculative approach, what does care offer, or do, to speculation? Is the open-endedness of speculative possibility curtailed by normative ideas of care?

30 This scholarship is influenced by the speculative philosophy of Isabelle Stengers, who is in turn influenced by Alfred Whitehead.

There are two points here. First, Puig de la Bellacasa's project aligns speculation with a feminist perspective of care that attunes to exclusions and 'invisible work' (2011, p. 86; for example, Bowker & Star, 1999; Star & Strauss, 1999). This can be identified in her call for a "speculative commitment to neglected things" (p. 85) that argues for ways of showing 'possible' worlds that are already ongoing but that may be, or become, marginalised, or overlooked – a viewpoint that a care sensibility can offer. To think about how to tune in to neglected things, sociologist Monica Greco (2017) suggests "thinking against the grain" (p. 219) to shift our perception on what is a fixed or dominant narrative, including in our own habits of critique, and to question what is deemed valid as a territory for research. This is a speculative ethos that can be seen in Chapter Six, when I will revisit an overlooked, but ongoing, research project, a narrative that isn't normally given attention in design research projects. Second, Puig de la Bellacasa's goal is not just to speculate about how things could be different if we cared for a broader range of things, but that "we must take care of things in order to remain responsible for their becomings" (2011, p. 90) to go further than assembling existing concerns. Care, then, is considered a selective and affective intervention, of concrete actions and an ethico-political obligation or commitment (Puig de la Bellacasa, 2017, p. 42) that has world-making effects (2011, p. 86).

Miriam Ticktin and Katinka Wijsman (2017) have associated speculative design, specifically the work of Dunne and Raby, with matters of care, but this seems to me to be a convenient semantic connection of 'speculative' practices. Despite the similar ambition to imagine other possible worlds, if matters of care seek also to be involved in their 'becomings', and to operate with an open-ended, situated version of speculation, this contrasts to the design fictions that are typical of Dunne and Raby, that are the designers' own speculations, positioned in opposition to certain sociotechnical futures, and presented in exhibitions set apart from the everyday world (Michael, 2012b, p. 172).

Perhaps the short film *Routine Maintenance* (2014) by Nadia Hironaka and Matthew Suib gets us a little closer to care and speculative practices (Fig. 10). They take the design group Superstudio's speculative and unbuilt architectural proposal *Continuous Monument* (1969) and render it as a digital model, to present the role of the person who cleans the glass and therefore the ongoing maintenance work that such a structure would actually require if built. (Available at: <https://www.hironakasuib.com/portfolio/routine-maintenance>) [Accessed 21 March 2022].

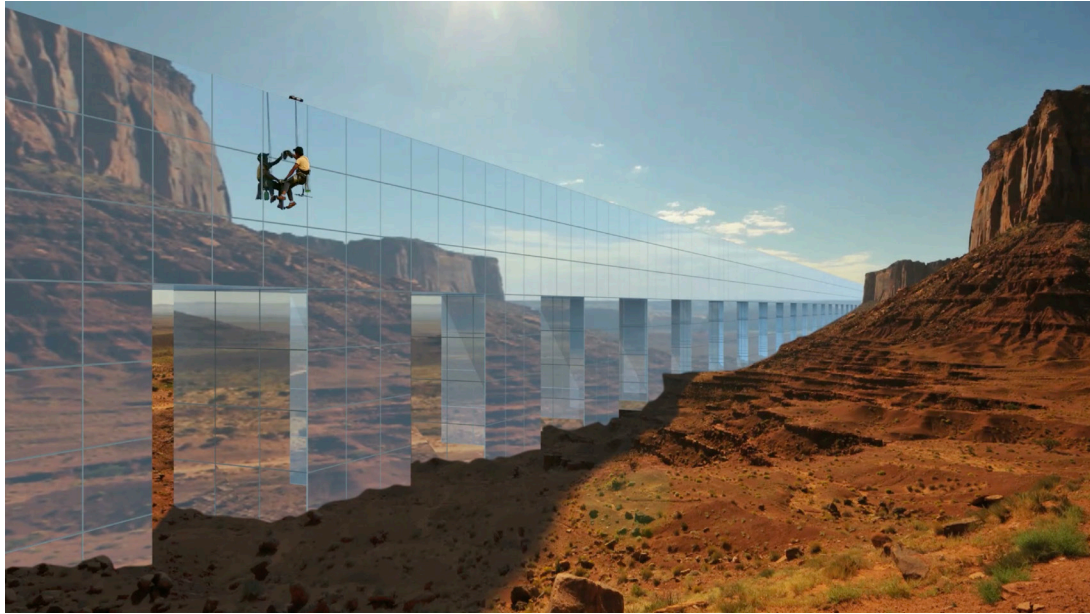


Fig. 10. A still from the film *Routine Maintenance* by Nadia Hironaka and Matthew Suib (2014).

<p>CAMPUS IN CAMPS COLLECTIVE DICTIONARY</p> <p>COMMONS & COMMONING</p> <p>المشاع / المشاعة</p> <p>جامعة قطر Qatar University</p>	<p>CAMPUS IN CAMPS</p> <p>Campus in Camps is a two-year experimental educational and project oriented program, engaging the participants from the West Bank's refugee camps in an attempt to explore and produce new forms of representation of camps and refugees beyond the static and traditional symbols of victimization, passivity and poverty. The program aims at transgressing, without eliminating, the distinction between camp and city, refugee and citizen, center and periphery, theory and practice, teacher and student.</p> <p>PROGRAMME DIRECTOR – Alessandro Patti IN COLLABORATION WITH – Sana'a Haid (UNRWA, Camp Improvement Programme) PARTICIPANTS – Marwa Alkhatib, Quincy Abu Alan, Alaa Al Homouz, Saleh Khazneh, Shadi Ramadan, Ahmad Lathari, Ayar Elmehdi, Brian Al Jiffari, Nedaa Hamouz, Naba Al Assi, Mohammed Abu Alia, Ibrahim Jawadreh, Isshaq Al Barbary, Ayat Al Turabshi, Murad Owdah MEDIATORS – Michel Agier, Sari Hamel, Munir Khatib, Dana Faldnes, Mohammed Jabari, Ayman Khalifa, Wafiq Ghalib, Tariq Hayek, Kuba Dziah, Youssef Samour PROJECT TEAM – Chakun Bamoua, Yasser Hamedan, Ala Juma, Diego Sogallo PROJECT FACILITATORS – Bruna Ha Alia, Marwa Ghali, Sara Pellegrini, Giuliana Rossi ENGLISH AND ARABIC INDUCTIONS – Yala Abu-Rahme, Thea Pfander, Daniel LaFrance, Inan Simon, Ayman Khalifa BASED AT – Al-Farooq Cultural Center, Dheisheh Refugee Camp, Bethlehem - Palestine</p> <p>WWW.CAMPUSINCAMPS.PS</p>	<p>COLLECTIVE DICTIONARY</p> <p><i>Collective Dictionary</i> is a series of publications containing definitions of concepts.</p> <p>The terms proposed are those considered fundamental for the understanding of the contemporary condition of Palestinian refugee camps. These words have emerged as a result of actions and active dialogues with the camp community. Written reflections on personal experiences, interviews, excursions and photographic investigations constitute the starting point for the formulation of more structured thoughts.</p> <p><i>Collective Dictionary</i> is both the reference and conceptual framework for all Campus in Camps projects and interventions.</p> <p>Contributors <i>Commons & Commoning</i> issue: Mohammed Abu Alia, Naba Al Assi, Isshaq Al Barbary, Brave New Alps, Nedaa Hamouz, Murad Owdah</p>
<p>Comment – Doha has mixed community interrelationships and they are still growing. Dheisheh Refugee Camp has existed since 1952, so interrelationships between families are stronger.</p> <p>ORGANISATIONS (NGOs)</p> <p>Doha – 8 organizations are working to help the around 11,000 residents living in Doha.</p> <p>Dheisheh – 45 organizations are working to help the around 14,000 refugees living in the camp.</p> <p>Comment – I wonder why there are only 8 organisations working in Doha while there are 45 of them working in the camp. Doha needs more active organisations.</p> <p>PUBLIC SPACE</p> <p>Doha – The municipality has some public space. However, the park of Doha, which should theoretically be a public space, is outsourced, privatized and under surveillance.</p> <p>Dheisheh – NGOs' spaces and the camp's streets are public spaces.</p> <p>20</p>	<p>Comment – There's not a lot of public space, and the space which is there is not perceived. Better strategic planning in both Doha and Dheisheh is important to be able to activate spaces that are present but ignored.</p> <p>WATER</p> <p>Doha – People in Doha pay for their water, which comes from the municipality each 15 days.</p> <p>Dheisheh – Refugees in the camp don't pay for their water, they receive it from Bethlehem municipality for free, each 15 days.</p> <p>Comment – People from both Doha and Dheisheh are refugees, but in the case of water supply I would prefer to live in Dheisheh because the expenses are less than in Doha.</p> <p>ELECTRICITY</p> <p>Doha – The inhabitants pay for electricity, which is quite constant and powerful.</p> <p>Dheisheh – The inhabitants don't pay for electricity, but it is rather weak.</p> <p>21</p>	

Fig 11. Collective Dictionary from the programme 'Campus in Camps' by Brave New Alps (2018).

But if care is a selective activity involving a material maintenance and an affective commitment, then I look to the practice of Bianca Elzenbaumer and Brave New Alps for an expression of “speculating with care” in design (2018). Elzenbaumer draws on Puig de la Bellacasa and matters of care to reflect on the design speculations made in the programme *Campus in Camps* (2018).³¹ This programme aims to open up possible futures for the displaced inhabitants of Palestinian refugee camps. Working with participants from the West Bank, the main project outcome was a *Collective Dictionary* (Fig. 11) – a set of publications that contained terms and concepts that the participants considered fundamental to an understanding of the refugee experience. The approach taken by the designers resisted an ambition to author the speculation on behalf of others, or from a safe distance, and they did not manipulate concerns based on an emerging expertise by the designers. These points resonate with the aforementioned criticism of certain practices of SCD. Instead, Elzenbaumer combined a feminist approach of collective resistance towards oppressive structures and a speculative approach towards activating possible futures, surfacing vulnerabilities and issues that participants cared about, and triggering ethico-political commitments and responsibility for a longer-term engagement. Elzenbaumer concludes that it matters what stories speculations are made around because they have world-making effects. This resonates with Puig de la Bellacasa’s argument for doing acts of speculation in territories that may be neglected in some way, but that this attention of care extends to taking seriously what emerges through them; or a “care of the possible” in Isabelle Stengers’ (2011) phrasing.

Care time

Scholars in the social sciences have highlighted the linear, progressive, extractivist and anticipatory timescapes of late capitalist political economies (Adams et al., 2009; Savransky et al., 2017, pp. 3-4). This timescape is associated with the futuristic drive of innovation, an ally of design (Brown & Michael, 2003; Suchman & Bishop, 2000; Wilkie & Michael, 2009). This includes the way in which design practices are typically codified into temporal processes, often linked to assumptions about linear models of

³¹ See: <http://www.campusincamps.ps> [Accessed 21 March 2020].

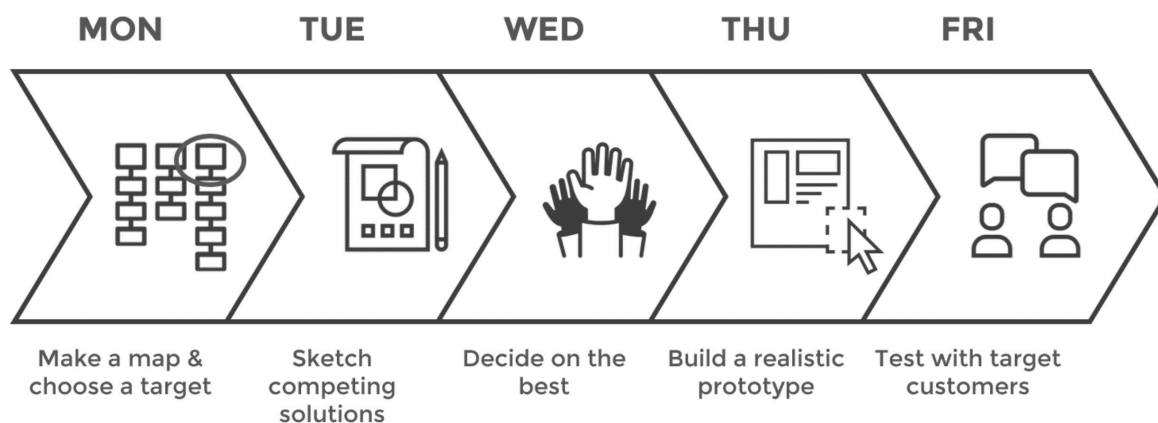


Fig 12. *Design Sprint* – the typical five-day design process popularised by Google Ventures (see Fernades, 2016).

sociotechnical development, and commonly considered as determinist, leading towards problem resolution and solution. An extreme example of this is Google’s *Design Sprint* (Fig. 12) that is, as Thaisa Fernades (2016) describes, a time constrained, five-day linear process of understanding, sketching, storyboarding, prototyping and testing (Available at: <https://medium.com/pm101/design-sprints-at-google-85ff62fed5f8>). [Accessed 21 March 2020].

Feminist scholars describe a temporality or “pace of care” (Puig de la Bellacasa, 2015) that disrupts this progressive timescape. This is time in which nothing exceptional seems to happen other than the repair work that sustains liveable worlds, time that can be “enjoyable and rewarding, but also tiresome” (p. 707). For example, Puig de la Bellacasa discusses the notion of ‘care time’ through a discussion of human-soil relationships. In the dominant, productionist mode of technoscientific futurity, soil is treated as a resource from which minerals are extracted, or maximised for human subsistence, leading to infertile soils. Puig de la Bellacasa points to practices of soil care, marginalised as unproductive by an extractivist view of soil, that offer different modes of “making time” (p. 695) through promoting biodiversity. Here, a healthy soil is re-conceived as being a lively and complex multiple species community that has a range of temporal practices of growth and decay, or ‘cycles’. In this way, she claims, such healthy soil care practices resist linear visions of productivity through a range of relational arrangements.

Similarly, STS scholar Astrid Schrader (2015) argues that subjects and practices of care can be shaped by a notion of a progressive temporality and human exceptionalism.

In an empirical account of a teaching exercise that was set up to discuss drawings of insects harmed by radiation from the Chernobyl disaster, Schrader reflects that a statement from a student – who asserts that she doesn't care about deformed bugs, she cares about humans (p. 667) – is indicative of an anthropocentric care paradigm. In this paradigm, decisions about who cares, who does care work, why and how are tied to human self-preservation, or limited to direct helping action on behalf of insects (p. 669). Thinking with a feminist politics of care, Schrader suggests instead that a mode of “passionate detachment” (p. 677) evokes a different logic of the temporality of care. This mode does not negate active engagement, but is described as radically passive yet curious, a way of operating that is hesitant and questioning. This mode also resonates with Puig de la Bellacasa's speculative engagement with care as requiring a form of “suspended judgement of deliberate indecision” (2017, p. 155) in order to resist a normative enactment of care.

Care time is disruptive for design practices. First, care time disrupts an anticipatory and progressive drive that is typical of design and innovation practices, although it is important to resist a backwards-looking nostalgia through the material doing of care (Puig de la Bellacasa, 2015, p.709). In my practice, I make time to look for an artefact from a research project deemed to be finished, and through a process that requires an approach of hesitation and suspension of judgement. Second, a care sensitivity towards time suggests that there are multiple timescapes of care circulating among actors, human and non-human. This encourages me to take seriously the different care temporalities that are circulating in my case studies – a point I will return to in Chapter Seven. Third, and unlike matters of concern that are motivated by an activity of gathering during the time frame of a project (Lindström & Ståhl, 2015, p. 226), I understand that a care sensibility indicates that things, including designed artefacts, refuse to settle, and therefore require a different attention to consider their ongoing temporality.

Conclusion

Rather than taking care as a core assumption of design, in this chapter I have identified and examined multiple versions of care – care as biopower, care in feminist epistemologies, pastoral care, concern, matters of care – and articulated these versions in relation to

examples of design practice. Furthermore, in order to work with the concept of Care-politics-1, matters of care, as a sensibility for design practice, I also needed to sort out the confusion in the rhetorics of care. The product of this chapter is a typology of Care-politics in design that I have used as a device for organising the literature on care in this chapter, and also as an analytic device that I will use to reflect on and apply to my practice-based research. I employed Bruno Latour's *Turning Around Politics* to construct an approach for reviewing theory and practice. Adapting Latour's *Table 1* enabled a way of organising the review, and to differentiate between the various enactments of care that I have encountered. As well, I have revealed instances where different versions of care are simultaneously enacted. I end with matters of care from feminist STS as a recent version of care that I suggest matters differently for design. As a heuristic, I also recognise that the typology does not provide a complete or fixed picture of care and design, but it can be built on and challenged.

I also devised the typology in order to address the question of why care matters in design. To think with care through biopower reveals how care is not simply a benign, congenial affection, but can organise, classify and discipline bodies; and that design processes and outcomes, such as technologies, services and institutions of care, are implicated in biopower. To think with care through feminist epistemologies reveals care as a practice of downgraded, yet vital, labour of maintenance. The design of technologies may reproduce downgraded and gendered assistance and can privilege innovation over ongoing relational maintenance. However, while the position of the subjugated carer has challenged the biased epistemic terrain of science and technology, and of politics and ethics, there is no innocent position of care. To think through pastoral care is to understand that certain institutions, services, objects or structures are bestowed to protect, nudge and instruct others, such as architecture that demonstrates care as 'shelter' or 'patronage'. Caring through protection, production, parochial care and charity are described as a form of privileged irresponsibility, that assign ongoing relational caregiving processes elsewhere. Then, to think with concern is to recognise the constructed quality of political and technological conditions, and here design research practices and objects have prompted or gathered matters of concern. But if ways of representing concerns have been problematised as a form of corrosive critique, including contributing to a disbelief in science at a time of socio-ecological challenges,

then feminist STS scholars, and in particular Maria Puig de la Bellacasa, argue for an approach of care with matters of concern. I suggest that this approach and shift can be mirrored in design. By adding matters of care from feminist STS to the typology, I have reviewed how this version of care might matter differently, to help me critically reflect on and redirect my practice that has hitherto focused on opening up issues. Here, care is conceived as having potential to add to concerns through practical acts that include affective attachments, and through which ethics and politics emerge.

I focused on four aspects of Care-politics-1. First, care needs to be unsettled as a neutral or affirmative feeling, a moral doing-good, because this affirmation conceals arrangements of power. Tuning in to arrangements of care can itself be an act of care. Chapter Four describes an attempt to care for a matter of concern from my position within the university, however the format slips into promoting a gendered version of care that I unsettle through my analysis. Second, care is distributed to humans and non-humans, disrupting human-centred paradigms of care and design. In this thesis, I understand that non-humans also require care, and as such, I disrupt an understanding of designed artefacts or materials as stable, final solutions. Third, ‘how to care?’ becomes a speculative question, rather than a ‘recipe’ of predetermined affective practices, because while care can attune us to the overlooked, what is overlooked will shift. As such, designers require ways to attend to the situated requirements of care, and of looking for ongoing but overlooked things or stories. I will discuss an intersection of care and speculative processes in Chapter Five, drawing on two iterations of the teaching project, ‘Caretakers’. As well, in Chapter Six, I slow down my description of this case study so that I can point to the ways in which I became attentive to the unknown, ongoing story of the Photostroller, and the consequences of following it. Fourth, care fosters a reorientation of time, to problematise dominant technoscientific visions and practices, that can also be seen in design. In Chapter Six, by following up on a project considered to be finished, I attend to different temporal obligations of care and ask what is required to keep caring for our accounts of design research. Through the practice-based research in the empirical chapters of this thesis, I will attend to the difficulties of taking the nuances of ‘thinking with’ care to ‘practicing with’ care.

3

Care as a practical matter

Introduction

So how do I go about identifying and understanding care in design as a practical matter? The typology I created in the previous chapter, that identified five versions of care in design, provides me with an analytical tool for observing and identifying versions of care. However, this study aims not only to follow the different versions of Care-politics in design practice that I set out in the typology, but also to understand what Care-politics-1, or matters of care, might require in practice. As such, the methodological questions that this chapter addresses are: how do I identify and observe care in design practice? How do I intervene with a version of care informed by a feminist STS understanding? At the same time, I do not see the typology as complete or universalising, and therefore I am open to the possibility that other versions of care operate in design. While I describe the specific methods of my three different case studies in the empirical chapters, here I present the research settings, rationale, methods, challenges, and ethics that have informed this study.

I begin by describing the settings for the three case studies that are all within the Design academy – that is, in the context of academic design research and teaching – and specifically, the conception, organisation, and delivery of an event at a design research conference, a design teaching brief, and the search for an existing but missing research

device. This study is concerned with encouraging Care-politics through inventing practice. Arguably then, part of the methods needs to be predisposed to accessing care in practice in situated ways. I use an ethnographic mode of participant observation that is inspired by both ANT and feminist STS. Participant observation is particularly suitable for understanding and intervening with care in the case studies of practice that I am positioned within. STS scholarship and ANT sensitise me to non-humans in configurations of Care-politics, whilst feminist STS alerts me to care as an affective and ethical practice. I modify methods in order to intervene with Care-politics-1, and one way that I do this is through attention to the state of ‘disconcertment’, to identify and stay with emergent and situated ethics. Furthermore, I take a non-solutionist approach to practice-based design research, to consider overlooked objects and subjects, and to view them as unfinished with ongoing ethics and politics that may be accessed with approaches of re-doing and re-configuring. Throughout, I work collaboratively because it helps me to participate in and observe the practices of care in design. Working collaboratively also sets up some of the key challenges for this study in relation to my positionality and accountability to those I research. Finally, I describe two approaches to ethics that this research takes – an institutional ethics as well as an approach that acknowledges the ethics that emerge in situated practice as offering directions for design.

Settings

The field study is “multi-sited” (Marcus, 1995) in that the research extends across different settings of the Design academy – including an academic conference, teaching, and research studios. The empirical elements reported in this PhD thesis started in 2018. Throughout, I have held a lecturing role in the Design Department at Goldsmiths University, enabling access to resources such as teaching and research spaces, equipment, and the expertise and opportunities that I draw on in this research. This includes my prior connection with the Interaction Research Studio (IRS) that also provided access to people and information taken up in this research.

The three case studies are 1) A ‘Conversation’ – a 90-minute discursive event, conducted with design researchers Tanveer Ahmed (Open University, UK), Mathilda Tham (University of Linnaeus, Sweden), and 20 participants, that took place in a seminar

room of the University of Limerick, Ireland, as part of the Design Research Society (DRS) 2018 academic conference (Chapter Four). We organised a conversation with delegate participants about concerns with gendered or sexist scripts in the mundane, organisational technologies and artefacts of the university – such as timetables, reading lists, and studio spaces – that are often overlooked (cf. Farías & Wilkie, 2015; Kaygan, 2016, p. 236). How to engage with a difficult topic was a crucial consideration in the design of the format. The aim was to start with descriptions of the matter of concern (Care-politics-2) and move to proposals for supportive actions with delegates. I use this event analytically to discuss and problematise how the concept of care can become scripted with gender. 2) ‘Caretakers’, an eleven-week teaching brief in the Design Department at Goldsmiths, developed and delivered twice with lecturer Katherine May and 50 post-graduate students in total, in 2019 (in-studio teaching) and in 2020 (teaching online because of the Covid-19 pandemic) (Chapter Five). The students who took part selected our brief after Katherine and I pitched it at a presentation day. The brief took the ethical, affective practice of matters of care (Care-politics-1) to guide a set of activities during the first half of the brief. We also set up maintenance work in the studio spaces to draw attention to overlooked care labours (Care-politics-4), and organised material repair workshops (Appendix 1). Teaching included an activity called ‘Look After Something For One Week’ where the students had to commit to a practical doing of human and/or non-human care and repair, and form attachments, and through which, in some cases, ethical issues were brought to light that then re-directed design practice. The student projects that emerged enacted an array of Care-politics. 3) The search for a missing artefact of speculative design research called the Photostroller, that had emerged out of an EPSRC- funded research project involving the Interaction Research Studio (IRS) at Goldsmiths University of London in 2010-2011, but was last seen when it was deployed in a care home in York, UK (Chapter Six). My search took place throughout 2019 and 2020, and involved re-connecting with researchers from the original project and the care home staff, as well as studying archive and regulatory documentation, and making ways to contact the home. This case study was motivated by considering the Photostroller and its ongoing story as an overlooked thing. I will describe the leads followed, the frictions and sensitivities in the process of trying to find it, in order to understand what is involved in this device’s after-care.

Methodologically, the case studies in this thesis were taken up to explicitly attach and explore the understanding of care developed in this thesis for the following reasons. First, their multiplicity lets me extend from a sensitivity developed in the typology, to identify plural Care-politics operating in design practice. Second, guided by feminist scholarship, it was important to find ways to reflect on and account for my position as a design researcher. I decided to do this in the topics and settings that I was already involved with, and cared about, rather than choosing a current issue that I had no explicit connection to. This was also, in part, an acknowledgement of the criticisms of speculative design practices and the tendency for designers to select controversial themes without commitment or reflection (Prado de O. Martins, 2017, p. 38; Tonkinwise, 2014). In the previous chapter I associated SCD practices with assembling matters of concern via designed artefacts. As part of the shift from matters of concern to care, in the different settings of the three case studies I therefore wanted to emphasise the ‘already involved within’ knowledges and situated histories of my design research practice. Third, I understood that care in design is not limited to healthcare and social care – as Mol, Moser and Pols ask, “is it possible for practices of research to be care practices too?” (2010, p. 19), and to take up an invitation to think with care in different settings and situations (Latimer & López Gómez, 2019, p. 249; Puig de la Bellacasa, 2012, p. 198). And finally, because the explicit ambition of the conference setting and teaching module were to be experimental and challenge assumptions for topics of research, and therefore seemed to offer conditions to do design research with uncertainty (Gaver et al., 2004) and to test ways of intervening with an emergent concept of matters of care.³²

Underpinning the choice and variety of different case studies, and the potentially multiple Care-politics operating within them, is a methodological approach that lets me advocate the heterogenous nature of research in which I am positioned. Following John Law’s (2004) performative notion of a “method assemblage”, methods are conceived as being part of a complex assemblage of contexts, people, tools, practices, words, and more; and through their choice of methods, researchers participate in enacting and affecting realities, rather than merely reporting on them (pp. 2-6; p. 31). This implies that I cannot disentangle myself from the objects of research, and opens up the possibility of

32 For example, see: <http://www.drs2018limerick.org/participation/conversations> [Accessed 21 March 2022].

including my own concerns (gender issues in design), working experiences (teaching), and histories of practice (with the IRS) in this research. Furthermore, this research does not seek to make replicable methods for doing and identifying care in design (in a way that is both typical in design (Simonsen et al., 2014, p. 1) and care policy (Gill et al., 2017, pp. 12-13)). This is because I understand that care in practice is heterogenous and situated *and* because a method assemblage frees me from the assumption that methods should be definite, repeatable, and stable (Law, 2004, p. 31). However, this sets up considerations for the reliability of this research, discussed later in this chapter in the section ‘Issues and challenges’.

Inventing care-politics

This thesis seeks to explore and understand different versions of care in design research practices. Following Law (2004, pp. 7-8) I do not consider Care-politics just to be knowledge or activities already “out-there”, but something that can also be participated in, enacted and made. This resonates with an “inventive” rationale towards methods (Lury and Wakeford, 2012, p. 2) because I want to both investigate *and* engage Care-politics. To put this another way, I not only aim to understand versions of care in specific settings of design research and teaching, but I also make things in order to know, and to attempt to intervene with Care-politics-1, as well as to understand the effects of those interventions. As Noortje Marres, Alex Wilkie and Michael Guggenheim (2018) have recently argued in their explicit attempt to go beyond discussions of the performativity of ‘off-the-shelf’ methods, this is something that design researchers understand well – that the social, or in this case different Care-politics, can potentially be activated through a material/ technological intervention (p. 21). While I do take up ethnographic methods in this study (notably participant observation and interviews), I do not just apply methods from the social sciences to design, because to better understand how Care-politics-1 (and other Care-politics) can be made in practice – in design research and teaching practice – assembling off-the-shelf methods, as Law suggests, is inadequate. Instead, as Stengers argues, methods can be co-constructed with the question at hand (2008, p. 92).

Moreover, the methodological rationale in this research is further informed by feminist STS scholarship on care, and this provides an orientation to modify my interventions.

Three points from this feminist scholarship are important to the methods in this research. 1) Since many STS ethnographies of care suggest that care cannot be separated from the practices in which it is produced (e.g. Mol, 2008; Mol et al, 2010; Pols, 2012) I argue again that a ‘care in practice’ approach requires methods that attune to practice, and that this also necessitates developing situated responses specific to the research setting. However, situated practices alone do not necessarily occasion care. Thus, 2) I also consider how care signifies “an affective state, a material vital doing, and an ethico-political obligation” (Puig de la Bellacasa, 2011, p. 90). I try to work with these dimensions to identify and intervene with matters of care (Care-politics-1). In this study, they imply: a focus on affect, including emotions/feelings but not necessarily positive ones (Leem, 2015, p. 48; Murphy, 2015, p. 719); a material doing that reconsiders what already exists but may be overlooked; and an attention to the ethics and politics (‘ethico-politics’) that emerge and shift in practice, and that require a response. 3) STS scholarship on care also suggests that a care of things involves a “persistent tinkering in a world full of complex ambivalence and shifting tensions” (Mol et al., 2010, p. 14). This reverses the view of designed artifacts as finished, in that it focuses on the vulnerability of things and the necessity for ongoing care.

Therefore, this practice-based design research is not geared toward locking down final design solutions, nor do I intend to design novel care products or services.³³ This is also to say that the version of speculation in this study is not an approach to imagine the future through the development of a designed output or artefact, a version of speculation that we are familiar with in design. Instead, by orientating my methods with care, I subscribe to a more recursive speculative process (Wilkie et al., 2017, p. 114) and follow and respond to the unfinishedness of objects that are already in the world (such as a deployed design research device that is still in the field, and mundane objects such as academic timetables).

33 When care in design is manifest in specific, innovative products, services, and buildings, that ‘do care’ in settings of health, social and elderly care, this typically involves human-centred methods, geared towards empathy, inclusivity, and problem solving, such as shadowing users, interviews, co-creation processes, future scenarios, and prototyping. My research does not share this motivation or approach. I would argue that this design practice does not consider the versions of care that are being enacted or reproduced.

Methods

Participant observation

To identify and intervene with care in design practice, the main method used in this study is participant observation. This is a well-recognised ethnographic method of attuning to and participating in the situated activities and actions of the setting and people being observed (Hammersley & Atkinson, 2019, p. 3). STS studies have long since demonstrated that ethnographic methods sensitise the researcher to practices (e.g. Knorr-Cetina 1995; Latour 1987; Pickering 1992, p. 2; Suchman, 1987).³⁴ More broadly in the social sciences, participant observation recognises practices that the researcher is themselves already positioned within (for example, sociologist Howard Becker (1951) used his status as a professional piano player to study jazz musicians). In other words, participant observation lets me get close to practice as an empirical object and acknowledges and includes my active participation in the field. There are various historical overlaps between such ethnographic methods and design.³⁵ In this study, participation includes my role as a design researcher and lecturer developing teaching briefs and exercises, a conversational event, and a practical search for the Photostroller, and lets me observe the practices of designers, as well as my own, and when, if and how Care-politics emerge.

As Mol describes, knowledge of care in practice is not just located in the subject's minds and descriptions, but in heterogenous actors including activities, events, buildings, instruments, procedures, and more (2002; p. 32). I also adopt an ANT-inspired approach to participant observation, to recognise the agency of human *and* non-human actants in the practices I observe and intervene within, including designed and found objects/materials. In STS, an ANT approach grounded in empirical case studies is used to tell

34 STS Laboratory Studies in the 1980s witnessed "science in action" (Latour, 1987), studying "what scientists actually do" (Pickering, 1992, p. 3), and gave attention to the material objects and methods that scientists use to produce knowledge. This was part of the empirical turn in epistemology.

35 This includes ethnographers and anthropologists employed on design projects who access insights into users and consumers to inspire designs, used in HCI and service design, and the practices of corporate design consultancies such as IDEO (Suri and Howard, 2006); or the intervention and application of ethnomethodology (Garfinkel, 1967; Suchman, 1987). Wilkie (2016) summarises ethnographies of design domains, such as participatory design (Callon, 2004) and architectural design (Yaneva, 2009), as well as specific design processes, such as prototyping (Wilkie, 2014), and sites of design expertise, such as studios (Farias & Wilkie, 2015). While ethnography traditionally requires long-term field studies, in 'design ethnography' more flexible approaches of 'quick and dirty' participant observation (Salvador et al. 1999, p.36) have been appropriated for short, focused studies.

stories of how human and non-human actors assemble, or do not, in networks, and how facts and artefacts are constructed socially and materially (Law, 2009, p. 141). This approach can be seen in my case studies, when, for example, I set out to uncover the existing relations in the case of the missing Photostroller and expected to first “follow the actors themselves” (Latour, 2005, p. 12) – actants such as research subjects, archived materials, documents and the device itself – generated through the initial conversations with the project researchers. An ANT approach to participant observation has been taken up in Design, notably in Participatory Design (Ehn et al., 2018, pp. 61-62; Storni et al., 2012); and in Wilkie’s ethnographic account and analysis of user assemblages in design practices (2010). By including non-humans in this study, I follow up on issues with human exceptionalism in care practices and in design practices, discussed in Chapter Two, and I consider how materials (such as the students’ material responses to the ‘Caretakers’ brief) and processes (such as the format and interactions of a conversational event) gain attributes of various Care-politics through design.

Practically, my observations were captured during the development and delivery of the three projects. The intention was not necessarily to “do ethnography” (Nova, 2014, p. 119) – for example, notes written on my laptop and sketchbook during students’ tutorials and presentations were intended for the job of teaching in design, as much as for capturing the field. Because I am focussed on delivering an event, or teaching, I have used audio recordings and still photography, as well as notetaking if conditions allowed; but most commonly, I write up observations soon afterwards, and at times after reflecting on the work with my collaborators. Thus, capturing the field was not always rigorously planned.

I have used textual documents developed during the timeframe of projects as primary sources, such as the development of written proposals, briefs, and the students’ project publications. Observations were also captured by collaborators as part of activities, such as the collective notetaking on shared paper by those who took part in the DRS Conversation. I also analysed existing academic and research documents, including academic articles and archived images on the Photostroller, the latter of which were principally used for the activities of tracing the missing device. Using an ANT-method that attunes to non-humans, I understand these documents and collective notes not simply as representations of practices (Atkinson et al., 2009, p. 5) but as material artefacts

that enact practices and potential Care-politics.

But while my methods are predicated on ethnographic approaches that are sensitive to practice and to non-humans, drawing on STS and ANT, this research also differs from an ethnographic approach to participant observation in a number of ways. First, I have spent less time in the field that is typical in ethnography because the time I have to make observations is predominantly the duration of the conversational event (90 minutes) or the teaching programme (30 teaching days). Second, my aim is not *just* to produce descriptive written accounts of practices (like the one you are reading right now), that are the anticipated outcomes of an STS ethnography (Strathern, 1999), but to combine an attention to making and the socio-material along with written analytical outputs. As a design-researcher, I intervene in the field I am studying through the active addition of objects and activities that have a central role. Therefore, I also engage with *how* to design activities for an event, for teaching, or the design of a poster to send to a care home, and then I analyse what the things I have made do to reveal or invent different Care-politics, and do to the ways in which I practice design research and teaching with care. It is also important to note here that the study differs from ‘design ethnography’ approaches that employ participant observation instrumentally towards the development of a list of implications for a new product or service – and that HCI scholar Paul Dourish argues is a limited understanding of the ethnographic contribution in design (2006, p. 547).

Furthermore, and in line with recent developments in ANT, I do not always follow the actants agnostically (López-Gómez, 2020). What I am referring to here is the ANT principle of “generalised symmetry” (Callon, 1986, p. 196), where rather than prioritising humans as always holding agency or taking deterministic approaches to technology, there is a commitment to explaining the social symmetrically, as the result of human and non-human entanglements (also Latour, 2005, p. 76). While this principle is an important reconsideration, feminist STS scholars encourage us to recognise differences, asymmetries, and power relations in human-nonhuman configurations and pay attention to them (e.g. Suchman, 2007, p. 269). Rather than having a ‘free movement’ to map or gather concerns, care brings the need to choose sides and make an attachment to something (Mol, 2010, p. 262; Latour, 2004, pp. 231-232), to care for some concerns more than others (Puig de la Bellacasa, 2011 p. 97). Therefore, I also recognise that I choose which actants to follow in this study. This includes the way my analysis of Chapter

Five focuses on specific students' responses that I see as shaping my understanding of care in design practices, and as such, is asymmetrical in the attention I give to certain students' work over others.

Disconcertment

How I choose which actants to follow, and how I signal to students to choose, has involved a method of tuning in to disconcerting feelings. As a method, this has a close affinity with care as “a matter of sensitivity, of ways being affected and affecting” (Puig de la Bellacasa, 2011, p. 90). I see it as a modification that Care-politics-1 brings to my methods. As a number of scholars have argued, the political and ethical nature of care creates requirements to “stay with the trouble” (Haraway 2016; Atkinson-Graham et al., 2015; Martin et al., 2015). In this study, I try to stay with the ethico-politics involved in matters of care, and instead of dismissing them, I allow them to affect and guide me in my choice of which actants to follow. Disconcertment becomes a method for doing this. Disconcerting moments are fleeting and uncomfortable, often physically experienced, that manifest during research (Jerak-Zuiderent, 2019, p. 196). They offer a way to pay attention to the subtle things or unexpected effects that happen in our practice that are easy to ignore, and to understand them as interruptions to become sensitive to (Kenney, 2015, p. 754; López-Gómez, 2019, p. 5; Müller and Kenney, 2014, p. 539). Cultivating disconcertment has evolved over this research, but such moments are not predictable, nor a given. In my experience, the key difference this method makes is to register the shifting ethical arrangements situated in design practices.

In Chapter Four, I will discuss how the way in which something was said in the design conference event provoked a disconcertment that helps me to problematise the gendering of care that happened in this case. It includes recognising when students on the 'Caretakers' project were brushing over disconcertment because ethical trouble had arisen in practice that did not fit with their project expectations. Rather than choosing to represent the participants' concerns in a final designed solution, instead we encouraged the students to follow and be obligated to the ethical complexities that were emerging from their encounters. In the search for the Photostroller, disconcertment manifested in feeling worried about the possible ethical consequences of a phone call to already

scrutinised care home staff. This led me to recalibrate my practice away from finding the device and prioritising an object-led care, to slow down the process and consider how I affected these human actors in the outputs I produced. I kept track of disconcertments through written notes. While in the first empirical chapter, I use disconcertment as a resource for analytic insights, elsewhere, and in the case studies with longer timescales, disconcertment serves as an entry point for unexpected effects that trigger a reformulation of the direction of the practice-based research and teaching.

Interviews

Alongside participant observation, I have also used conversations and interviews with my collaborators and research participants to provide descriptions of shared practice and processes for analysis. Because this involves peers and colleagues, for the most part, these interviews arose within ongoing relationships (Heyl, 2009, p. 369), they were informal and without pre-defined questions (Platt, 1981, p. 77), and typically took place in staff common rooms, or campus cafes, as well as in the settings of the case studies – teaching studios, conference spaces, and research studios. These are spaces in which the practice in this study was planned, made and discussed (Fariás and Wilkie, 2015). As such, I consider ‘the field’ to be the activities that I have been part of setting up, rather than using interviews to excavate descriptions of practice other than this. But I also used three semi-structured qualitative interviews with care home staff over the phone in 2019 and 2020, where the aim was to trace the unknown story of the missing research device. This format allowed for guided questions about whereabouts of the device, and at the same time, enabled digression and recollection (Corbetta, 2003, p. 269). These interviews were often short (20-30 minutes at most), and I made sure to call at less busy times of the day so as not to interrupt the duties of staff. Making space for recall on a long-lost device also meant that I established an email exchange with design researchers and care home staff to follow up on details in initial conversations. Recorded interviews were transcribed verbatim to include affective details such as worries, laughter and surrounding activities.

I also treat conversations and interviews as a social situation to be designed. As Law (2004, p. 5) has argued, social scientists rarely understand methods such as interviews

as being designed, whereas I am following a rationale that considers social worlds as enacted, or designable, as well as discoverable. Therefore, the methods for conducting the interviews and conversations in this study were also actively and explicitly related to the situation at hand. For example, in the DRS conference, we set out to explore the difficult issue of gender bias by designing a conversational format for engaging a small group of participants, that moved from intimate to group discussions, and we used existing objects and materials to embody possible issues and act as prompts for narratives. In the Photostroller search, rather than interviewing an ex-colleague about her memory of a design deployment at the care home, instead we developed a conversation with imagined others at the care home, playing the roles of ‘caller’ and ‘staff’, and at the same time considering the role that the non-human phone technology plays in this arrangement (cf. Michael, 2004, on audio equipment). This was because I wanted to understand the situation of how to sensitively call a care home about a missing device. How to recall the details of a project from a decade ago? So on the one hand, this method is similar to ethnographic interview approaches (Heyl, 2009, p. 369), where the interview actively engages the ‘interviewer’ and ‘responder’ as co-constructing meaning. But unlike ethnographic interviews that traditionally direct questions to informants through a conversation on site, this interview took place through the rehearsal of imagined scenarios. This approach of rehearsal also connects to methods that I bring together using the prefix ‘re’, to be discussed next.

Re- methods: re-scripting, repair, rehearsal

The material practice in this study predominantly takes found objects and subjects – of university administration, of past design research projects, and in the various settings of the students’ engagements, and which include jukeboxes and Google Reviews – and rather than developing novel designed devices, instead I use them to consider what is already going on, or overlooked, and to re-consider it. This is a method that is guided by a rationale from Care-politics-1, where so-called ‘finished’ solutions (such as academic timetables, or research devices that have been deployed) are instead considered to be unfinished, vulnerable, and are continually enacted (Mol, 2002, p.55; Law, 2004, p.59). It is also a speculative approach that is as much concerned with the past, and the

already-there and taken for granted, as it is about the future (Wilkie et al., 2017, p. 114), or in other words, what “might be in the world in a different mode” (Marres et al., 2018, pp. 28-29). In my research, I explore the unfinished or unexpected implications of the already-there object, as a form of reflexive engagement with design research practice and outcomes. I have discovered a commonality in my methods, many of which can be described using the prefix ‘re’. Re means ‘back’ or ‘again’.

Furthermore, this perspective is underpinned by the potential of a care temporality to question the forward-moving trajectory of design innovation, to include the use and organisation of designed objects as valid but overlooked topics (e.g. Star, 1999; Suchman & Bishop, 2000), as discussed in Chapter Two. It is also an attention that I see in the work of design researchers Kristina Lindström and Åsa Ståhl (2019), where the aftermath of industrial design glass production, rather than the production of novel glassware, becomes the impetus for a project exploring design and care; and a project of architect Andrés Jaque (2018) that recomposed the hidden materials and labours of an architectural pavilion in Barcelona, and consequently brought issues of the building’s organisation and maintenance to front of stage.³⁶

This thesis uses ‘re’ methods of re-scripting, repairing and rehearsal to try to access the use and repercussions of existing objects and subjects. I take these three in turn here, but I will give more detail in the empirical chapters. 1) As Wilkie describes (2019, pp. 392-394), ‘re-scripting’, or ‘retroscription’, is a mode of analysis used in the social sciences to analyse the values inscribed in designed technologies (e.g. Akrich, 1992, p. 222) and a method that has been used in design research and pedagogy to first unpack the scripts in designed artefacts and then modify them for the purposes of designing novel propositions. During the DRS Conversation, we analysed the gender scripts in an existing artefact of university administration, not to design a new timetabling system, but to provoke a discussion on the implications of this object and what or who it includes or excludes. 2) Repair exercises were set during the ‘Caretakers’ brief to encourage students to adopt a persistent, ongoing tinkering with existing objects and sites. This enabled students to locate issues and rearrange existing things and relations, but also then to understand that this re-arrangement was temporary and had repercussions.

36 See: <https://officeforpoliticalinnovation.com/work/phantom-mies-as-rendered-society/> [Accessed 12 June 2022].

Good intentions of repair (such as a workshop to fix a café's Google reviews) created as many repercussions as it solved. 3) Re-methods also come into play in the search for the missing device, and the rehearsal of eight versions of a phone call to a care home (Appendix 2). Rehearsal has implications for a future, and it usually refers to the process of preparing and refining actions for a public performance. But by doing away with a performance, rehearsal can also function as a temporal and spatial framework for testing social processes (Ibghy & Lemmens, 2016, p. 139). This method offered a way to give a context to the processes of recalling the Photostroller project, to rehearse and improvise how best to make the 'cold call' and what the possible consequences of the phone call might be. In sum, re-methods offer a speculative approach, but one that engages with what is, or has been, already going on, as a way to look for things that are taken for granted or left unspoken.

Collaboration

Throughout this study, I take a collaborative role with different people from Goldsmiths and elsewhere. Collaboration does not have a singular trait in this study. There are various and overlapping compositions: collaboration with colleagues and peers; with conference delegates; with design researchers who were part of existing collaborations; with research subjects; and with students as co-investigators. On the DRS Conversation and 'Caretakers' projects, collaboration with peers existed in the time and space of the fieldwork, the preparatory development gathering resources and making proposals, and the analysis. Naming these arrangements as 'collaborative' embodies the idea of forms of partnership shaped around the creation of venues for knowledge production (Estalella & Criado, 2018, p. 8). As such, working collaboratively helps to make practice available for my participant observation. Working collaboratively also mattered for my understanding of care, because rather than trying to be a 'gatekeeper' of the 'correct' type of care, I construct partnerships where collaborators influence and unsettle my views, not only to observe the different versions of Care-politics in design practice that I set out in the typology, and to invite other versions, but also to contribute to my understanding of what Care-politics-1 might require in practice. I am not concerned with the biographies of my collaborators as such, but rather from learning alongside them. This

was particularly prevalent during the ‘Caretakers’ teaching brief when 50 students offered prototypical examples of preliminary research enquiries, and that substantially informed my understanding of a speculative ethics in design practice, discussed in Chapter Five.

Yet collaboration also brings expectations to be negotiated and concerns with distributions of power in research (Florczak, 2016; Ståhl, et al., 2017; Viseu, 2015). I am careful not to conflate collaboration as automatically signifying care because of its implied ‘positivity’, and I recognise there are frictions and differing degrees of togetherness here. For example, the roles and responsibilities in the peer collaborations were not necessarily evenly distributed. In the DRS Conversation, Tanveer and I developed and wrote the proposal and then invited other researchers to join us as part of the conference requirements. It was at this point that the proposal was accepted, and the details of the session were organised, including a discussion around the use of certain “affective protocols” (Murphy, 2015, p. 718) intended to settle attendees and distribute responsibility – a decision that I discuss in Chapter Four. The ‘Caretakers’ teaching project was part of a module developed for collaborating with students on research.³⁷ When I describe students as collaborators, I recognise that the university design studio is rooted within pedagogic systems of power, where lecturers have more power over the agenda (Ellsworth, 1989; Ståhl et al., 2017). This is why Katherine and I used a mixture of teaching methods, taking authority in moments where we delivered a brief and assessments, alongside “transversal” approaches (Guattari, 1984), such as working alongside students on maintenance tasks to experience Care-politics, including cleaning the studio space or technical equipment to situate a practice of care.³⁸ To find the missing Photostroller, I entered a pre-existing collaboration of academic researchers in different universities, where power dynamics were already at play. There are few accounts of what is involved when the design researcher enters such situations and attempts to reassemble devices and research subjects (cf. Jaque, 2018), including when those research subjects are unknown to the original researchers. As I did not work on the original Photostroller project, it also sets up questions about what it means to attend to the “overspills” of

37 An aim of the module is to “nurture the inter-relationship between [...] research and teaching” by taking “existing research as a starting point to develop with students through a brief” (Ruby Hoette, personal email exchange, 26th July 2019).

38 The term transversal is associated with Félix Guattari, who first developed transversal approaches to re-organise institutional practices of Psychiatry, switching from a hierarchy of analyst-analysed to collective and interdependent practices that worked across the institution.

research practice (Michael, 2012a) that are not my own. My role was of an initiator in contacting this existing community of researchers, made through verbal and written requests typical of ethnographic research, as well as designed communications. This role involved negotiating the desire of the researchers to find the missing device and their trust in me to do so, an object-led care of the device itself, a respect for the research subjects of the care home staff for whom this search was not a priority and who were wary of scrutiny, and my own desire to observe and intervene with care – obligations and practices that do not necessarily align in collaborative arrangements.

Issues and challenges

This brings me to the issues and challenges I have faced when working collaboratively in a community in which I already have membership. My positionality is a methodological challenge in this study. It affects the way in which projects are initiated and how I conduct and analyse research. When the researcher conducts research within a group that they are a member of, this is called “insider research” (Greene, 2014). However, feminist researchers have challenged the distinction between insider/outsider as clearly delineated (Merriam et al., 2001). In my case, I hold multiple roles as a researcher, where in my research relations, I am a student, teaching staff, an ex-colleague; I am an organiser of a conference session, a member of the design research community, a lecturer, an unknown researcher calling out of the blue, and so my experience of a commonality is not static, and is partial (Song and Parker, 1995). Therefore, I try to acknowledge and contextualise what it means to be a multiple positioned researcher in my descriptions. On the one hand, my position has enabled an ease of access to experiences and projects, past and present, and an expediency of rapport. For example, the project on the missing Photostoller came about through an informal conversation in a café with Bill Gaver (the original project lead), and it was relatively straightforward to informally discuss the background to this project and be introduced to researchers. On the other hand, however, as Christina Chavez (2008) argues, I recognise that challenges arise if there are presumptions of a shared understanding of concepts. This has been something that I have been aware of when working with an ambiguous concept such as care, that means different things to different people in different situations (Martin et al., 2015, p.6), but

this is also an opportunity for this research because it has the potential to invite other versions of Care-politics into the practice. In Chapter Four, this point becomes part of the focus of the analysis, where the concept of care is interpreted as aesthetic protocol; and in Chapter Five, a designed activity called 'Cataloguing Care' sets out to invite Care-politics.

One upshot of a method assemblage is that the issues of the replicability and reliability of methods must be rethought, to issues of accountability. Feminist STS scholarship on care has emphasised how, when we do research, we make and unmake worlds (for example, worlds of healthcare, Mol et al., 2010; or science, Puig de la Bellacasa, 2011). Consequently, reflexive questions about our accountability in relation to others need to be considered, including the question of "who benefits?" (Kenney, 2015, p. 750). In this research I account for collaborative decisions and use the prefix 'we' in written accounts when appropriate. However, the use of collaborative outcomes in the empirical descriptions of this thesis sets up a risk that shared processes are used for personal gain in this single-authored account, and I recognise the power differential between myself and my collaborators (Florcazk, 2016) where I am authoring and influencing this analysis with my research motivations. To try to maintain an open and generative relationship with my collaborators, I have described my analysis, not to solicit their input in the writing, but to foster discussions, including ones that are not necessarily included in this study, to contribute to a community of practice. This included an ongoing discussion with students who undertook the 'Caretakers' brief and then developed a proposal for a 'Registry of Ethics in Student Works' in 2019, as well as ongoing proposals developed after teaching with Katherine May. Therefore, I have taken care to keep a communication channel with collaborators once the projects are over. Furthermore, I recognise that the stories made in the written outcome of this thesis, are my own, partial interpretation of events, accounts that my collaborators may not agree with. Overall, I aim to contextualise, not generalise, the research in this thesis, committing to an empirical analysis of messy design research (alongside others such as Healy, 2020; Keene, 2022; Kerridge, 2015; Thomson, 2019; Thompson, 2022; Wilkie, 2010). This includes paying attention to where things go wrong in practice, feelings, and seemingly limited or indefinite results.

Ethics

This investigation takes two approaches to ethics: one is underpinned by STS-feminist speculative and empirical ethics of care (also discussed in Chapter One, and at Care-politics-1 in Chapter Two) and the other is an institutional ethical code. In an academic setting, an 'ethics of care' typically involves processes that review the methods proposed for research to minimise risk and protect those involved (arguably a Care-politics-3). As Michael Guggenheim, Bernd Kräftner and Judith Kröll put it, such ethical review processes tend to preserve the social as it is, "preventing too much invention of the social" (2018, p. 76). I do include these ethical considerations, as I will come to below. STS-feminist care studies present an alternative to prescribed ethics, and this has two implications for this study.

First, ethics are not considered to be risky, or static, but relational and ongoing. I have already indicated the important point that STS scholars have made in relation to earlier feminist care ethics where care is interpreted normatively, meaning that there are certain criteria that need to be met for an activity to be considered 'care', and therefore 'good' (Pols, 2015, p. 82). As an alternative, Jeanette Pols (2008, 2015) argues for an "empirical ethics of care", where in line with the broader STS interest in following practices, Pols' ethnographies studied how people shape what is good *within* care practices. In other words, Pols urged the researcher not to define a priori what is ethically good and what is care, but to focus on the relational and contextual specificities of ethics in practice. She illustrates this point by comparing two telecare patients living with chronic disease, each with different devices that offer either feelings of safety through monitoring, or the ability to connect to other patients through a webcam, to show the "different and sometimes conflicting notions of what is 'good' care within care practices" (2015, p. 82). Following an empirical approach, in this doctoral research I understand that ethical issues cannot necessarily be known in advance, but shift, emerge and are invented in practice, and I have described how methods of disconcertment, re-scripting, repairing and rehearsing let me stay with and explore the unfinished or unexpected repercussions of existing objects. It is an argument that is crucial to my analysis of Chapter Five, and that lets me consider how ethics are made within the examples of student projects when teaching with care.

Second, given that ethico-politics emerge and shift in practice, this research finds ways to let ethics “speak”, following Fraser (2010), and so that they can play out in ways that may provoke further practical and material responses. For example, in ‘Caretakers’, students were encouraged to design ways to follow the repercussions of their engagements in the different phases of the teaching brief. This is exemplified in this student’s comment: “I felt that we were encouraged to engage issues from all angles, analysing not just our engagement with care but also its inevitable consequences. So, what will be neglected by my attentiveness to this particular area?” (quote from student participant). Similarly, during a workshop developed in collaboration with colleague, designer Liam Healy, the students had to consider the ‘overlooked things’ in their proposals for design, where who or what is neglected might then offer a change in their project direction. Overall, a feminist STS approach has changed the way that I understand ethics in design research and teaching from an imagined projection of potential ethics (such as in examples of SCD) to ethical problems that are made in practice as being productive for speculative processes in design.

At the same time, this project has ethical obligations towards human subjects and their narratives. I adhere to the research ethics guidelines of Goldsmiths University, regarding my responsibilities to those involved in this research, that can be categorised as issues of competency, informed consent, confidentiality, ethical publication and maintaining relationships (DeWalt and DeWalt, 2011, p. 211). Prior to commencing my fieldwork, I undertook the ‘Core Qualitative Research Methods’ module at Goldsmiths as part of my research training. I have also previously worked as a Research Fellow, a role that included developing informed consent documentation and working collaboratively and with research participants. My approach to gaining informed verbal consent in this study was to verbally communicate to collaborators that the research occasion would contribute to my thesis exploring care in design. This explanation happened at various stages: during the planning stages of the DRS Conversation and teaching with colleagues; through email and verbal correspondence in my initial contacts with IRS researchers and care home staff in the search for the Photostroller; and at the start of the DRS Conversation and during the teaching pitch to students. Before recording audio or making images, I would gain verbal consent; and if an image or transcribed conversation or interview was subsequently to be used publicly, in this thesis and other presentations, I have re-contacted those concerned and acquired written consent via

email. All data has been stored appropriately.

Regarding the anonymisation of research subjects, in Chapter Six I have changed the name of staff and of the care home, following the protocol set in the original study. The DRS participants are treated with anonymity in written and visual materials. I have also made a distinction between students' confidential comments made in the context of tutorials (anonymised with codes P1, P2, etc) and public comments made in their publications that I treat as citations. Unlike Wilkie's (2010) studies of design settings and institutions, I do not anonymise the names of my fellow colleagues or collaborators, as this information is already publicly available, either in connection with my name or easily linked to existing research projects. I have been given permission by collaborators to use their names in this thesis. However, not anonymising certain collaborators means that I have not always been able to describe or follow moments of ethical friction that have arisen in this thesis – moments that may have provoked further ethical issues.

Conclusion

In this chapter, I have developed a methodological rationale for how to go about identifying and intervening with Care-politics in the practice of design research. The typology gives me a comparative identification tool. To identify versions of Care-politics in design practice I have used a method of participant observation, as well as interviews that produce expressions and histories of practice. How I participate and observe is through doing design research, and here, my take on design research is not about producing artefacts as outcomes, but a view that objects are unfinished and ongoing. As well as exploring care in design through practice-based research and teaching, I also want to intervene with a version of care informed by a feminist STS understanding. For this, I have used methods that are sensitive to affect, such as disconcertment, an approach that uses both normative and speculative or 'on the ground' ethics, and 're' methods as a way of potentially accessing the ethical and political implications or 'possible worlds' of an artefact or interaction through its reconsideration or re-doing. In sum, the knowledge produced in this thesis is heterogenous, situated, emergent and embroiled within an array of actants present. The chapters that follow unpack the case studies using the typology, and take the three-dimensions of Care-politics-1 – affect, practical doing of maintenance and repair, ethics – to frame the practice of each study.

4

Made in the name of care: Unsettling gendered caring affects

Introduction

In the literature review I argued that design research, and design more broadly, needs to shift from a preoccupation with concern to one of care. One setting in which this shift can be addressed or explored is precisely where communities of design researchers come together: a design conference. In this chapter, I focus on the challenges of this shift in a case study of a designed ‘Conversation’, a session at DRS 2018 – a conference on the theme of ‘Catalyst’ – that I organised and delivered in collaboration with two design researchers and conference participants. The conversation was called *Design and sexism: Assembling a community of care*. How to care for a concern was an explicit question informing the development and staging of this session. The concerns we foregrounded were the persistence of gender bias and sexism in academic design discourse and practice. As such, the conference session was guided by the following questions: how does ‘everyday sexism’ manifest in the research, teaching and study of design in universities? What ‘genderscripts’ are at play in the procedures, materials, instruments, and technologies in these settings that highlight this issue? And how do we, as feminist design researchers, approach a matter of concern like sexism as a matter of care?

During this session, we achieved an open discussion with participants on experiences of sexism, and together described strategies and proposals on how to manage those experiences of gender inequalities in design education. However, this session did not produce matters of care (Care-politics-1) if this is an affective, ongoing intervention with the issue, but instead remained as a conversation that exposed statistical facts and gathered concerns. My aim for this chapter is to understand why. I will analyse how various elements in the staging of the issue – including our decisions made about the setting, the research activities and format – that we thought could construct matters of care for this issue, actually came together to curtail care. I argue that our use of an affectively charged format – specifically, to elicit feeling and flatten the organisational hierarchy – was not felicitous to the issue of sexism in Design. Moreover, although our activities intended to detect genderscripts in the everyday technologies of the Design academy, I will describe how we inadvertently scripted a gendered way of doing care in the format of the session.

The ‘Design and sexism’ conversation at DRS 2018 took place around halfway through my doctoral research. I write as a participant observer, between my role as an initiator of and participant in the conversation session. I use documentation of the proposal and its development, material produced in the session with participants and the written session summary developed with my collaborators for this analysis. Although the typology of Chapter Two was developed after the DRS conversation took place, I use it to look more analytically and critically at the claims for care in this case study, and to recognise and analyse the various Care-politics that circulate and converge in this session. I will locate instances of a version of care that is pastoral or protective (Care-politics-3), and instances when essentialised ways, that equate positive and gendered affects with care, are employed (discussed at Care-politics-4). This includes the attempt to move from matters of concern to care. The analysis requires a review of the dimension of ‘affect’ that Maria Puig de la Bellacasa raises as part of matters of care (Care-politics-1). While Puig de la Bellacasa defines care as a triplet of “an affective state, a material vital doing, and an ethico-political obligation” (2011, pp. 89-90; 2017, p. 42) she notes that these dimensions are not necessarily symmetrical or evenly distributed (2017, p. 5). This uneven distribution between the dimensions of care in Care-politics-1 will be considered in this chapter, and specifically here my interest is in what happens through an excess

of gendered affect in this conference session.

The chapter is organised as follows: First, I describe the setting of the conversation and the motivational concerns. Then I present a short review of the notions of ‘affect’ and ‘genderscripts’ that will lead into an empirical reflection on the preparation and delivery of the activities and format. Since beginning my PhD, I have witnessed how circular gatherings, taking it in turns to speak by passing a cushion around a circle, sitting on the floor, being welcoming, touching, attending to comfort, can all get attached to care. The practice in this chapter may not be inventive as typically understood in design. However, it provides a useful case study of the ways by which positive, gendered or feminine affects and protocols can get attached to care. As such this case study contributes to ways of identifying the challenges of the move from concern to care in design, especially in instances where care is an explicit motivation of design research and pedagogy.

The setting: The Design Research Society conference

The Design Research Society (DRS), established in the 1960s, is an internationally leading academic colloquium concerned with exploring, staging and promoting design research. It is a community that I have been involved in since 2000. This conversation signals my decision to take care from ‘within’, that is, to design research practice including my prior practice and to foreground care as a timely notion for the academic research community. The activities of the DRS include a biennial conference. Arguably as a reaction to criticism about the lack of opportunities for discussion in the design conference format (Poyner, 2008), in 2014 DRS introduced discursive formats in their conferences in addition to traditional non-participatory paper or poster presentations. One such format, ‘Conversations’, has been introduced to engage a limited number of conference attendees in an open exchange and to challenge assumptions on what topics and forms of design research could be.³⁹ Therefore, as a set of conditions for testing the shift from concern to care, the DRS Conversation offered an opportunity for both enhancing my situatedness as a researcher and a format that was attuned to overlooked

³⁹ See: <http://www.drs2018limerick.org/participation/conversations> [Accessed 21 March 2022].

topics. In other words, it was in line with what is at stake in matters of care.

Over a period of two months, and with two other female academic design researchers, Tanveer Ahmed and Mathilda Tham, I developed a Conversation proposal entitled *Design and sexism: Assembling a community of care*. It was accepted for DRS 2018, held at the School of Art and Design at the University of Limerick, Ireland. Around 600 delegates attended DRS that year. The Conversation was promoted through the DRS website and a poster at the venue, and 20 participants attended. They were predominantly women: design students, academics of various levels of seniority, as well as independent researchers from the UK, the Republic of Ireland, the Netherlands, Belgium, France, Scandinavia, the USA and South Korea. The discussion lasted around 90 minutes in a seminar room in the School of Art and Design. There were five phases to the conversation: first, participants shared the motivations for the conversation and agreed on ethics/rules of engagement that we called 'How to care for the conversation'; second, in 'Growing a conversation', we briefly worked from intimate discussions to form into larger groups, sharing insights on personal experiences; third, in those groups we used a set of materials to elicit concrete experiences on the matter of sexism, to reveal and reconfigure gendered materials; fourth, participants generated and shared written strategies and proposals around the issues they had highlighted, and finally we revisited the conversation ethics/rules. Following the conference, Tanveer, Mathilda and I co-authored a summary of the session, which was published on the DRS conference website and distributed to participants (Ahmed, Pennington & Tham, 2018, pp. 9-14).

Matter of sexism

We proposed this conversation around the matter of sexism for several reasons. When developing the proposal for DRS, we had been motivated by the recent interest and uptake of feminist STS scholarship in design (e.g. Bardzell, 2010, discussed in Chapter One). However, we also recognized that despite a body of feminist design practitioners and educators, gender inequalities still persist in Design education (Morley, 2016) and in higher education more generally (Bozalek & Carolissen, 2012), where there is a gender pay gap in the UK (Cama et al., 2016) and differences in the career progressions of male and female academics (Santos & Dang Van Phu, 2019). At the time, the conversation

around inequality based on sex was an increasingly dominant issue of public concern, and campaigns such as ‘The Everyday Sexism Project’ exposed how sexist practices operate across different groups in society.⁴⁰ On the issue of sexism in academic settings, Stengers and Vinciane Despret urge women to “make a fuss” about injustice and re-examine their positions in the university (2014, pp. 13-21). This call from Stengers and Despret was explicitly taken up by design researchers Laura Forlano, Asa Ståhl, Kristina Lindström, Li Jönsson and Ramia Mazé (2016) to consider how feminist design research practices might look ‘within’ to change the Design academy. We decided to follow feminist scholar Sara Ahmed (2014a) who argues “if feminism is to have a future in the academy, we need to name sexism, we need to give this problem its name” and proposes “a cataloguing of sexism”. It was also an issue that hadn’t previously been publicly discussed at DRS, an assessment that came through my analysis of the titles of papers of previous DRS proceedings when developing the proposal, where an uptake of a feminist praxis can be identified, but not sexism. In addition, a regular DRS delegate who participated in the Conversation said she had not discussed sexism during the conference before.

Sexism is an issue that has been at the forefront of feminist concerns around power and exclusion, and as I discussed in the typology at Care-politics-4, the notion of care in feminist epistemologies emerged through gender and race politics where the responsibilities of particular care labours are often discriminatory. We worked with a definition of sexism as “prejudice based on sex or gender” (Masequesmay, 2014). This definition was originally formulated during second-wave feminism to raise awareness of discrimination against women and girls, then expanded to include the oppression of any sex or gender, including men and boys and non-binary gender identifying people. This expanded definition is evident in our DRS proposal and summary, as well as through verbal reminders we gave during the session itself, where we highlighted that the issue of sexism was discrimination experienced by female students and staff in the academy while not restricting this notion to women or a binary notion of gender. We decided to use the term ‘sexism’ in the naming of the session, despite worries that it might lead to a reductive binary male/female interpretation.

How, then, did we figure care in the session at DRS? Care was formulated in the sense

⁴⁰ See: <https://everydaysexism.com> [Accessed 3 May, 2022].

of a complex issue that needed our urgent attention and articulation. In hindsight, and with the aid of the typology in Chapter Two, care can be understood as operating here as Care-politics-2, or in other words as a matter of concern. But other versions of care are also at play during the conversation. For instance, the title of the session included the phrasing “community of care”, an expression echoing Tronto’s politico-ethics of care (1993) – addressed in Care-politics-4 – which emerges from criticism of the relegation of care to the private domain and the unequal distribution of caring responsibilities. It is presented as an alternative to protective care (Care-politics-3), that is, where certain bodies are bestowed with protection but charge others with doing tasks of care as “privileged irresponsibility” (Tronto, 1993, pp. 120-122, pp. 146-147). Tronto argues that caring responsibilities should be decided on by a collective or community and to create environments for sharing experiences and addressing power relations (2010, 2013). A community or collective can also be identified in Fisher and Tronto’s definition of care of “everything we do” (1990, p. 40). At DRS, it was not our intention to figure care as protective, or to save victims. Rather we had an ambition that a community might form during the conference session, in order to strengthen our understanding of each other’s working conditions (Care-politics-4) and through which we would locate specific facts or assemble concerns (Care-politics-2). We explicitly referenced feminist STS scholarship in the wording of the proposal to ask “what happens when we think of the issue of sexism as a matter of care?”. As I described in Chapter Two, matters of care do not replace concern, but form a socio-material assemblage that tunes to exclusions and requires an affective engagement and ongoing acts of doing to generate care (Puig de la Bellacasa, 2011, p. 90). As such, we imagined that thinking-with-care could extend to overlooked concerns in the lives of the people doing design research and teaching. And rather than stopping at the articulation of a specific concern, we could become committed to effecting it through an ongoing intervention, as an enactment of Care-politics-1, or matters of care. Moreover, we were aware that the subject of the conversation might lead to the exposure of participants to sensitive or even traumatic experiences. Hence, key to our considerations in preparing the session was how to create an atmosphere of support and attention and how to guide the conversation beyond a ‘name and blame’ dynamic.

These factors – sharing experiences and addressing power relations, in a supportive and non-blaming way – produced implications for the staging of the issue of sexism in

Design in this setting. We made two key decisions: first, rather than naming ‘perpetrators’, we developed an activity to consider the genderscripts in the everyday resources, technologies and materials of our teaching and research practices, to elicit experiences of sexism. In a forthcoming section, I will review how a genderscript refers to how gender bias is coded or inscribed into the programmes of action of design and technical artefacts. Therefore, caring about sexism in this instance begins through highlighting and cataloguing how these resources, technologies, etc, might point to biased scripts and structures that influence knowledge production. We would then motivate this activity to provoke proposals for practical, ongoing interventions. Second, we would adopt a style of supportive engagement by using protocols that would ‘elicit feeling’ and flatten the hierarchical organisation of the session. I want to work through the ways in which our decisions produced unresolved tensions between the triple dimensions of affect, doing and obligation in matters of care (Care-politics-1). Specifically, I will analyse how these decisions worked to script and over-emphasise a gendered affect that was ultimately not felicitous to eliciting the issue of sexism as a matter of care. Before moving on to the analysis of the session, I will next briefly discuss the relations between affect and care and review the concept of genderscripts.

Affect and care

Affect, or affective charge, provides a key distinction between matters of concern and matters of care. On this, Puig de la Bellacasa argues that as affective states, concern and care are related but have different affective charges (2011, p. 89). This argument was outlined in Chapter Two at Care-politics-2. She argues that the affective charges of both concern and care are to be found in trouble, worry and thoughtfulness, however, concern implies a detachment from an issue. Matters of care, on the other hand, “has stronger affective and ethical connotations” (p. 89). It draws attention to an involvement with concerns, to affect and be affected by issues, dimensions that technoscientific practices had been purified of. In this section I will isolate the dimension of “affect/affections” in the tri-fold dimensions of care (Puig de la Bellacasa, 2017, p. 5). Moreover, because I want to understand how a sensibility of Care-politics-1 works in practice, an aim of this chapter is to understand how the connection between affect and affections

can be problematic and requires clarification. Might this connection signal a slip into a feel-good and gendered care?

Affect has received sustained interest in social and cultural research, and the humanities (for an overview see Anderson 2014, pp. 5-8), as an 'affective turn' (e.g. Clough et al., 2007; Greco & Stenner, 2008). Recent studies on affect have a number of precursors, principally in feminist work on emotions and, like care, affect and emotion have also been set up against prevailing modes of 'rational' knowledge production. For example, as I described in Care-politics-4, in feminist scholarship, emotions have been elevated in the study of science to encompass "hand, brain *and heart*" [my emphasis] (Rose, 1983) where the researchers' own experiences denote valid areas of research.⁴¹ Affect is often traced to Gilles Deleuze's (1978, 1988) reading of Baruch Spinoza, as well as experiments by cultural theorist Brian Massumi (2002, p. 212). To describe the meaning and implications of affect I will primarily draw on the work of Ben Anderson (2014) in Human Geography.

Affect can be defined as the bodily capacities to affect and to be affected that emerge and develop in concert. For example, the exhaustion of a worker comes from the job at hand and impacts the work that the body can do (Anderson, 2014, p. 9). This definition has a set of implications. First, affect is two-sided – to affect and be affected. Second, affects are attached to bodies, but it is important to note that in contemporary understandings of affect a 'body' can be anything, human or non-human, such as "landscapes that emanate an atmosphere, rooms that seem imbued with a hazy feeling, enraged crowds" (Anderson, 2014, p. 9, fn. 9). Gender theorist Eve Sedgwick also argues that affects are attached "to things, people, ideas, sensations, relations, activities, ambitions, institutions, and any number of other things, including other affects" (2003, p. 19). For this reason, there is a problem with elevation of 'emotion' in the aforementioned feminist scholarship because it locates affect as a human attribute, and implies particular models of what 'human' is (for example, cognitive, reflexive). Third, affect pertains to bodily capacities that are emergent from encounters, or in other words, what a body may be able to do in

41 Furthermore, Arlie Russell Hochschild's (1983) analysis of emotional labour and the requirements of friendliness, hospitality and warmth in service industry work draws attention to the gendered ways in which emotions and affects are embodied in the context of capitalism. "Affective labor" (Hardt, 1999) is another term for care work, that is undervalued financially but "renumerated with love" (Fraser, 2017, p. 23).

a situation, as well as what is being done. This is to say that capacities are not a given, and they do not belong to individual bodies, but are the upshot of interacting bodies (Anderson, 2014, pp. 9-10). This definition orients affect as “an expression, reflection and enactment of specific relations in some form of relational configuration” (p. 10). Indeed, geographer Liz Bondi suggests that affect can be thought of as a relational approach to emotions and experience (2005, p. 434). While Anderson argues that this is a good starting point, he adds that a reliance on the claim that affect is ‘relational’, does not get us to what multiple affects do and how they are organised (2014, pp. 10-11). This is important because “forms of power work through affective life” (p. 8).⁴² Feelings are considered an expression of the body’s ‘charge of affect’, and as such “are always both a reflection of how encounters happen and are enacted in encounters” (p. 80).

What I take from this overview is that 1) affects can be multiple and are attached to any entity, human or non-human; 2) the capacity of a body to affect and be affected is organised in and through encounters, and 3) that feelings are indicative of and inform affects. In sum, affect can be understood as a necessary dimension of matters of care, including, but not limited to positive affects of affection and warmth. Furthermore, care is also a set of affects that can attach to things, and is something that affects attach to, and may come to define stereotypical ideas of how care is achieved. These points will feed into my analysis of how we staged the issue of sexism during the conference, to consider how certain affects of care were attached to the format and script of the discussion.

As I discussed at Care-politics-1, feminist STS scholar Michelle Murphy argues that the temptation to always align care with an affirmative affection and warm feelings, or as Murphy calls it, “positive affect” (2015, p. 719), is not only problematic but entangled in the histories of feminist science studies. On this point, Murphy describes how recent work in feminist STS that explores matters of care is rooted in feminist science studies, yet so too is the 1970s feminist self-help movement that was inspired by an insistence on embodiment, situatedness and reflexive responsibility in the production of knowledge (i.e. the work of Haraway, Harding and Rose). Murphy argues that the organisation of

⁴² Ben Anderson gives an example of the affect of greed to illustrate this point, where “greed is both an expression of particular relations and one part within the organisation of relations that we give the name capitalism to” (2014, p. 11).

these feminist self-help groups – involving encounters of sharing, tracking changes, in circles, with feelings, attending to variations within yourself and with others, appreciation, intimacy, healing, bonding – are iconic “affectively charged protocols” that have become attached to care (p. 718). We attached similar protocols to care during our session at DRS. While these positive affective protocols may create a welcoming atmosphere, they are stereotypical ideas of care that can work to disconnect acts from their implications, and smooth over gender politics (pp. 725-727). Murphy proposes to “unsettle care” in order to recognise these connections within feminist STS. It is not a “doing away with feminism” but about making accountable and critical practices (p. 720) and to understand both “the promise and limits of affectively charged knowing” (p. 725).

Mobilising genderscripts in the academy

Our worries about the naming and blaming of victims and/or perpetrators of sexism, as well as our designerly concern with artefacts, led us to take a material-led focus in the main part of the session. We wanted to steer away from specific individuals and instead focus on how gendered bias may be scripted in the very technologies, structures, practices and artefacts of the Design academy that shape and are shaped by working relations. This focus has been less considered in design histories and practices. As design theorist Pinar Kaygan (2016, p. 236) argues, feminist design studies have two primary strands of research on gender in design. First, the work of design historians has revealed exceptional women designers omitted from history (e.g. Buckley, 1986; Howard & Setliff, 2000); and second, that women are under-represented in design professions, and have a unique perspective to better understand female users (e.g. Bruce, 1985; Perkins, 1999). However, some issues with this research are that it locates the solution to gendered design in women designers themselves, and takes deterministic or essentialist views of technology. Therefore, to understand women’s status in the technology-related professions of design (such as industrial design, architecture, engineering, HCI), Kaygan argues for dialogue with feminist STS to shift the focus towards the construction of gender and technology relations (2016, p. 239, p. 242). The history and sociology of science and technology provide a long and extensive tradition of analysing design, technology and gender. Seminal studies include research on how the design of modern domestic conveniences

reproduces entrenched gender divisions and creates “more work” (Cowan, 1983); and in their study of the microwave oven, Cynthia Cockburn and Susan Ormrod (1993) describe how what was designed as a high-tech ‘gizmo’ for men, was consumed as a domestic ‘white good’ for families, re-casting women as “technologically competent” (p. 166) which in turn re-shaped the marketing of the microwave. Therefore, a difference that feminist STS scholarship brings is to consider how non-human actors are embedded in practices that shape and are shaped by gender bias, as a two-way process of mutual shaping (Cockburn & Ormod, 1993, p. 41; Wajcman, 2000).

Furthermore, in these fields it is now commonly understood that technical artefacts, including mundane ones, are not socially neutral but are encoded with scripts that embody morals and politics, and that enable and constrain certain kinds of action (Akrich, 1992, p. 205; Akrich & Latour, 1992). The presence of gender politics that are encoded into technical artefacts is known as ‘genderscripts’. (Other politics that may be present in scripts, such as race, age, sexual orientation and class, were not the focus of the DRS session). The concept of the genderscript initially came out of research by scholars including Ellen Van Oost (1995), Nelly Oudshoorn (1996) and Els Rommes, van Oost and Oudshoorn (2003) as a response to script theory (Akrich, 1992), where gender was seen to be largely absent. For example, when Rommes et al. (2003) analysed the gender politics embedded in the design of a civic web platform for the city of Amsterdam, launched in 1994, the notion of genderscript was used as a tool to understand the problem of the under-representation of women users, something that the authors argued stemmed from masculine structural, symbolic and identity-led divisions between the designers’ image of users and the actual users (p. 499). In other words, a script analysis can reveal how the design and use of technologies emerge from the interests of the dominant group of designers (i.e. young, white, male, middle-class) that are projected onto users and, as such, can play a role in normalising, privileging or excluding behaviours (p. 479). The uptake of the notion of genderscripts in feminist accounts of design, science and technology includes examples that expose how pink toys for girls, or the Nokia 1270 folding mobile phone (Shade, 2007), or the website Pinterest (Friz & Gehl, 2016) have been scripted for women.

What is often neglected in scholarship around gender discrimination in the field of Design are the existing relations between women and workplace hierarchies, structures,

and technologies, and how these are not gender neutral (Kaygan, 2016, p. 239) but influence the production of knowledge. On the topic of gendered workplace relations, feminist design researchers can again look to over 40 years of feminist scholarship in STS. For example, Cynthia Cockburn (1981) studied how the design of printing equipment has historically excluded the bodily strength of the ‘average’ woman; and Suchman (2009) argues that what counts as innovation in the field of technological design is a gendered question. Therefore, in our conference session we wanted to explore and describe genderscripts encoded in the mundane artefacts of research and teaching practices in the Design academy, and we understood that these might not be obvious. We anticipated that these artefacts would give us examples of facts and concerns around biases for intervening ‘with care’ through proposals and commitments for ongoing activities beyond the session.

Moreover, while theory on genderscripts refers to an encoded action in the development of designed artefacts, it does not get into the question of affects. As such, through the example of the DRS conversation I am also bringing together affect and script theories, to reflect on how we inadvertently genderscripted this session by attaching a feminine affect to care.

Eliciting feeling

Before we start, if everyone can take a minute or two to think about how they are feeling. Think about one word to describe how you are feeling. Then we will go around the room in a circle and, one at a time, please share your word with the group.

These are the words that one of my collaborators said at the beginning and again at the end of the DRS conversation on sexism in design. All participants spoke: “Hopeful”... “Welcome”... “Unsure”... “Tired”... “Angry”. In addition to this enquiry into the emotions or feelings of participants, we also used other affectively charged protocols: the conversation began with short, intimate discussions in pairs, offering and/or listening to experiences of everyday sexism, and then the conversation was gradually extended into larger groups in which we discussed genderscripts in the materials. Participants also collectively

developed the ethical guidelines and rules of engagement for the session, that we titled ‘Caring for the conversation’. Three rules were set by the group: not blaming or naming, to keep sources of information anonymous, and to individually take responsibility for the documentation of ideas. At the time of the session, I was conflicted about the use of this emotional script that conjures feelings of sharing, intimacy, and affection. I understood the intention of use, which was to produce a diagnostic of the participants feelings in relation to the sensitive topic that we were about to or had just discussed. I also understood that Puig de la Bellacasa foregrounds affect and affection as a facet of care. Furthermore, the conference also had a ‘code of conduct’ which promoted respectful behaviour and kindness.⁴³ I was, however, also uncomfortable making this request of participants. Here, I want to think through whether the conditions for eliciting feeling were “felicitous” (Austin, 1962, p. 16) in this conference setting, around a conversation about sexism, where there was an aim of care.⁴⁴

In academic conferences, delegates typically present their research as a form of knowledge dissemination. To foreground emotions and ask participants to talk publicly about their feelings is arguably incongruous in an academic setting. This is despite arguments for the need to pay attention to emotions in academic work (e.g. Bondi, 2005; Askins & Blazek, 2017). I recognise that the disconcertment I felt about eliciting the feelings of participants is one that stems from the bifurcation of reason/emotion in hegemonic knowledge production; that is, where emotion is considered ‘unthought’ and feminine, and reason is masculine and not emotional (Ahmed, 2014b, p. 170), and where emotions are not considered ‘core’ to scholarly activities (Davidson, Bondi & Smith, 2014). This is a bifurcation that Sara Ahmed urges us to contest, because “focusing on emotions as mediated rather than immediate reminds us that knowledge cannot be separated from the bodily world of feeling and sensation” (2014b, p. 171). In this respect, enquiring into feelings around sexist discrimination in the academy, in this academic conference setting, is arguably felicitous as it provides an ideal setting in which to explore and understand the ways in which subjective emotions may be at odds with the so-called ‘neutral’ and sexist hegemonic structures of academia.

43 See: <http://www.drs2018limerick.org/participation/code-conduct> [Accessed 21 March 2022].

44 In Speech Act Theory, Austin (1962) explains that a speech act is neither true or false but is rather felicitous or infelicitous according to the conditions in which it is said. For example, to pronounce someone ‘married’ as a speech act is felicitous if it is said in a church.

At the same time, in the staging of the issue of sexism, my discomfort comes from a place where to elicit feelings from the mainly female participants treads close to perpetuating the feminine subject as emotional and caring. In other words, the risk of viewing feelings as important to knowledge is that feelings can be linked to normative ways of doing gender (Pedwell & Whitehead, 2012, p. 120).⁴⁵ It also sets up an assumption that the participants are all victims of gender bias in academia. Not all of the feelings that were expressed at this moment in the session were ‘happy feelings’. Nonetheless, the act of eliciting feeling was arguably a “problematic strategic deployment of care”, as Martin, Myers and Viseu put it (2015, p. 8). I see now that we encoded the format with a feminised caring affect, ultimately tying the work of caring for sexism to the ‘naturalness’ of women’s caring. Perhaps unsurprisingly, the conversation participants struggled to move beyond this, and it is understandable why, during the closing discussion around how to take ‘Care of the conversation’, one participant suggested that any future sessions would require a broader range of gender issues and participants to be represented, implying that those who could contribute to caring for the issue of sexism, as well as a broader range of materials, were not in the room. As Murphy expresses in this quote, “there is an on-going temptation within feminist scholarship to view positive affect and care as a route to emancipated science and alternative knowledge-making without critically examining the ways positive feelings, sympathy, and other forms of attachment can work with and through the grain of hegemonic structures, rather than against them” (2015, p. 719). Reflecting on the way we organised the conversation, eliciting feelings through genderscripted formats arguably worked to reproduce the very discriminatory infrastructures that the event was set up to interrogate in the first place, and was not felicitous to the issue at hand.⁴⁶

45 This is also a key argument of feminist scholars, notably Judith Butler (1990), who has pointed to the performativity of gender, that is, the view that gender is constructed rather than ‘natural’, but where social practices of gendered roles may essentialise femininity.

46 A counter-argument is useful for clarification here. The work of feminist art group The Guerrilla Girls arguably ‘cares for sexism in art’, but the interactional approach used by these artists is through “in-your-face visuals and in-your-face headlines” attacking sexist institutions (McNay, 2016), and not a feel-good atmosphere of positive affect.

Flattening the hierarchy

The organisational structure of the event was defined by the conference. We needed to propose a maximum of five conversation organisers, or ‘catalysts’, who would convene and lead the discussion. At the same time, in our attempts to make a supportive space we thought that the organisation of the session needed to challenge hierarchical structures in participation, to decentre the designers/convenors as ‘experts’ in this issue and at the same time acknowledge participants as experts. Therefore, as convenors we explicitly framed our roles as participant observers, and participants were invited to share responsibilities for the conversation, including the aforementioned shared responsibilities for documenting the session. Participants were also asked to bring along gendered artefacts and materials. This can be considered a flattened organisational structure and is one that again chimes with the affective protocols that Murphy describes in the histories of self-organised feminist groups of self-care, where practices of care “crafted welcoming spaces” (2015, p. 718). I also recognise it as a structure that aimed to move away from a form of pastoral care (Care-politics-3); where, instead of Tanveer, Mathilda and myself taking on the role of ‘protectors’ in the ongoing intervention or care of biased materials, technologies, etc., the ongoing care is instead decided on by the community that formed in this session. However, this flattened structure set up a dilemma in relation to accountability and responsibility for the issue at hand. If the shift from concern to matters of care is about not only exposing or producing concerns, but also about generating care as an ongoing doing, then that ongoing doing both requires and emerges from an accountability for our participation.

Jo Freeman’s (1972) essay *The Tyranny of Structurelessness* is useful for considering this tension between making a supportive space and ongoing care. Freeman points to the problem of decision making in unstructured collectives. She argues that, in the first place, a flattened power structure is unlikely because there is always a power dynamic; and second, that by eschewing an organisational structure, decision making is jeopardised. While structurelessness offers ways for a collective to express feelings and discuss an issue, or offers an open-ended process of collective sense making, it can also produce a lack of accountability, decision making and feedback processes. Accountability is required to make sure things get acted on, to produce consequences, rather than an

exercise in communicating experiences and preferences. Freeman's argument suggests that a hierarchical organisational structure is one way that engenders accountability. It seems obvious now, but in the design of this conversation, our concerns about support and equity, and use of a flattened hierarchy, worked to curtail an accountability and responsibility that may have led to the ongoing commitments that are part of matters of care. As such, the conversation remained as an exercise in gathering the concerns that affected us (or Care-politics-2).

Gendered artefacts

In our work in the university, we participate in the use of mechanisms of existing structures that exclude some and promote others. In the third and main phase of the conversation, a set of materials, artefacts, articles, technologies, etc, were used as a provocation to elicit experiences and observations around potential genderscripts and sexism in the mechanisms of the Design academy. This would provide a way of cataloguing examples of sexism and provoke proposals for ways to care for the issue. Before the conversation took place, we used the DRS website to ask potential participants to bring examples of materials, etc., as provocations.⁴⁷ There was no guarantee that participants would bring them – and no one did, as most delegates travelled to Limerick and had limited opportunity to gather such resources having signed up to the session on the day. Tanveer, Mathilda and I had gathered a set of resources in preparation. This included examples that were presented as explicit facts in relation to bias, such as statistics on the gender pay gap according to age and design discipline; or where the bias was indefinite, such as a course timetable, an image of a typical fashion design teaching studio, a design brief, a job advert, a course handbook, an A Level Design paper; or that were reactions to biases, such as the *Women Write Architecture Reading List* (Harris, 2017) (Fig. 13).

Participants worked in groups around three tables in the seminar room generating discursive and written responses to the materials (Fig. 14), and the common theme running through the discussions of the groups was the issue of discrimination based on sexism. Sensitivities were raised around unequal treatment of students and tutors based

⁴⁷ See: <http://www.drs2018limerick.org/conversation/cn04-design-and-sexism-assembling-community-care> (comments thread). [Accessed 21 March 2022].

on gender – such as activities in the design studio workshops where students had been made to feel overly cautious and had lost confidence in using machinery.⁴⁸ There were also instances where tutors had been questioned about the legitimacy of their research and the extent to which they had received help from others; as well as a participant's concern about the limited options for who could examine their PhD. Proposals were made, such as 'female-only' time in laboratories/workshops, an 'equal pay clock', visual semantic training around 'genderscripts', citational practices that reveal exclusion, departmental gender quotas for staff, a 'gender provisional license' for learning how to navigate these issues with clumsiness, education on the complicity of design practice with cheap labour, the use of existing amplification tactics to highlight lack of representation on panels, or if someone is overlooked in a meeting, amongst others.

Participants also attempted to re-script the genderscript. For example, an activity to alter the timetable revealed a messier version of the conflicting difficulties around biases. At Care-politics-4, I discussed how the labour involved in both care responsibilities and administrative roles gets overlooked, or are duties that are expected to be performed obligingly (e.g. Suchman, 2007, p. 219). However, when one participant altered a course timetable to include those who had been excluded because of their caring responsibilities, another participant who worked as a university administrator drew attention to the administrative labour required to produce a timetable that was less exclusionary, arguing that it would be impossible to please everyone (Fig. 15). This is a moment where matters of concern – Care-politics-2 – are clearly at play, where the altered timetable becomes a form of gathering device around which different concerns are revealed.

48 Drawing on STS laboratory studies (e.g. Knorr-Cetina 1995; Latour & Woolgar 1979) and methods associated with ANT, Farias and Wilkie (2016) study the 'Design Studio' as an empirical site to understand creativity and production of cultural artefacts. The analogy with laboratory studies enables a view of the studio as a site of knowledge production (p. 7). Elsewhere, feminist STS scholars have argued that the histories of the laboratory affords male-dominated knowledge production (e.g. Star, 1990). Taken together, this opens up the question of whether, or how, the site of the university design studio is gendered.

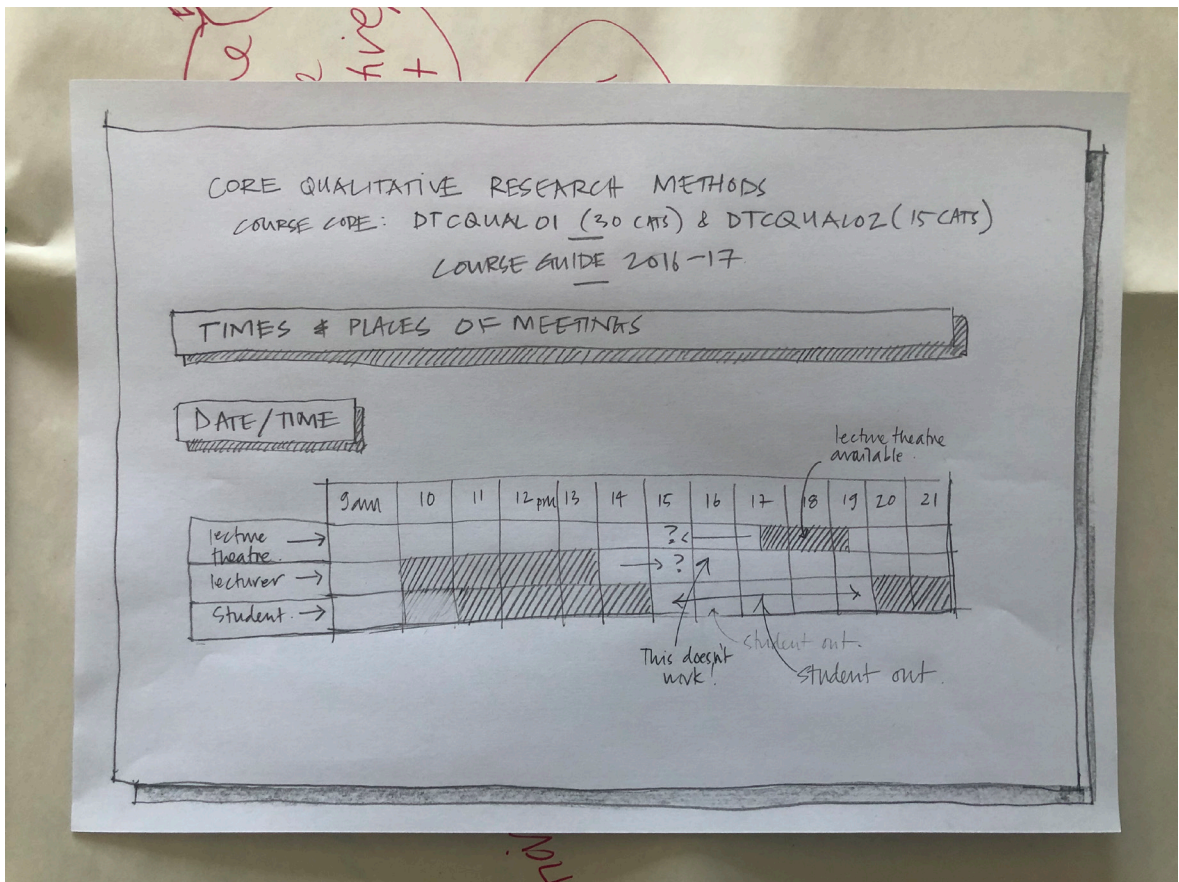
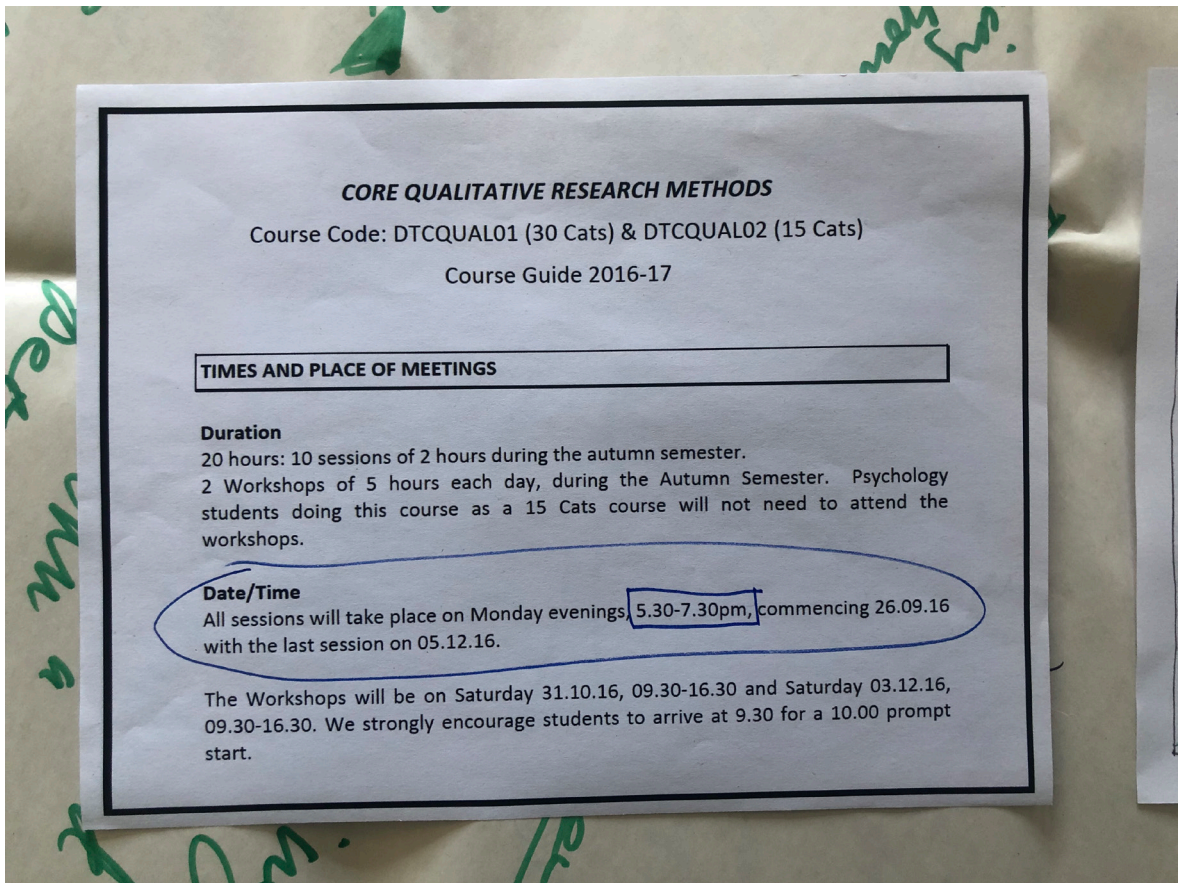


Fig. 15: An activity to re-configure a timetable.

Conclusion

Looking beyond the ways that design scholars have brought attention to gender relations in design, by, for instance, recovering female design figures, or revealing gendered users, this chapter has argued for an attention to genderscripts in the technologies of the Design academy. This issue has the potential to be a matter of care, by addressing overlooked experiences in the academic worlds we construct and are implicated in. While matters of care was an ambition of this case study, using the typology of Care-politics, developed in Chapter Two, I have been able to describe and unsettle the configurations of care that are enacted in this example and think through what might be revealed about the shift from matters of concern to matters of care that I believe is pressing in design research.

Using Care-politics-4 – feminist epistemologies, I can see how we inadvertently scripted the proceedings with a gendered caring affect; and, using Care-politics-1, that this required unsettling. The concept of Care-politics-3 – pastoral and protective care – raises an ‘irresponsibility’ and reliance on others to do care, and in the session, I can see that an accountability for developing proposals became curtailed, in part, by lack of responsibility symptomatic of a flattened organisational structure. Although we did achieve a cataloguing of sexist instances in our written account of the session that we fed back, beyond that, we left the ongoing care and consequences to the participants. Then, as Care-politics-2, we noticed the biased ‘facts’ of our academic practices and discussed the ways in which material artefacts are implicated in the matter of sexism as complex concerns. However, the sharing of experiences is “only a beginning of caring” (Leem, 2015, p. 48).

If the shift from concern to matters of care requires, in part, an affective engagement, then I have used this example of practice to give some detail to affect. I have described how affects can attach to human and non-human bodies, including settings, formats, and materials. But while matters of care emphasises affect, in this specific case study, a gendered affect was heightened through our design of the session. The DRS session had the potential to be an uncomfortable conversation. Formats of ‘circles’, enquiring into ‘feelings’ and ‘taking turns’ are affective protocols that we thought would mitigate this potential problem, and as well, contrast to academic environments (including conferences) that are not typically concerned with the epistemic value of emotions.

However, I suggest that the format was affected with programmatic genderscript of how to do care. This inflated an 'affectionate' affect, that tied the work of 'caring for sexist materials' to the naturalness of women's caring. I have argued that this was not felicitous to generating an ongoing intervention on the matter of sexism as a matter of care.

Furthermore, while this session was open to all delegates it appealed to those who were interested in issues of discrimination including participants who had a personal experience of the issue. It did not appeal to those who disagreed that sexism is an issue of concern. This was evidenced by one frustrated participant who suggested that future events would require a broader set of participants. Except for the altering of the timetable, the way in which this session was designed produced an overall affect of agreement. However, a shift from concern to matters of care not only requires an ethical commitment of doing with those affected by a concern, but also engaging with those who disagree or who are implicated as part of the ethico-political responsibility of care (Puig de la Bellacasa, 2017, pp. 46-47). Social scientist Adele Clarke would describe this as an engagement with "implicated actors" (Clarke & Montani, 1993, p.42).⁴⁹ To repeat this session, I would therefore need to consider how to engage with those who disagreed that sexism was a matter of concern in Design. However, engaging with people who disagree, or are complicit, with this issue of sexism leads me right back to questions about how to stage a potentially uncomfortable situation sensitively in this conference setting. In many ways, we were naïve that the ways in which sexism could be cared for would take place in and emerge from a 90-minute session.

So what are the broader implications here for practices working with a feminist notion of 'care in practice'? Rather than trying to engineer care with pre-defined, archetypal affective protocols and processes, instead, and as I have done in this chapter using Care-politics, it is important to pay attention to how different versions of care are enacted and emerge in practice. This also requires ways to sensitise design practices to gender relations that play out in particular settings. To work with a care sensibility in design, not least on issues of gender, there is a need to be careful with gendered affects.

⁴⁹ Implicated actors refers to humans or non-humans who are affected by a sociotechnical development but not directly involved. As such, it is a concept that focuses on power differences in a situation. Care-politics-1 orients us to implicated or 'neglected' actors, as well as those affected by a matter of concern.

5

Speculating with care: Between maintenance and the possible

Introduction

This chapter explores an intersection of care and speculative processes in design. I will argue that design as a practice of care can offer a sensitivity to shifting and unexpected orderings that are part of speculative processes. However, this sensitivity is not guaranteed, not least because care has limits that can maintain existing orderings of relations and objects, and curtail speculative possibilities. The practice I discuss is set in design pedagogy, specifically, the development and delivery of a post-graduate teaching brief called ‘Caretakers’. The dimensions of a feminist-STS matters of care explicitly informed this experiment in design pedagogy. To restate these dimensions, and drawing on Puig de la Bellacasa (2017, p. 5), matters of care is conceived as “a concrete work of maintenance, with ethical and affective implications” and where the question of ‘how to care?’ is promoted as a speculative one instead of a set of rules or moral codes (p. 7). But at the interface between care and speculation are existing orderings of things merely re-presented, literally ‘maintained’ through care, or might care enable designers to invent new arrangements of possibilities to come into being? This question echoes a key tension in Participatory Design (PD), between supporting prevailing practices or enabling new ones – a tension that persists through this case study.

The chapter is organised as follows: First, I review ‘speculation and the possible’ and

‘maintenance and the existing’, as well as the question raised in PD, to inform the analysis of the case study. Next, I describe precedents of teaching activities at the convergence of STS and Design. This is followed by a description of the ‘Caretakers’ brief, that involved importing my understanding of the dimensions of matter of care to the pedagogical approach and teaching activities. In the analysis, I select teaching exercises and examples of student projects that reveal the ways in which our teaching ‘with care’ either achieved, or constrained new possibilities that are part of the speculative. I conclude that teaching design inflected with a feminist-STS matters of care was contingent on and added to the existing obligations of my teaching practice, and sensitised some students towards speculative processes, towards ethical problems that emerge through their design practice, and to tensions between the existing and the new.

Speculation and the possible

In design practices, and arguably replicated in design education, speculation has at least three different characteristics. First, speculation on material-led possibilities is a feature of conventional problem-solving design practice. However, certain design processes that promise openness are instead structured to inform, manage and affirm probable futures in the present (such as how users are represented and modelled, Wilkie & Michael, 2009; and processes of brainstorming, Wilkie & Michael, 2017). Second, Speculative and Critical Design (SCD), associated with the work of Auger (2012) and Dunne and Raby (2013) has an ambition to challenge the role of such affirmative design practices and disrupt probable future making.⁵⁰ SCD aims to enable “social dreaming” (Dunne & Raby, 2013, p. vi) and public debate on preferable technological futures, through mobilising designed forms and tactics of projection to represent a set of future consequences

50 SCD emerged, in part, as a reaction to educational conditions. Critical Design (CD) was coined by Anthony Dunne (1999) to describe a set of practices developed by Dunne and Fiona Raby at the Royal College of Art (RCA). At the same time, Bill Gaver and Heather Martin (2000) were developing “alternative” design proposals to encourage speculation on everyday technologies. This programme of work was developed under the auspices of the Computer Related Design Research Studio (RCA, 1989–2000) during the leadership of Professor Gillian Crampton Smith (see ‘RCA Design Interactions’). Speculative Design (SD) was extended as a subsidiary of CD, notably through the Masters of Design Interactions at the RCA (2005–2015). Different configurations of speculation in design education have also emerged as “an immediate tool for testing situations and exchanges through direct action and intervention” in response to social and political issues (Kular & Macdonald, 2015); and traditions of SCD and Participatory Design have combined in teaching and research (Mazé, 2010). Prado de O. Martins (2014) and Prado de O. Martins and Vieira de Oliveira (2014) call our attention to bias and privilege in the works of SCD emerging from the conditions of middle-class Anglo-European Design Schools. The recent platform ‘SpeculativeEdu’ <https://speculativeedu.eu> [Accessed 20 May 2022] aims to enable self-critical dialogue as an educational resource.

associated with an idea (Di Salvo, 2009, p. 52). However, Mike Michael (2012b, p. 172) has argued that certain SCD artefacts do not encourage speculative processes of “inventive problem making” (Michael quoting Fraser, 2010) – that is, where the original research question is transformed and opened up to new and unforeseen problematics (Michael, 2017, p.135) – because the problem is too clearly staked out by the designers. In contrast to these two approaches, in social theory and sociological research a third orientation to speculation draws on a lineage of thought from philosophers Alfred Whitehead, Gilles Deleuze and Isabelle Stengers and a constructivist speculative approach. Here, the ambition is to reclaim speculation from problematic futuring practices, such as risk management and financial forecasting, that actively prolong the logic of the present in the future (Savransky et al., 2017, pp. 3-4). It is described as a shift from the probable to the possible, where speculation is considered a practice that “affirms the possible, that actively resists the plausible and the probable” (Stengers, 2010, p. 57).

But what is meant by the ‘possible’ in relation to speculation in this third characteristic? For Whitehead, speculation is the pursuit of what is possible to know about the world (Debaise, 2017b, pp.17-18). Whitehead famously articulated the method of speculative thought as “like the flight of an aeroplane” that “starts from the ground of particular observation; it makes a flight in the thin air of imaginative generalisation; and it again lands for renewed observation rendered acute by rational interpretation” (1978, p. 5). As philosopher Didier Debaise interprets, Whitehead is articulating a method of speculative thought that is dynamic, unstable and is in permanent reconstruction, but has a set of operations and constraints that “both produce knowledge and require that any knowledge produced be connected back to those constraints” (2017b, p. 17). In other words, speculation entails both stable orderings of relations and things, and disrupted orderings, where relations and things take on new configurations (Michael, 2017, p. 136). Therefore, speculation is not an activity of the imagination that can think of any possibility; it is tied to the possibility of an order. This approach is also referred to as an “empirical speculation” (Debaise, 2017b). The ‘grounding’ and ‘landing’ in Whitehead’s analogy also emphasises a situatedness, where the conditions ‘on the ground’ present a specific and productive sets of constraints (Halewood, 2017, p. 62); an emphasis that connects to sociological traditions where knowledge is viewed as situated (Haraway, 1988) and practices are indexical to the context in which they take place (Garfinkel,

1967; Suchman, 1987, p.viii).⁵¹

Given this latter description of speculative process, and following Michael (2017), the question becomes how to nurture an openness to possibles, or a “capacity to be affected by and register [the world’s] shifts and changes”? (p. 137). Notably Alex Wilkie, Marsha Rosengarten and Martin Savransky (2017), advocate recursive “speculative techniques” (p. 113) that involve a shift from the detached, neutral researcher to the situated researcher, who invents, formulates and reformulates questions that are “indexical and respond to the demands and requirements of a particular empirical situation” (pp. 113-114) and recognises the influence of research technologies used. Recent collaborations between design researchers and social scientists have captured this third gesture of speculation (e.g. Boucher et al., 2018). The development and deployment of three different Twitter bots in the IRS ‘ECDC’ project, that provoked and opened up the question of energy-demand reduction provides an example of a speculative method that is complex and iterative in this way (Wilkie et al., 2015).⁵² And in his work on the Borderscape, design researcher Liam Healy argues that neither problem-solving design nor SCD are equipped to deal with complex and unstable socio-political situations, and promotes an empirical and situated speculative practice (2020). In addition, this approach to speculation suggests that what is already going on in the world has speculative potential, rather than prioritising futures (Maares et al., 2018) – an attitude that can be seen in the work of design researcher Daniela Rosner that seeks to “open new avenues for design by awakening alternative histories” (2018, p. 101) of the craft-work involved in high-tech innovation.

I see that these ‘speculative techniques’ have qualities in common with the ‘speculative ethics’ of matters of care (Puig de la Bellacasa, 2017) discussed in Chapter Two at Care-politics-1 – to recap, that provides an alternative view of care as a normative set of rules or a utopian imagining. Rather, Puig de la Bellacasa and STS care scholars promote a speculative, empirical attitude to ethics because of their shifting and emergent nature, as well as an interventionist attitude that includes a reflexive acknowledgement of the

51 Indexicality is a term that originated in linguistics and refers to the context-dependent nature of language use. Ethnographer Harold Garfinkel adapted it to help understand how individuals determine meaning in different practical settings. Its use in relation to speculative processes emphasises how practices and outcomes are context-dependent.

52 ECDC stands for ‘Sustainability Invention and Energy-Demand Reduction: Co-Designing Communities and Practice’.

researcher's involvement in the research. As I will describe, these attitudes informed our brief for the design students. It motivated our teaching exercises and approach to encourage the students to become situated in various settings, to notice the changing requirements and neglected things in the practice they had made, and to reformulate their outcomes. And while it is this third characteristic of speculation that I suggest aligns with matters of care, I do not discount the other versions in my analysis of teaching and the student responses.

Maintenance and the existing

Care is associated with maintenance and repair (Fisher & Tronto, 1990; Mol, 2008; Mol et al., 2010; Puig de la Bellacasa, 2010; 2017, p. 5). Indeed, Duclos and Criado stress that care is often understood solely as a practice of repair (2020, p. 159). When we invited design students to explore design as a practice of care, we included activities of maintenance and repair in different settings. But at the interface between care and speculation are existing orderings of humans and non-humans merely re-presented, literally 'maintained' through practices of care, or might care enable new arrangements of possibilities to come into being?

Here, my question echoes a key tension raised in Participatory Design (PD) that, as Pelle Ehn describes, attempts to steer a course "between tradition and transcendence" (1988, pp. 128-131). PD was originally motivated by empowering workers and fostering democracy in the design of new computer technologies introduced into the workplace, and Ehn's phrase captures the idea that there is a tension in the designer's role, between rooting the design in existing practices and participants' knowledges, whilst exploring possibilities by going beyond present practices and design contexts. Questions such as "should the design support traditional organisational structures or suggest new ways of doing cooperation?" reflect this tension (p. 129). Ehn argues that both tradition and transcendence need to be bridged in design, exemplified in the PD prototyping experiments of the UTOPIA project. A simple cardboard box with "laser printer" written on the side, inserted in the workplace of journalists and graphic designers, revealed and re-centered existing workplace relations, and reconfigured what was already understood, producing new knowledge, outcomes and practices (p. 337) (Fig. 16). This tension



Fig. 16. A mock-up of a laser printer “reinventing” the old proof machine, Ehn & Kyng (1991, p.171).

between supporting existing practices or enabling new ones has relevance across the design discipline and persists in my case study of care-inflected teaching that involves both maintenance and speculation.

The topic of maintenance and repair extends over many fields.⁵³ Repair is often seen as a mere recovery of function (Duclos & Criado, 2020, p. 159) and it is through maintenance that artefacts are seen to become stable, durable and extend over time (Denis & Pontille, 2015a). Repair features in ‘circular economy’ discourses (e.g. McLaren et al., 2020). Moreover, Jessica Barnes (2017), Vincent Duclos and Tomás Sánchez Criado (2020), and Sebastián Ureta (2014) argue that narratives on repair may have an affirmative or moralistic tone. This includes the use of restoration narratives in right-wing politics (see fn. 23), or of valuing human exceptionalism and the artisanal

⁵³ For example, the fields of art (Ukeles, 1969), literary theory (Sedgwick, 2003), geography (Graham & Thrift, 2007), design (Rosner & Ames, 2014), anthropology (Duclos et al., 2020) and feminist materialism (Graziano & Trogal, 2019).

(e.g. Sennett, 2008), or that promote gendered imagery.⁵⁴ So on the one hand, certain articulations of maintenance describe a restoration or reproduction of an existing order or ‘tradition’, and in the analysis of ‘Caretakers’ teaching and student outcomes I will look for such instances.

On the other hand, maintenance itself can have speculative qualities. This can be seen in STS, and feminist-STS literature where a focus on repair and maintenance has revealed overlooked practices and people that are often made invisible in accounts of innovation, highlighting, for instance, the organisation of scientific work (e.g. Latour & Woolgar, 1979; Knorr-Cetina, 1995) and the mundane operations of administration work (Suchman & Bishop, 2000).⁵⁵ STS scholarship, particularly ANT studies, reveal that successful technologies can become opaque and ‘black-boxed’ (Latour, 1987), and conversely, how broken technologies reveal invisible workers and power dynamics (Star, 1999; Star & Ruhleder, 1996). It can also be difficult to define what is being maintained, because repairing an artefact may also preserve a ‘larger entity’ (Graham & Thrift, 2007, p. 4). STS scholar Steven Jackson’s “broken world thinking” is an argument that innovation is limited without considering its repair and maintenance (2014). For design students, this draws attention to designed artefacts in use, and their maintenance – an attention we encouraged during the ‘Caretakers’ project.⁵⁶

Salient in STS scholarship, and following Mol (2008; also Mol & Law, 1994; Mol et al., 2010) and the arguments of Denis and Pontille (2015) described in Chapter Two, is an articulation of maintenance that alters the view of the artefact, technology or infrastructure as stable because it concentrates on vulnerability and continual care. This vulnerability is not necessarily evident; noticing it requires an attentive practice of looking at the present for things that are neglected or unfinished. It may also involve constant tinkering in a material practice, of trying something and adapting and trying again in order to see how things unfold, to intervene in generating care and new possibilities (Mol et al., 2010). This resonates with the example from Ehn, of revealing and reconfiguring existing practices to bring about ‘the new’. In short, the view of maintenance as situated

54 Lee Vinsel (2017) discusses the gendering of repair in Robert Pirsig’s (1974) novel *Zen and the Art of Motorcycle Maintenance*.

55 For an overview of STS Repair and Maintenance Studies see Denis et al. (2015).

56 Designed artefacts in use is an approach observed in the work of Lindström & Ståhl (2014), who made *Threads – a Mobile Sewing Circle* public for a number of years; and Jaque (2018) whose project highlighted the ongoing maintenance of the Barcelona pavilion designed in 1929 by Mies van der Rohe and Reich.

and open-ended suggests an alignment with speculative processes. But what I hope is clear from this section is that new possibilities and speculation are by no means guaranteed in care and maintenance, nor in the import of care towards teaching.

Setting and precedents in Design pedagogy and STS

I began Chapter Two by stating that care is an assumption of design. Care is also arguably an assumption of education, where, in pedagogical terms, teaching practitioners are obliged to care (Noddings, 2003). There is limited research on care in higher education (HE), but studies range from a focus on care as a interpersonal and relational approach to pedagogy and the ways in which trust, openness and reciprocity impact learning; care as connected to critical and emancipatory teaching practices that empower and liberate students; the gendered nature of teaching and a conflation with a ‘mothering’ role; as well as expectations for tutors to be nurturing, including in the ‘customer care’ of students-as-consumers (see Walker & Gleaves, 2015); and the circulation of emotions and affects such as anxiety and desire in the neoliberal academy (Askins & Blazek, 2017), as some examples. Care in pedagogical settings is therefore multiple and is as well entangled with HE rhetoric and practices that are varyingly resistant to and compliant with dominant politics.

For the reader who is not familiar with design teaching in UK HE, while there is no one way of teaching design practice, there are some typical features and institutional constraints – traditions and constraints that were also part of the setting for the ‘Caretakers’ brief. Students were taught through practice, in workshop and studio settings, on a project brief that spanned an eleven-week term and that was set by tutors to guide knowledge of contexts, methods, processes and the production of outcomes. The students received regular formative feedback on projects via tutorials (at least one 30-minute session every week) and design outcomes were assessed by tutors in oral ‘crit’ presentations and project work submitted at the end of the module.⁵⁷ Alongside my colleague, design lecturer Katherine May, I developed and delivered this brief for a module called ‘Transfocality’ for students undertaking the Masters Design Expanded

⁵⁷ Contemporary design education derives from various northern European Art and Design ‘schools’, e.g. Arts and Crafts, the Bauhaus, Ulm, Domus, where design is conceived almost exclusively in the Modernist tradition (Fry et al., 2015).

Practice programme at Goldsmiths.⁵⁸ Although I am experienced in mentoring students, this was the first time I had developed a term-length brief based on my research, and it was the first time that Katherine and I had worked together, a collaboration that we grew as part of the process of developing the brief. We have delivered two iterations of the project: in 2019, for 20 students, and in 2020, for 28.⁵⁹ The students signed up to the brief and worked predominantly in small groups. The ambition of the Transfocality module is to mix research and teaching practices in the department, to make research available to design students, and to invite new practices for design. This fitted with my own intention to open up the question of what teaching design as a matter of care might offer and involve, with students' responses offering prototypical examples of the research questions in this thesis.

As part of this opportunity to shift my research towards teaching, I recognise researchers working at the overlap between Design and the Social Sciences, whose practices extend to experimental teaching in design. Researchers have imported concepts from STS into the ecology of the design studio course. This includes the public accountability of science and technology mediated through students' designed interventions.⁶⁰ Furthermore, ANT-inflected approaches (such as in the teaching practices of Rogers, 2000; Wilkie, 2014, Wilkie & Ward, 2009, Yaneva, 2011) have helped design students to identify matters of concern and empirically describe users, technologies, the social, and their distinctions. But while STS approaches have offered ways of empirically describing the already existing, design is arguably concerned with constructing and communicating 'the new', and this sets up a potential tension of temporality between disciplines that Alex Wilkie and Matt Ward (2009) conclude is part of the challenge of importing STS-inflected approaches in design pedagogy, that is, "the balance between the fictional and the concrete actual" (p. 122). This tension is important to recognise when using STS approaches, and to add to the tension between maintaining the existing and new possibilities that is already present in this case study.

58 We also invited the following lecturers, researchers and practitioners who contributed to the teaching through workshops or tutorials: Alfredo Ramirez Raymond, Celia Pym, Georgina Habgood, Hamish MacPherson, Jade Henry, Jimmy Loizeau, Liam Healy, Matt Ward, Sarah Jury and Tobie Kerridge.

59 In 2020, due to Covid-19, we taught this module online. The students were not necessarily based in London.

60 For example, in a module called 'Engaging Design' Tobie Kerridge and Alex Wilkie invited MA Interaction Design students to reconfigure public engagement of a Public Body through designerly means. See Kerridge, Wilkie & STBY (2015) *Bad Mad Lab* (Internal Document) MA Interaction Design, Design Department, Goldsmiths University of London.

A feminist-STS matters of care has also recently influenced experimental approaches in design education, and I describe two cases here.⁶¹ Li Jönsson, Ann Light, Kristina Lindström, Asa Ståhl and Mathilda Tham (2019) organised the NORDES Summer School titled *Design and Care*, held in Linnaeus University, Sweden in 2018, that I attended as a participant. The organisers describe a shift from the uptake of Latour's matters of concern in PD as compositions of "design things" (Binder et al., 2011), towards importing matters of care as a pedagogic programme in design (Jönsson et al., 2019). The rationale here is that while traditional PD has used matters of concern and ANT-approaches to gather humans and non-humans as 'things', these approaches do not help deal with the question of how a design will come to matter (also Binder et al., 2011, p. 171; Lindstrom & Stadhl, 2015, p. 226), including within "technoscientific and natureculture entanglements" (Jönsson et al., 2019, p. 1). Therefore, during the summer school, the organisers situated feminist STS-readings through field trips to polluted sites of industrialised design where we participated in the hands-on repair of 'soil issues'. These exercises were also intended to "take the cosiness out of care" (p. 4). As another example, Nerea Calvillo González and Miguel Mesa del Castillo (2018) reflect on an architectural studio teaching project they set up to ask "What happens if we think of infrastructures not as matters of concern, but as matters of care?" (p.176). Students developed "relational machines" to describe existing relations, power agencies and invisible agents in actual infrastructures, and "speculative machines" (Guggenheim et al., 2017, p. 146) on the possible relations in the ecosystem of the infrastructure – exercises that I now see consider 'the existing' and 'the possible'. Design outcomes were not conceived as complete but allowed for additional relations and reflection on the ethical choices around which agents were followed by the students (González & del Castillo, 2018, p. 192). These two projects further inspired and gave energy to our plans for 'Caretakers'; notably in the unsettling of feel-good care, the promotion of maintenance as a means for reconfiguring 'the new', and where designed outcomes are considered 'unfinished' and open up ethical problems to be navigated.

61 For the purposes of this chapter, I focus on examples of matters of care in Design pedagogy, but in Cultural Studies, Lisa Slater (2016) has used a lens of matters of care to reflect on the choice of moral issues that her students engage with; and in STS teaching, Astrid Schrader (2015) reflects on human exceptionalism in relation to care. Doina Petrescu and Kim Trogal take a feminist and Marxist-inspired ethos of care to teaching in architecture and non-institutional educational settings (2017).

The Caretakers brief

The brief for ‘Caretakers’ was developed through what we understood to be conditions for speculation and care in design. Katherine and I are committed to design as a means for inventing questions and problems, rather than necessarily solving problems or projecting future consequences to materialise debate. I was inspired by the aforementioned precedents in teaching practices importing STS to design education, and I had reflected on the need to unsettle assumptions that stick to care, discussed in Chapter Four. Katherine and I used the three dimensions of care from Puig de la Bellacasa (2011, p. 90) to guide our teaching plan. This can be seen in the wording of the brief, where we asked, “Can we imagine new ways of practicing design by examining the role of repair, maintenance and tinkering? Can we craft affective engagement? And attend to ethics that arise?” (Appendix 1). At the same time, we also understood that matters of care require a speculative attention to overlooked, neglected or vulnerable things, but that ‘what’ or ‘who’ is overlooked will shift over time. As such, we wanted to emphasise a situated practice for the students, and to encourage responses through noticing, repairing and reconfiguring everyday mundane materials and technologies found in the various existing empirical settings of the students’ choice. And while matters of care was part of our theoretical repertoire, its employment in our design teaching was not all worked out.

The brief had three phases over eleven weeks. The first phase, ‘Tuning-in to Care’ involved exercises to unsettle and open-up versions of care in design in dialogue with the students, to raise how care is multifaceted and situated and cannot be easily pinned down (Mol et al., 2010; Martin 2015), and to practice maintenance in the setting of the university design studio. As I will describe, activities included ‘Cataloguing Care’, and a ‘Damage Detection’ workshop with artist Celia Pym.⁶² An exercise to ‘Look After Something For One Week’ (‘LASF1W’) formed the beginning of a second phase, where we anticipated that attachments would be formed within the students’ setting of choice and continued through commitments and interventions in a third phase. Colleague Liam Healy and I developed a mapping exercise called ‘Noticing Overlooked Things’ (‘NOT’) that aimed to direct the students’ attention to overlooked or implicated actants

⁶² See: <http://celiapym.com> [Accessed 21 March, 2022].

(Clarke & Montani, 1993, p.42) in topical issues of concern. At the end of the brief, the students submitted 'Manuals' for assessment, both as a printed document and an oral presentation. It was emphasised that these were not pitches for finished, novel designed artefacts, nor a process diary, but rather a communication of configurations of care, human and non-human, in their evolving designed interventions.

Inspired by the implementation of feminist pedagogy in design teaching by Kim Trogal (2017), we also wanted to create modes of teaching open to alteration and dialogue with the students, as this aligned with our speculative attitude of not necessarily knowing what design as a matter of care might require in our teaching practice, and an understanding that care invokes a sensibility toward how things unfold. We did not organise the brief around a specific 'real-life' problem, or in a setting typical to design and care programmes, such as health or social care. This is also arguably a preoccupation of STS scholarship – an attention to care that goes beyond “obvious health technologies” (Buse et al., 2018, p. 244). Nor did we visit settings where new possibilities for care were already happening.⁶³ Our brief, including phases and exercises, was therefore mutable and open-ended. This pedagogical approach offers design students “the ability to operate in the complexities of uncertainty” (Vaughan et al., 2008, p. 144) which cannot be addressed by any linear pre-structured method,⁶⁴ resonating with our speculative-care ambition.

The student projects that emerged were grounded in various settings and issues, and I will give more detail about these projects and our teaching exercises in the following section. One project was based in a café run by a charity for the elderly in Deptford, London, and centred around the repair of a neglected jukebox; another project considered the pervasiveness of graphic-designed stickers in a residential complex and the politics of the labour of their removal; another initiated a series of encounters through which materials to be repaired could be exchanged; others considered non-humans in configurations of care, including Skype, eBay, plants and soil; and there were projects that required ongoing commitments beyond the official end of the brief.

⁶³ Such as the setting of permaculture soil care from Puig de la Bellacasa (2015; 2017, pp. 125–168).

⁶⁴ Vaughan et al., (2008) contrast this approach with the typical expectations of art and design students – that briefs include clear goals and structured ways to achieve them with success, and is symptomatic of multifarious expectations and pressures to graduate with a portfolio of innovative design artefacts and applicable skills.

Achieving the possible through care?

This section follows the phases and key exercises we developed for ‘Caretakers’ and moves between our enactment of teaching ‘with care’ in HE and the students’ responses. I will examine and discuss instances when our teaching and examples of the students’ design outcomes maintained existing orderings, or traditions, and the ways in which new and unexpected orderings (of designed artefacts, and practices – both of the students and my own teaching practice) were achieved. In my analysis, and following approaches in feminist pedagogy, I am sensitive to moments of students’ resistance towards what we had planned as indicative of the limits and challenges of our teaching experiment (Bell et al., 1999, p. 25). I include observations from my teaching notes, students’ descriptions of their work from their written outcomes and other media, and students’ responses to our teaching that were gathered predominately through tutorials and an online survey reflecting on their experiences.

Tuning in to care

This first phase began with an exercise called ‘Cataloguing Care’. Rather than beginning the brief with a lecture in which we told students about care through a set of examples, the students were invited to bring and present an example of care (an image, artefact, description, etc.) to position a discussion on care in design, and then place an image of it on the studio wall (Fig. 17). Katherine and I added examples too. Like my attitude in writing the typology of care in design, this activity performed a multiplying and versioning of care with the students; it also quickly enabled a collective material presence in the design studio and operated as diagnostic to see the students’ assumptions on care. The intention was to raise for discussion the multiplicity of care, that it is not limited to ‘simply’ repair. Care is contingent on, and relative to, the context in which it is raised, in this case, the context of design. Another way of saying this is that care has an indexical expression (Garfinkel, 1967, p. 5). As such, in this initial session, students brought along their preconceptions about care in design. Some students showed examples of self-care, and others showed innovative products and services in the settings of elderly care (such as those discussed at Care-politics-3 – a pastoral care that shifts responsibility from the state elsewhere). Repair and recycling were celebrated, handicraft prevalent (a



Fig. 17: Cataloguing Care, teaching studio wall, day one.



Fig. 18: Cleaning the design teaching studio.

conflation of care with ‘the hand’, discussed at Care-politics-4). And while human care was dominant, there were also examples of care for non-humans and the more-than-human care of water (Care-politics-1), as well as questions on how to care for topical issues of concern (Care-politics-2). One student reflected later in a tutorial that “a lot of us thought we would be doing a project on design for healthcare, but I realise now that care is a lot more complicated”, revealing an unsettling of preconceived ideas about care and design, as well as student expectations on the clarity and scope of design briefs that typically present a problem to be solved (Vaughan et al., 2008, pp. 130-131).

After opening up the meanings of care in design, successive teaching activities in this phase asked students to do material practices of maintenance in settings that the students were already implicated in. This drew attention to the politics of care and maintenance of designed artefacts and teaching spaces.⁶⁵ A morning spent physically cleaning the design studio (Fig. 18), or digitally organising computer hard-drives, or mending holes in clothing with artist Celia Pym, required situated actions of repair and maintenance, and also pointed to the complex politics of who maintains the spaces and products that we use for our studies, or the clothes that are designed (Care-politics-4). We did not presume that these specific activities would provide students with a setting to locate their ongoing projects (although some did, as I will come to), in part because we had set up numerous activities during this phase through which a setting or topic might emerge, and we also thought that students might want to work on a topic of their choice.

However, a number of the students seemed keen to be given or locate a problem in these first two exercises, exemplified in the following comments: “it was a little confusing as actual analysis started a bit late and we then had to rush which did not provide an accurate result” (P7) and “the initial stage was slow due to students’ difficulties in grasping at the project’s purposes, which was mostly to do with difference in opinion and interests, fuelled by unclear stances within the topic of care” (P2). Furthermore, some students who had identified a setting or issue during this phase, began to use modes of speculating that curtail the possible. This included the use of questionnaires to engage with participants, derived from scientific methods intended to capture measurements,

⁶⁵ For example, on the politics of cleaning at Goldsmiths see: <https://goldsmithsucu.org/2018/07/19/support-our-cleaners/>; and on the politics of the maintenance of designed technologies, see: <https://www.publicbooks.org/justice-for-data-janitors/> and <https://www.nytimes.com/2011/02/23/technology/23apple.html> [Accessed 21 March 2022].

that arguably work to reconfirm what is probable, rather than create possibilities for novel responses. One group, interested in questions of how local government planning policy might include the values of non-human animals, developed a set of speculative design proposals, authoring fictions based on a form of oppositional critique and operating as a 'speculative-auteur'. Rather than taking the activities of care and maintenance as means or constraint for invoking speculative techniques (Wilkie et al., 2017, p.114) situated in the settings of engagement, it seemed that the openness of our brief without a clear problem, combined with the ambiguity of care, and uncertainty about how a practice of care might interface with a design process, led the students to retreat to the stance of a detached researcher adopting methods 'off-the shelf', that either affirm existing orders or are exercises of ungrounded imaginative speculation. I now also see this as a privileging of *either* the existing or the possible, instead of an attempt to steer a course between them.

This problem also resonates with what Mick Douglas describes as a "distancing effect" of design (2018, p. 221). He argues that design more generally has developed strategies to construct what is imagined into forms that can be communicated and realised, but these strategies can also produce a distancing effect, and Douglas suggests this is antithetical to care. In other words, to practice care, or design as care, begins from and comes *through* a situated and relational doing of actions and affects, rather than being *about* care. We recognised this distancing effect too, and it was at this point that we redirected the brief. The way we set it up in loose phases and with opportunities for student dialogue allowed for this alteration, and included doing the exercises ourselves. Adapting a brief whilst in progress is not without risks: there are the pressures of timetabling and project management, and it might even look unprofessional. But nonetheless we made an 'unscheduled landing' with an activity called 'Look After Something For One Week' (LASF1W), that aimed to reaffirm care through situated activities, but this time, grounded in the settings and issues that the students had identified, or could become committed to, over the duration of a week.

Look after something for one week (LASF1W)

LASF1W is quite self-explanatory: we asked the students to perform a continual or daily act of care for one week and document this as an instruction – through writing, graphics or a short film. We encouraged the students to either avoid acts that they were already doing as part of their normal daily life and expand the places in which they looked for and enacted care, or to do everyday acts of care and maintenance but in an exaggerated way. This activity also emphasised an attention to non-humans in configurations of care; as well as to the existing orders of care in the settings they chose. Still, a number of students expressed boredom and confusion in being asked to undertake a repetitive activity seemingly unconnected to design-as-novel innovation (Suchman & Bishop, 2000) a response that arguably underscores the tension between tradition and transcendence in design (Ehn, 1988, pp. 128-131). Moreover, it highlights the uneventful nature of care time, and the ‘downgraded’, often invisible materiality of care practices (Buse & Twigg, 2018; Latimer, 2018).

If we managed to encourage the students to stay with this activity through guidance in tutorials, LASF1W did offer a “manner of relating to things” (Debaise, 2017a, p. 77), and shifted techniques that were maintaining probable futures, and encouraging a detachment, to grounding their practice for the first time via a situated mundane maintenance and through which commitments and obligations to projects began to emerge. For example, in the project *Lock King* (2020), Mandi Hou and Pelin Liu used LASF1W to continue with the politics of cleaning labours in the wake of design, identified in the first phase, using the pervasiveness of graphic-designed stickers on the walls of a residential complex in Chengde, China, as a lure for a project (Fig. 19). Departing from their initial use of interviews with the cleaners whose labour maintained these walls, the students made bespoke tools for removing and archiving the stickers (Fig. 20), as an inventive way of revealing and relating to the various actants in this sociomaterial setting, that included telephone poles, buildings, service providers, graphic designers, advert printing companies, police officers and residents.

A number of students wanted to focus their week on the material qualities of repair, and a comparison of two approaches here offers a useful insight into the tension between maintenance of the existing and its reconfiguration through design. One student

fixed fabrics and objects, drawing the repair and filming this drawing as an outcome (*Continuance of Repair*, Chen, 2020) – a mesmerising and contemplative material-led practice but that is nonetheless a mode of care concerned with the stability or restoration of artefacts. In contrast, another group was interested in repair as a means for reconfiguring an economic exchange. Using eBay, the students gathered damaged fabrics, and then returned them to the owners once mended, and as such, going beyond the existing purpose of eBay to propel a novel form of gift economy (*A Repair Manual*, Taira, Yuwei & Habgood, 2019). These two examples illustrate that care and repair can result in practice that remains within existing traditions, or transcends them. Expectations of care as repair and restoration may limit such extensions towards new configurations.

One student project that particularly enriched my understanding of the ways in which design might work with the speculative ethics of Care-politics-1 is titled *Right Old Laugh* (Ju, Pham, Rane & Voza Lusilu, 2019). Initially, the students had been capturing the experiences of the community of Deptford Action Group for the Elderly (DAGE) using questionnaires and cultural probes (Gaver et al., 1999). DAGE is a volunteer-led community café and second-hand furniture shop in Deptford, Lewisham, a setting that seemed constructive towards the topic of intergenerational care that one student in the

You start from spray Water on the stickers



Leave them 2 mins,
after its get softer,
you can use hand to
tear off some, then
start to scrub it or
scape it



The key of it is to
spray spray and
spray, softer,
easier.



Fig. 19: *Lock King*. Instruction for LASF1W, Hou & Liu (2020).

EXPERIMENT

PE water pipe

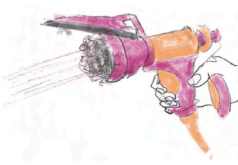
Quick connect water pipe joint PPR

Install the pipe at the back of the scraper



24

SKETCH
The forth tool



因此在這次設計中，我們把水箱改成了花灑頭，將鐵刨花安裝在花灑頭前。儲水箱不再連接在主體上，而是通過管道連接外接的水桶。工作人員可以按他們一天的工作量攜帶足夠的藥水。花灑的出水口很大，清潔劑很容易就能透過鐵刨花噴射出去。關閉花灑後可以用前方的鐵刨花直接進行清潔。

噴槍的主體安裝了一個帶有刮刀的卡扣。將卡扣沿着滑軌往前推，并卡住。刮刀的長度可以超過花灑進行下一步的清潔。當然，這雖然解決了儲水量的問題，但噴射範圍的問題還沒有解決



So I changed the water gun into a shower head, and installed the iron scraps or brush in front of the shower head. The water storage tank is no longer connected to the main body but is connected to the external container through the pipeline. The staff can carry enough water according to their daily workload. The shower has a large output, and the water can easily pass through the iron scraps, while the shower closed, the brush which in front can be used for cleaning.

The main body of the spray equipped with a buckle linked the scraper, moving the buckle along the slide rail and buckle it up, until the length of the scraper can be longer than that of the shower for further cleaning. Of course, although this solves the problem of water storage, the problem of range has not been solved.



26

27



34



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专业疏通厕所、管道
18681799148
改换水管 排污补漏
疏通马桶 水电安装
电路维修 卫生清洗
清理化粪池 大小管道

Professional dredge toilets, pipes,
water pipes, sewage plug
interior decoration, water and
electricity installation
Cleaning, electro welding,
painting, house move

家庭热疗床
胸科全家用
颈肩腰腿痛
理疗床
13715323450
地址: 惠州大道111号

Home heat treatment bed
Take care of family health
Stay away from disease
Refuse illness and poverty

新洁家
家电清洗专家
13715323450

**Xinjie home applications
cleaning expert**
Xinjie home applications
cleaning agent
Its our pleasure to serve you

美丽又干净
您的家居应用已被清洁
家居应用清洁专家

Beautiful and clean
Your home applications has been cleaned
Home applications cleaning expert

乐帮清洁
18933773003

乐帮清洁
18933773003

力康皮肤
133XXXX1618

力康皮肤
133XXXX1618

**Luxury private cars chartered cars, car rental
services**
Tour chartered buses, scenery spots pick up
Wedding car rental Business car rental
Safe and convenient, premium service

Lo hang cleaning
Tap water pipe,
household appliance
cleaning expert

**Committed on door
to floor service of
phone repair**

Li kang skin

中驰汽修
159XXXX2624

空调维修
159XXXX2624

21st Century Real Estate

新时用车
159XXXX2624

九力士叉车租赁
24小时服务

空调维修
159XXXX2624

21st Century Real Estate

Now new 6 seats and 4 seats
commercial car (shouji, didi,
Shenzhou etc online service)
Half day, whole day available
Airports/train station/ scenery spots/
hotel pick up
One call away/reservation
Pick up service, nice service
Professional and safe

Forklift forklift rental
24 hours open in xian,
welcome call

**Huyangtianda
company**
Home brand machine
selling
Repair rental,
maintenance



48

49

Fig. 20: Lock King. Manual pages showing sticker removal tools (top) and archive, Hou & Liu (2020).

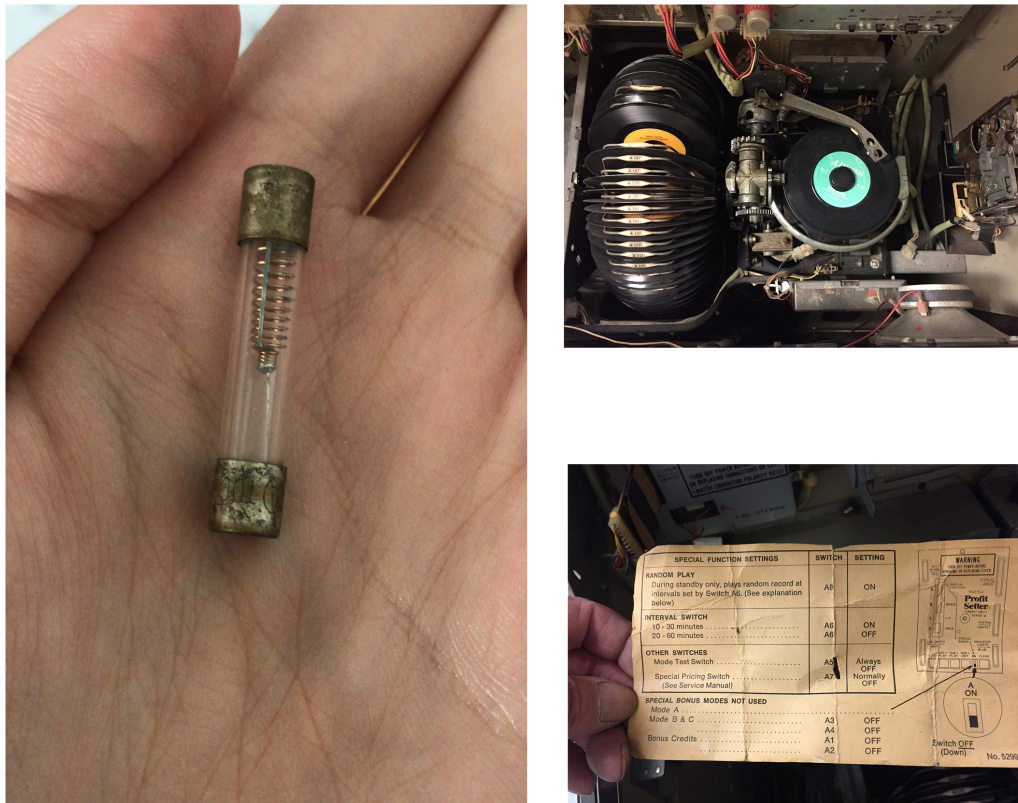


Fig. 21: *Right Old Laugh*. Jukebox Repair, Ju, Pham, Rane and Voza Lusilu (2019.)



Fig. 22: *Right Old Laugh*. Manual and pressed vinyl, Ju, Pham, Rane and Voza Lusilu (2019).

group had brought to 'Cataloguing Care'. By shifting their approach via LASF1W, they noticed and began to repair a defunct 'Rockola 477' jukebox hidden under a blanket in the café. The group reflected that this enabled an acquaintance with the space and members, and revealed their questionnaires and probes as biased with assumptions that the elderly participants were stigmatised (<https://voza.info/Right-Old-Laugh>) [Accessed June 2021]. This non-human "machine care" (Willems, 2010, pp. 271-273) required regular visits to the café, as well as the development of relations with jukebox experts in the US through a Facebook group (Fig. 21) – an affective practice of becoming involved (i.e. two of the three dimensions of care). The students became sensitive to tensions between DAGE members and volunteer managers, where miscommunication had left both sides feeling undervalued. They used the jukebox to design a series of interventions: they removed all the records lying dormant in the machine and played them at a party they organised at DAGE; they recorded an oral history with the community; then pressed the recording as a vinyl record and played it during an event using the repaired machine, consequently revealing the relations that had seemed fraught (Fig. 22).

In this project I see a gesture toward design as a speculative process of inventive problem making with care. Repairing the jukebox could be considered as merely returning this artefact to its tradition of use and existing order, but through committing to its repair as a material tinkering, the students also gained insights into how care can be enacted through designed artefacts. Their designed interventions were situated and indexical to the research encounter at hand, productively constrained, and involved disrupting, and then re-formulating what the jukebox was used for, transforming their initial research direction. They affected how the community related to the jukebox, and to each other, arguably transcending the existing with new designed arrangements.

Noticing overlooked things (NOT)

Katherine and I had been inspired by how Hang Ju, Khanh Pham, Tanishia Rane and Cynthia Voza Lusilu had noticed the overlooked machine of the jukebox and tensions in relations amongst the existing socio-material setting of DAGE. When we ran the 'Caretakers' brief for the second time in 2020, we looked for a way to formalise this 'noticing' as a teaching activity. In collaboration with my colleague Liam Healy, we

developed an additional two-day workshop during the fourth week of the brief. ‘Noticing Overlooked Things’ (NOT) was delivered online during the pandemic. I was also inspired by the aforementioned teaching activities developed by González and del Castillo (2018) who encouraged their students to consider the ethical choices in choosing actants to follow; and by Wilkie (Wilkie & Ward, 2009; Wilkie, 2019).⁶⁶ Specifically, Wilkie builds on Latour’s (1993, pp. 1-8) observation of the imbroglios of issues in news articles as a ‘Mapping Controversies’ workshop for design students, using newspapers as entry-points to an unsettled matter of concern, where the actors, entities, claims and counterclaims of a controversy are mapped and its future is speculated on.

In NOT, we provided the students with news articles on topical issues and asked them to trace the existing and implicated human and non-human actors in a social situation, through asking questions such as, “Who and what is involved in the article? Who wrote the article? Why? Where is it published?” and outputs included mind-maps, photo-collages and a diorama. Then, inspired by feminist critiques of ANT, we asked students to attend to excluded actants through a further tracing of who or what is not included, or are invisibly implicated, and to choose an actor to follow further.⁶⁷ In other words, this teaching activity used both constructivist and feminist approaches. We anticipated that NOT would help students who still needed to select a topic or area of enquiry. The students were asked to produce a variety of quick responses to rehearse, re-enact and ‘become the overlooked thing’, and made additions to maps, as well as proposals, and short performances. We let the students know that there was no ‘correct’ overlooked actor, and that the exercise might require following a position that they disagreed with.

In the instructions (Fig. 23) I had described this workshop as a mapping activity, and while we thought we had expressed an openness to an outcome, mapping has associations with pre-defined visualisation techniques, including ‘user journey mapping’ in Service Design. A number of students used these approaches, often with off-the-shelf mind-mapping software. Speculation on the noticed/overlooked often emerged through

⁶⁶ See also Alex Wilkie (2009) *Mapping Societies: Social Research for Designers* (Teaching Document), Goldsmiths University of London.

⁶⁷ Feminist scholars have raised criticisms of constructivist accounts of ANT for its gender blindness (Wajcman, 2000) and power inequalities (Casper & Clarke, 1998; Star, 1990), and for its apolitical and “insufficiently radical” orientation (Wajcman, 2000, p. 452). For a discussion on the differences between constructivist accounts of science, and feminist accounts, see Kirsten Campbell (2004, pp.164–165). In short, the former recognise the social construction of knowledge, and the latter insist that politics and power are involved in the construction of knowledge. I have discussed this elsewhere in the thesis, at Care-politics-4 and -2.

Day 1	
10:00	Introduction
10:15	Pair up, tell what your pairs are. Read through documents, choose a news article.
10:30	Map the current article, who and what is involved in it? Where does it come from? Who wrote it? Why? Where is it published?
11:00	Take a position on the article. Do you agree with it? Who is it for? Who is not for? Who or what is missing from it? Who wasn't asked? Where is it not published? What are the implications of the article? What does the author want you to do with it? What do they not want you to do with it?
11:30	Produce a drawing that maps how those that are missing are involved (this will be OUTPUT 1) bring this to the next day. Please include a drawing of the person or thing that you think is missing, and a drawing of their context or entanglement.
12:30	Tutorials/conversations
13:00	Lunch
14:00	Tutorials/conversations
Day 2	
10:00	Introduction
10:15	Choose someone or something that is overlooked in your diagram and take their 'side'. How to make this decision? It could be the most overlooked. Or the most unexpected. Perhaps it is an overlooked thing that you care about. Or perhaps it is a position that you personally disagree with. Note how you make this decision.
10:30	In your groups become <i>the overlooked</i> and document what you find in doing so. This can take any number of forms, for example performances, interviews, written work like poems or articles, sound recordings, images or film. This will be OUTPUT 2. Be playful. Speculate on how the overlooked thing is related to the original issue in the news article.
11:00	Tutorials/conversations
14:00	Digital show and tell of OUTPUT 2.

Fig. 23: Timetable for 'Noticing Overlooked Things' workshop.

simplistic oppositional binaries – for example, using a news opinion piece, “Cyclists are a menace and should be banned from the roads” (Caster, *Metro*, 2015), one group identified car owners as the people who weren’t asked, and developed a project that took a car driver and attempted to nudge his behaviour to become a cyclist, arguably a Care-politics-3 (*Bikeseat Driver*, Wang & Zheng, 2020). Up to this point in the project, we had been focused on establishing ways for the students to experience the requirements of care and speculation through a situated and relational doing. NOT did expose students to the importance of ‘noticing’ overlooked things as a care sensitivity. However, this was mainly done didactically, and through analysing existing networks – a characteristic of ANT-inflected approaches – rather than intervening in them, which had been something we wanted to correct through LASF1W. In hindsight, this workshop would have been better placed towards the end of the module, to help to the students analyse the unforeseen repercussions or implications of their *own* design projects.

Existing orderings and new possibilities

In the discussion so far, I have examined the ways in which certain characteristics of speculative approaches and maintenance, as well as student expectations of briefs and degrees of ‘openness’ of teaching approaches, served to limit the bridging of tradition and transcendence that is a key question in design. I have also described examples of student responses that tinkered speculatively, as practices that express ways of valuing the present as unfinished in order to access the world in a different way (e.g. Marres et al., 2018, p. 30). However, if we understand speculation as the possibility of new orderings – that is, of a move from a stable ground and order of relations and objects, to an imaginative flight where new and unexpected configurations are made, *and* where a return to the ground *also* requires a capacity to register how that ground has shifted, then I look to two student projects that offer a clear expression of these speculative characteristics: *Right Old Laugh* and *Lock King*.

Not only did the group project *Right Old Laugh* generate new arrangements of objects and relations through a practice of care, but they also reached a point at the end of the project where they noticed how ‘what’s right’ and ‘what’s excluded’ had shifted, and fabricated a further designed response. This came about through noticing that the

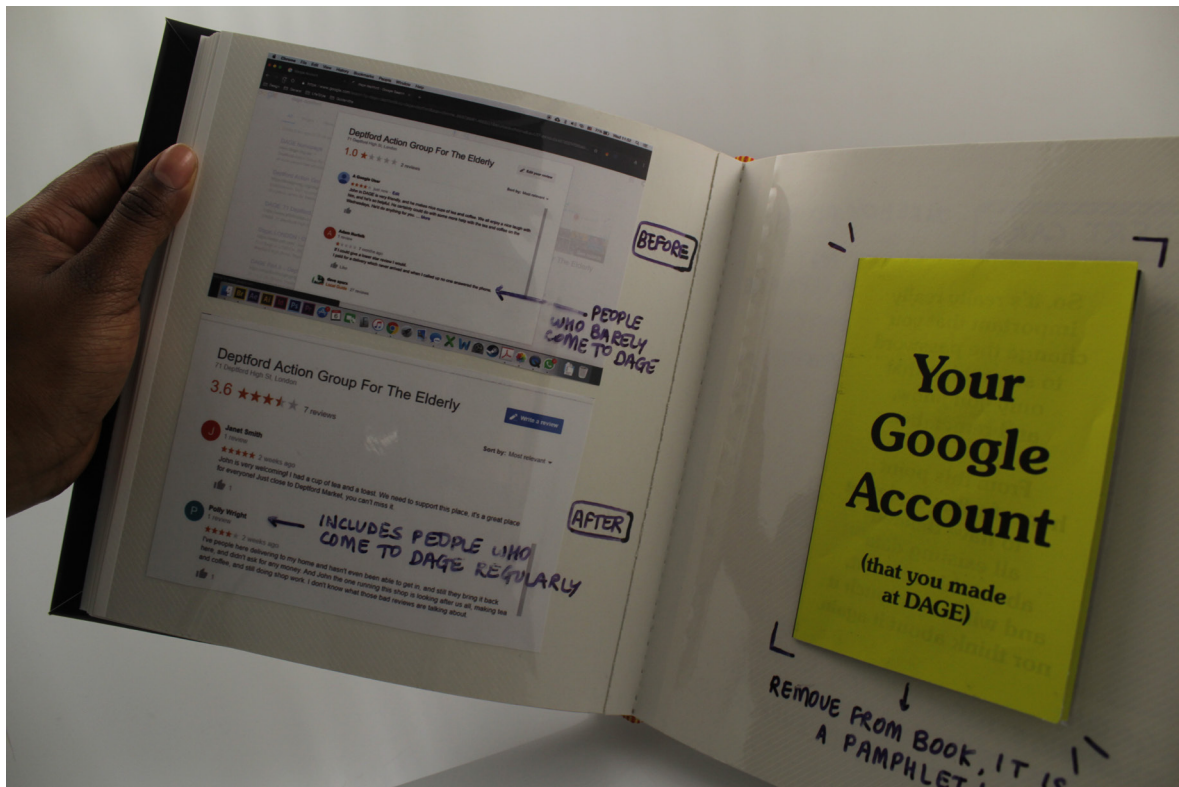


Fig. 24: *Right Old Laugh*. 'Your Google Account' leaflet (Ju et al., 2019).

DAGE café had a set of unjustifiably critical reviews on Google. The students had made a 'Google Review Workshop', where they planned and delivered training to the café community to update the reviews. But in the process, the students also realised that they had all the passwords and access to the Google accounts they had set up for the participants. To attend to the problem of having inadvertently acquired personal data, after the brief had officially finished the students made a 'personal data workshop' and printed hand-out to describe how to change their passwords and attend to these emergent ethics (Fig. 24). Then, the second project, *Lock King*, not only playfully intervened with hybrid tools to remove the pervasive graphic-designed stickers in the block of flats, and in doing so revealing the material ecology, the politics of cleaning and ingenuity that characterizes repair and maintenance work (Graham and Thrift, 2007). But through this practice, the students also articulated the problems that they had invented. Upset residents, who after the removal of the stickers could no longer find the details for their sewer maintenance company, were given access to the students' sticker archive (Fig. 20). This act was articulated by the students as "caring for the repercussions" (Liu and Hou, *Lock King Manual*, 2020). This is to say that assemblages of care are not static, but shift

over time (Fox, 2016); and the projects *Right Old Laugh* and *Lock King* are significant here because the students noticed how the new orderings of people and things that they had invented began to take on unexpected configurations. They then re-configured their design practice, responding to emergent ethical problems in specific situations, and made further outcomes.

As I outlined in Chapter Three, an empirical ethics (Pols, 2008, 2015) is the claim that rather than judging what is 'best' up front, ethical obligations arise out of and are inseparable from the situated constraints of care, where to engage with ethicality speculatively is to consider ethicality as "in the making" (Puig de la Bellacasa, 2017, p. 145, p. 155). I would argue that it is this ongoing creation of ethics, a focus that was accessed through teaching design as matters of care, that reinforced the students' capacity to affectively *register* the shifts and changes, the ordering and flux, that are part of the 'speculative flight'. Moreover, design as a practice of care can here be seen to challenge the perspective of problem-solving design, and the ways in which SCD imagines ethics, by sensitising the students to both ongoing and emergent ethical problems made in their practices and outcomes.

At the same time, by arguing that two projects achieved and noticed this shifting ground, it is clear that speculation, or Care-politics-1, are not a given or easily won, but an achievement. The students involved in *Right Old Laugh* wanted to change direction just before the final presentations, to design ambitious interactive furniture that played the oral history, and to present this as an exhibition in the design studio. This would have ignored the disconcerting feelings of trouble in their project settings. Katherine and I encouraged them to stay with the ethical problems they had made. On the achievement of speculation Wilkie, Michael and Plummer-Fernandez (2015) referencing a phrase of Stengers, argue that

(...) there is no guarantee that speculative interventions and devices will 'affirm the possible'. They can be grossly alienating as well as playfully confusing, or obliquely inviting: they can, in other words, just as easily precipitate a flight into 'the plausible and the probable' by the actors who are being speculatively engaged (p. 98).

Likewise, through our teaching experience, speculation is an achievement that comes about, not through an instruction to the students to ‘speculate now!’, but via an ongoing negotiation that I have tried to capture here, formulating and reformulating teaching exercises in an attempt to steer our students on a course between the maintenance of existing orderings and new arrangements, or tradition and transcendence.

Our teaching was contingent on pedagogical obligations, such as teaching preparation, contact time with students, assessment, and pastoral care. But at the same time, these obligations were added to with what could be considered constraints for teaching speculation and care, that is, through a brief that was open-ended, combined with an approach of responsive alteration. When we recognised speculation from a distance as a problem, this pedagogic approach let us invent a new teaching activity. Given the plurality of settings in the different student projects, and because care is associated with a particular form of unpredictable temporality that does not necessarily line up with institutional routines, this responsiveness at times felt at odds with our allotted teaching hours (and yet, at the same time, defined and restricted teaching hours can be seen as a form of care towards teachers and students). It is therefore a joint achievement of the students and teachers, to resist pre-conceived ideas of novelty in design, not to hide the unexpected complications in their processes, and to recognise and communicate ethical problems as lures for further invention.

Conclusion

This chapter has examined a case study of collaborative teaching in a post-graduate setting, where the development and delivery of our brief for students imported a feminist STS-inflected matters of care to design. The abundance of projects enabled expressions of Care-politics, and I have used the typology to highlight examples of these. My intention was to explore what teaching design as a ‘matter of care’ might offer and involve in practice, reflecting a central question in this thesis. The specific question that I have explored here is whether teaching ‘with care’ is at odds with ‘the new’ that is an ambition of design. Initially, I discussed three variants of speculation in design, and I described how an empirical speculative approach draws attention to a situated grounding, as well as an imaginative leap, and to the ways in which objects

and relations take new, and unexpected orderings. I have made a connection between speculative techniques (Wilkie et al., 2017, p.113) and Puig de la Bellacasa's (2017) notion of a speculative ethics of care, that attunes to shifting requirements and exclusions in sociomaterial configurations. Through a review of maintenance, I outlined that while care involves practices that can lead to reconfiguring the existing through a speculative tinkering, care can also restore the existing and make it stable. This sets up tensions implicit in care, between the maintenance of the existing and the new or speculative. It also mirrors an ongoing dilemma for design practice, of the trade-off between maintaining tradition and enabling transcendence through the production of new artefacts, systems and practices.

Care does not *necessarily* preclude new and speculative possibilities in design, but care has pitfalls and challenges. These pitfalls include an assumption that care in design is only a proxy for valuing handicraft and sustainability; or that maintenance is simply a practice of restoring. Care time, tinkering and reconfiguring also presented challenges to our students' expectations of clearly defined design processes, working from a distance, and making final solutions. Responding to these expectations, between the iterations of the brief, we created an exercise to 'look after something' and a workshop that tried to formalise 'noticing overlooked things' as a set of instructions. Ehn's (1988) argument that tradition and transcendence must be both bridged and valued in design is returned to in our experience of teaching, where we attempted to steer a course between the new and the students' preoccupations with maintaining the existing. To do this, the obligations of our teaching practice, such as contact time and preparation, were added to. We made new exercises that responded to the students' use of design-appropriated methods that either reconfirmed the existing, or made a speculation from afar, in order to situate and ground the students' projects.

Through this case study I have identified two ways in which students' projects were sensitised to the version of speculation described in the metaphor of Whitehead's flight. First, in a situated reconfiguring of humans and non-humans in relation to the setting of their projects, via maintenance and affective commitments – bridging tradition and transcendence; and second, but more rarely, there are the two projects that explicitly 'renewed their observation' that what they had been caring for had shifted because ethical trouble had emerged. Students acknowledged their involvement in this trouble,

aligning with the speculative ethical imperative in matters of care, to stay with the worlds that we research and construct. To reach speculation is therefore an achievement and upshot of practice. The possibilities for teaching 'with care' in design, then, is that it sensitises students towards the tension between the existing and the new, and it sensitises students to the ways in which their practices and outcomes, no matter how well-intentioned, will make ethical problems, but that these ethical problems can be used to re-route practice for further invention.

6

Being careful with the idiot: The story of a lost research device

Introduction

The Photostroller is a computational research device made by the Interaction Research Studio (IRS) at Goldsmiths University as part of a cross-disciplinary collaboration. Between 2010 and 2011, it was carefully designed and deployed in a residential elderly care home, an ethnography was undertaken, and peer-reviewed academic articles were written and presented. It has remained in a care home, but its ongoing story is unknown. What happens to research devices once their immediate utility *as* research devices has passed is not normally considered in design research. In this chapter, I present and reflect on the work I made to find out what happened to the Photostroller, to invite the question of how we might “keep on caring for accounts” of practice (Jerak-Zuiderent, 2019).

To research what is not known, I foreground Michael’s (2012a, 2012b) mobilisation of the conceptual persona of the idiot, already used to explore the processes of speculation in design research; and Wilkie and Michael’s (forthcoming) reading of the idiot as an epistemic figure concerned with knowledge practices. A feature of this figure is to slow down the processes of knowledge production, to question what ‘we’ know. Retracing the story of this device has involved a slowing down of my thought and action in the processes of making the search, by which I have been able to point to knowledge that has not been captured, and open up the question of what caring for this ongoing account

requires. To reiterate from previous chapters, I take up a care sensibility that signifies “an affective state, a material vital doing, and an ethico-political obligation” (Puig de la Bellacasa, 2011, p. 90). But this intersection between care and the idiot sets up a key question for this chapter, and that is, whether or how we can care with the idiot? The discussion in this chapter contributes to a wider commentary on the use of the idiot in speculative processes. Guggenheim, Kraftner and Kroll (2017) make the point that we need to better understand how the idiot is employed in research, and how we can embody this figure in practice, so that speculative processes can be learnt (p. 146).⁶⁸ The same can be said for the use of Care-politics-1 in practice. Furthermore, Wilkie and Michael (forthcoming) argue that the idiot may need mitigating with other qualities. As such, following the empirical material, I will point to moments when the idiot and care combine or separate, and as a rendering of the idiot, and care, in practice.

The chapter is organised chronologically. I begin with a description of the original project. Then I describe the lure of the missing device as an opportunity for a project ‘with care’. To resource my analysis are two review sections: one describes the figure of the idiot, and another draws on Stengers’ (2010) notion of “obligations” of practices that I see is crucial to avoid a bifurcated view, easily applied to situations of care, between those who do or don’t care. This is useful because it is not my intention to take a moral judgement on the aftercare of research devices in this chapter – of either the care home or the researchers – but rather to attune to the conditions in which I become sensitive and responsive to this lure for research. The discussion reveals that the idiot troubles care as easily essentialised, and that care troubles the inability of the idiot to access affective processes. I also propose that re-deployment, maintenance and staging may occasion *further* speculation with idiotic devices.

The care of the elderly is a scrutinised context that set up challenges for the search in this case study. The reader should also know that the timeline of this case study (2019-2020) overlapped with the Covid-19 pandemic. Care homes in the UK have been severely impacted by the pandemic, resulting in many untold stresses on staff and

68 There has been a burgeoning interest in the figure of the idiot in relation to design research practices, including Mike Michael’s analysis of the deployment of speculative design (2012a, 2012b); an exploration of processes of engagement using Twitter bots in the context of energy-demand reduction (Wilkie, Michael and Plummer-Fernandez, 2015); Delfina Fantina Van Ditmar’s investigation in the context of the ‘smart’ home (2016) and Barbara Neves Alves proposition of ‘miscommunication’ for designing political scenes (2016).

residents, accentuating the existing treatment of the elderly who have become even more hidden out of view during this time. This has been well documented in the UK media.⁶⁹ Restrictions have meant that friends and family of residents have had difficulties visiting, let alone strangers, like me.

The story so far

What there is to know about the Photostroller comes through three peer-reviewed publications: a ‘CHI’ paper (Computer-Human Interaction) (Gaver et al., 2011), a ‘DIS’ paper (Designing Interactive Systems) (Blythe et al., 2010), and an article in *Interactions* magazine on ‘Annotated Portfolios’ (Gaver & Bowers, 2012).⁷⁰ The project emerged through a collaboration between Newcastle University, Northumbria University and the Interaction Research Studio (IRS) at Goldsmiths University, funded by the ‘New Dynamics of Ageing Programme’ – a novel cross-Research Council multidisciplinary research programme that aimed to improve the quality of life of older people.⁷¹ The collaboration led to the production of two novel computational artefacts, the Prayer Companion (Gaver et al., 2010) and the Photostroller. The latter was designed for residents in a state-funded care home in York, UK, called Jacob House (although this was not its real name) and was deployed in 2010.

Only one Photostroller was made. The design was informed by a two-year period, beginning in 2008, of observation and lo-fi technological interventions, such as web browsing sessions with the residents (Blythe et al., 2010). The researchers argued that design for older people tends to categorise users with a common set of abilities and orientations, and there is typically a focus on a physical care or ‘smart’ innovations for remote care (Blythe et al. 2010). The researchers also described the relational challenges of conducting research in Jacob House. This included the high dependency requirements of the residents, and the welcoming but wary manner of the staff, alert to inspections

69 For example, see: <https://www.theguardian.com/uk-news/2020/mar/31/uk-care-home-staff-at-breaking-point-as-coronavirus-cases-rise>
<https://caj.org.uk/2020/06/23/amnesty-caj-unison-call-for-public-inquiry-into-care-home-deaths/>
<https://www.alzheimers.org.uk/get-support/coronavirus/dementia-care-homes> [Accessed 21 March 2022].

70 CHI (Computer Human Interaction) and DIS (Designing Interactive Systems) are special interest groups within the Association for Computing Machinery (ACM). At the time of writing, collectively these publications have been cited 175 times.

71 See: <https://esrc.ukri.org/files/research/research-and-impact-evaluation/evaluating-the-impact-of-the-new-dynamics-of-ageing-research-programme-final-report/> [Accessed 21 March 2022].



Fig. 25: The Photostroller, annotated (Gaver & Bowers, 2012).

and media exposure of poorly managed care homes in the national press (Gaver et al., 2011). Thus, the design of the Photostroller came to embody positions on issues including computational aesthetics and ethical issues around aging (Gaver et al., 2011). Figure 25 shows an image of the device, annotated with conceptual themes (Gaver & Bowers, 2012). This includes an ambition to challenge the often-negative representations of care homes and the elderly, to frame older people as curious and engaged.

The form consisted of a large screen on a metal trolley that has wheels and handles, with a removable handheld remote-control unit, referred to as the ‘tuner’, placed in a holster on the front of the trolley. When operated, the screen displayed a continuous slideshow of photographs retrieved from the Flickr image website using a set of six predefined categories accessed via keywords on the tuner: ‘Travel’, ‘History’, ‘Local’, ‘Family’, ‘Nature’ and, ‘Space’. The images could be changed, or held, by a tuneable degree of “semantic drift” (Gaver & Bowers, 2012, p. 40); and were stored on a cache in

the hardware of the device, and as such, the device was not connected to the internet and so there was no record of its online activity to indicate use.

At the time the CHI paper was written, the Photostroller had been deployed in Jacob House for over two months, and ethnographic observations were gathered through weekly visits. Gaver and colleagues (2011) reported that the device supported a diverse range of interactions with participants, including as a background ambience in a Quiet Room, fuelling story-telling and photographic appreciation in spontaneous small group interactions, as well as in activities that were facilitated by staff, and as a resource for contemplation by a resident alone in his room. The themes in the Photostroller project characterise the work of the IRS. They are 1) the aesthetics of computational devices – and here the possibilities for the residents’ interaction with technologies was extended to “ludic” engagement (Gaver & Bowers, 2012, p. 42) and not just the need for physical care; and 2) a process that reveals issues within specific contexts – that despite the sedentary appearance of the residents, this was a diverse community with a complex sociability, addressed through the design of the Photostroller that balanced “constraint with openness” (p. 40). Thus the design of the Photostroller arguably operates with the concept of Care-politics-2, to provoke issues and concerns around elderly care and ageing. I will revisit these themes, to consider how the process of searching for the *missing* Photostroller may reveal issues in the current context of elderly care and yield further insights about interactions with this computational research device.

A lure for a project with care

This part of the story begins with a conversation with Bill Gaver in a cafe on New Cross Road, London, in July 2019.⁷² I once held a position as a researcher in IRS and worked with Bill (although not on the Photostroller project) and we catch up from time to time. On this occasion, I had been describing the student project exploring ethics of intergenerational care. Bill described how the IRS had made projects about generational care, the Photostroller and the Prayer Companion; but “the Photostroller is missing”. It was presented as a casual comment, not a case to solve. In the weeks after, I became

72 Bill Gaver is Co-Director of the IRS and was Principal Investigator on the Photostroller project.

more curious about this research artefact, last seen in a care home almost a decade ago, when usually, one-off devices are returned to the Studio. What would it mean to try to recover it? I set up another meeting with Bill and Andy Boucher, in the IRS, to get their guidance about where to begin the search.⁷³ During our meeting, I asked where they thought the Photostroller might be: “On a landfill, probably”. In technological terms, the device could, in theory, still work – it is essentially a MacBook behind a screen. There had been phone calls from Jacob House for directions on how to change the batteries in the tuner, but these had stopped a while ago. Mark Blythe, a researcher from Newcastle University, had been a project partner. After the initial deployment, Mark had moved the Photostroller from Jacob House to a different care home in York. But where, and how, and what the ongoing story was, was unknown to Bill and Andy.

I wouldn't have noticed the missing Photostroller as a lure for a project had I not been thinking with care in design. There are various aspects to this lure. First, clearly this is a project already set in an institution of elderly care. Elderly care can be considered in relation to the concept of Care-politics-5 and the bio-political, where nursing moves between the state policy, disciplinary technologies and individual or collective aspirations. Second, while care in the context of health and social care is prominent in design (Vaughan, 2018, p. 1), I also understand that care is a signifier of overlooked technologies and labours, discussed at the concept of Care-politics-4 and elsewhere in this thesis. This has drawn my attention to the maintenance labours essential to existing innovations and infrastructures that are often rendered invisible when ‘the next new thing’ is privileged (Suchman, 2009). Moreover, Susan Leigh Star famously encouraged researchers to “restore narrative to what appears to be dead lists” (1999, p. 377) because this could be revealing of practices and values that are present in the relational infrastructure that the thing is embedded within (Star and Ruhleder, 1996; Star, 1999). Therefore, the story of the missing Photostroller seemed pertinent to my project exploring Care-politics in design, not only as an overlooked technological artefact to bring a narrative to, but also as an indicator of the political contexts of care that it is circulating within. Third, and as discussed at Care-Politics-1, care is not always human-centred and includes non-humans that enact care and need care (Mol, 2008; Mol et al., 2010; Denis & Pontille, 2015). As

73 Andy Boucher is Co-Director of the IRS.

such, the encounter in the café with Bill provoked a curiosity towards the vulnerability of an existing technological artefact as the starting point for a research investigation. I also understood my curiosity as a speculative sensibility, where tuning-in to neglected things requires a shift in considering the dominant narrative, including in our own practices, and a questioning of what is deemed valid as a territory for research (Greco, 2017, p. 219; Puig de la Bellacasa, 2011, p. 96). This shift resonates with the ways in which I am drawn towards a research project, deemed as complete, deployed and published – the dominant narrative – yet it is, in fact, ongoing. Retrospectively, I see a connection between these ways of thinking with care and the conceptual persona of the idiot, a connection that I will describe next.

Care and the idiot?

On the face of it, care seems to be the antithesis of idiocy. Care is often automatically essentialised and equated with a nurturing role or moral duties, and idiocy as someone care-less. If a description of care is “everything we do to repair our world to live in it as well as possible” (Fisher & Tronto, 1990, p. 40) and indicates a responsibility, is it perhaps an absurd suggestion that care can be combined with something seemingly indifferent, irresponsible or ridiculous, like idiocy? What I have been looking for in this thesis are ways to practice design research with Care-politics-1, and as such, to avoid the essentialist trap of care, and to be more open and speculative with care. Could the figure of the idiot help with this? Then at the same time, motivating the idiot towards a case study involving the setting of the care of the elderly requires a delicate handling, not least because of the usage of this word in relation to settings of healthcare. This includes how from the mid-19th century in England, the idiot was associated with ‘lunatics’ who were vulnerable people ostracised and incarcerated in asylums, and accounts of their lives typically written by medical professionals (Jarrett, 2020). But as I will describe, I am using a different conception of the idiot in this chapter.

For Stengers (2005), the figure of the idiot – adapted from Deleuze and Guattari’s conceptual personae (1994, p. 62) – describes the one who “resists the consensual way in which the situation is presented” resulting in a slowing down of thought and action; it is a prompt to consider if “there is something more important” (Stengers, 2005,

p.994) happening that needs to be understood, but without explaining what, and with that inviting an opening toward the unknown.⁷⁴ As Wilkie and Michael (forthcoming) describe, this construes the idiot as an epistemic figure that is predisposed to questions of knowledge, of what ‘we’ know. Although Stengers presents the idiot as an abstract concept, Mike Michael has proposed that speculative design approaches can proactively invent the idiotic in what he calls “engagement events” (2012a, p. 529).⁷⁵ This is to say that the figure of the idiot is associated with behaviours that can be intentionally embodied in practice – and as such, it is something we can learn to do. Idiotic designed objects prompt researchers and participants to slow down and question assumptions and standards in their knowledge and practice, enhancing speculative processes (Michael, 2012a; Wilkie, Michael & Plummer-Fernandez, 2015; Guggenheim et al., 2017, p. 146). Michael also argues that the ‘idiotic’ speculative design emerges from a *serial process* of “inventive problem making” (2012b, p. 178), here drawing on Fraser’s (2010) understanding of problems as devices that structure and beget novelty. Furthermore, Michael (2012a, pp. 529-530) has used the resistant qualities of the idiot as a prompt to observe and analyse “overspills” in research, that is, to what we have, or have not, taken into account in the way we frame our analysis (such as the misbehaviour of non-human participants, Michael, 2004) to allow for a reconsideration of research events. To exemplify the idiot in design, Michael has drawn on examples of research from the IRS, including processes and outcomes that I am attached to through prior research (e.g. through Probes as method, Gaver, et al., 2004).

Using Michael’s terminology, the original research event of the Photostroller can be seen to emerge from a proactive idiocy – although, to be clear, this is my interpretation, and not necessarily the view of the IRS. The processes and outcome of this project were not intended to generate coherent patterns of user behaviour, nor initiate a utilitarian design

74 The idiot appears in Stengers’ cosmopolitical proposal for a politics concerned with composing the “good common world”, but where a priority is “to slow down the construction of this common world, to create a space for hesitation regarding what it means to say ‘good’” (2005, p. 995). As such, the idiot becomes important for Stengers, because it demands we slow down thought.

75 Mike Michael’s arguments are underpinned by the concept of the ‘event’ – a philosophical concept. Specifically, Michael draws on Mariam Fraser’s (2010) discussion of the event in the philosophy of Alfred N. Whitehead, Gilles Deleuze and Isabelle Stengers. Event is part of an anti-reductionist project, of the bifurcation of nature into subjects and objects, and instead enquires into the relation between things, bodies and happenings. It is important to the enquiry into the production of knowledge. As Whitehead (1978, p. 23) asserts, “How an actual entity becomes constitutes what that actual entity is...its ‘being’ is constituted by its ‘becoming’”. Fraser (2010) then argues that the event is a process, where multiple and diverse elements (social and material, human and non-human, subject and object) come together, mutually affect one another, and in coming together, they become something else. The ‘idiot’ interfaces with ‘event’ as a way of querying and disrupting its parameters and purpose (Michael, 2012a, pp. 536–537).

solution to make elderly care more efficient, for example, but instead were proactively and serially open-ended. Open-ended lo-fi technology experiments generated an open-ended prototype deployed with participants that led to a plurality of responses; and consequently, the various researchers' expectations and the participants' experiences of computational design for the elderly were re-imagined.⁷⁶ But there is also another instance of an idiotic prompt here. When the Photostroller is moved out of its original research setting of Jacob House, and is redeployed in a different care home, this offers an opportunity to investigate an overflow of unexamined knowledge that extends beyond the existing analysis of the project. In other words, I suggest that the idiotic can already be found in the Photostroller project before my search begins, as a project that sought overflows initially, and now an overflow itself – which is where I come in.

But might the idiot also support the process of caring for this account? First, if the figure of the idiot can point us to what is not known in our practices, then I will use it to consider the kinds of care practices going on that have not been counted so far. This resonates with a feminist perspective of drawing attention to overlooked positions of carers that provide a better vantage point for knowledge, discussed at the concept of Care-politics-4. Second, if the idiot can slow thinking down and question our assumptions about what is known, then this would seem suited to the hesitation (Schrader, 2015) or “suspended judgement” (Puig de la Bellacasa, 2017, p. 155) that evoke temporal qualities of care, discussed at Care-politics-1.

However, this is not to anticipate a perfect working partnership between the idiot and care. At the same time as prompting epistemic questions and slowing things down, the idiot “neither objects nor proposes anything that counts” (Stengers, 2005, p. 1001). In other words, the idiot does not tell us how to proceed. In comparison, care involves a doing, where a “suspended judgement does not mean ... a dilution of obligation” (Puig de la Bellacasa, 2011, p. 90). Care-politics-1 also invites ethico-political questions that include “why and how has something come to be devalued?” (Puig de la Bellacasa,

76 On the original project, the researchers' description of the technological intervention of the *Video Window* device in the care home also suggests and exemplifies a promotion of inventive problem making over solutions in the early phase of the Photostroller project. The *Video Window* uses off-the-shelf devices that connect a monitor to a video camera on the roof of the care home. While the practical benefits of this system were noted by a carer, who thought it useful for video surveillance of residents in the garden, this efficiency was resisted by the researchers to instead promote a ludic appreciation of viewing the changing skyscape and lightning storms (Blythe, 2010, p. 166).

2017, p. 52). Furthermore, care has affective dimensions. To recap from Chapter Four, affect is understood as the relational forces through which human and non-human ‘bodies’ are configured, moved and transformed (Anderson, 2014; Coleman, 2013), and where ‘feelings’ may be indicative of and inform affects (Bondi, 2005). As Wilkie and Michael (forthcoming) have argued, the affective dimensions of the figure of the idiot operate at a certain register and can be insensitive, too threatening, or obscure in its nonsensicalness, and might in fact curtail speculative processes. Consequently, they propose that we need to understand other figures and values that combine with the idiot to support speculative acts. This substantiates a key question of this chapter, on how the figure of the idiot, embodied in practice, interacts with care in the processes of speculative research.

In the close reading of the empirical material in this chapter, I will look for moments in the process where the idiot and/or care are used to account for the Photostroller. I move between two different registers: 1) where the epistemic figure of the idiot can invite questions *about* different logics and issues of care; and 2) where the idiot and care are embodied and activated *as a modality of practice*. Before this, I will review the notion of obligations in relation to practices, as part of the ethico-political obligations in matters of care (Puig de la Bellacasa, 2011, p. 90), in order to describe the different obligations that I encounter in this case study.

Obligations of care

‘Obligations of care’ might conjure a legislative or moral language of duties. To unsettle this point, I look again to Puig de la Bellacasa (2017, pp. 152-154), who has transposed Stengers’ (2010) understanding of obligation to a discussion on care and ethics. Stengers’ argument is in her philosophy of an “ecology of practices” in modern science (2010). She argues that obligations are relative to practices and are based on the ‘historicity’ of those practices, re-creating behaviours and relations that are imposed on, or affect, or get used by practitioners (pp. 49-55). This is because she is interested in how particular science practices relate to other practices, and the world, and how they might impinge upon and relate to each other, so as to situate the relevance and limits of practices without

engaging in corrosive critique.⁷⁷ Stengers is clear that obligations are constraints that are not negative or limiting, but enforce and enable a particular practice (p. 42). They keep together “a heterogenous collective of competent specialists, devices, arguments” (p. 52), but are not the same as rights and duties. This contributes to a view that obligations of care are relative to the problems and possibilities in given practices, they “emerge from material and affective constraints rather than moral orders” (Puig de la Bellacasa, 2017, pp. 152-154). Another way of thinking about this is that practices have “logics of care”, where the possibilities of care may be “embedded in practices, buildings, habits and machines” (Mol, 2008, p. 8).

From this I understand obligation as entailing a commitment to something that emerges through a specific set of knowledge practices with their own historicity and situated doings. This helps me to avoid taking a moral stance, to judge what was or wasn't cared for in the story of the Photostroller, since I understand that the possibilities for the researchers and care home staff to 'keep on caring' for this device must be considered in relation to the obligations or logics of care of the different practices involved. This includes an epistemic care for knowledge through Design Research practice, and the political context of elderly care. But as I will describe next, it is this tension between different obligations that sets up the need for slowing down and some proactive idiotic interventions in the way that I trace the story.

The search begins

The 'Archive Machine' is the name of the computer in the IRS where images of all past projects are stored. I arranged a visit. There are thousands of images of projects over the years, and it takes me a while to locate images of the Photostroller project. I have a question about whether the device had an external label or stamp bearing the name of the IRS. It didn't, but there is a photograph showing that the studio's name appears on the start-up screen when it's switched on (Fig. 26). I get a sense of which researchers were involved, the phases and iterations of the production of the hardware and software development, the final object photographed in the Studio, the hand-over of the device

⁷⁷ Hence Stengers' critique of the term 'technoscience' that bundles the specificity of technological and scientific practices together (2010, pp. 44-45).



Fig. 26: The Photostroller with start-up screen in Jacob House, Interaction Research Studio (2011).

and a set of printed instructions in Jacob House, and images of care home staff and residents being introduced to it and using it (Fig. 27).

Around this time in my search, Mark Blythe emailed the name of the care home that the device was moved to, Howard House (again, not its real name). Mark had also tried to locate the Photostroller in recent years but said that the care home manager at the time did not know where it was. I start my online search, initially to find out the name of the manager to contact. Initially I imagined I would call them and arrange a visit and that I would record this journey and make an audio piece or film to describe it. But inspection records from the Care Quality Commission (CQC) revealed a period of five years since the re-deployment where the manager was unknown. Further searching led to local press articles from 2017 and 2018 with headlines that included “York care home provider fined £160,000 for failures” and “Hundreds of ants at care home as patient ate breakfast” and “Hundreds of care workers are facing changes to their working conditions – including a risk of redundancy”.

To look closely at these encounters is to see that the possibilities for an ongoing account of the Photostroller are shaped by different obligations and politics of care. First,

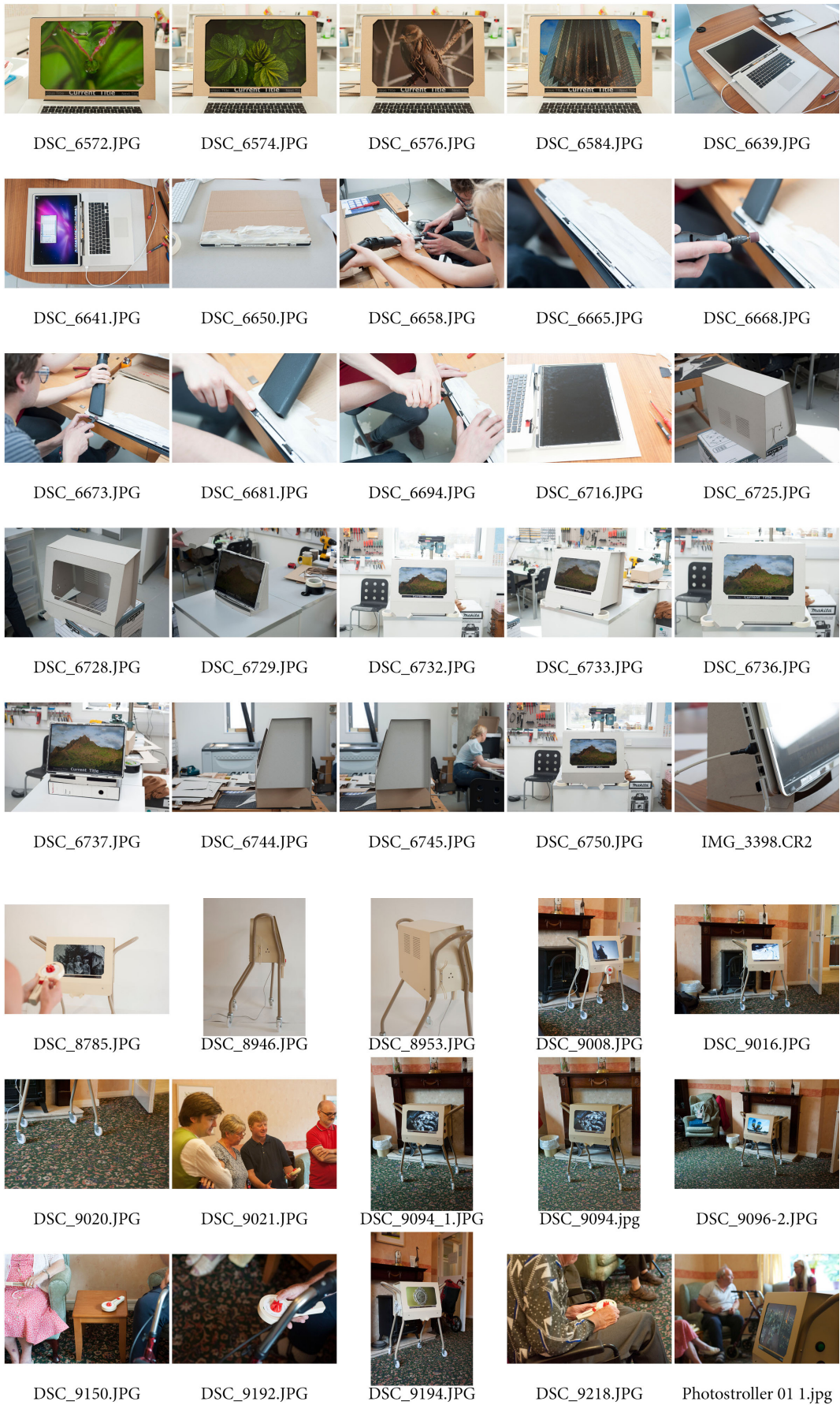


Fig. 27: Images from the 'Archive Machine' showing the design, build and original deployment, Interaction Research Studio (2010–2011).

the documents of the IRS (the images and academic articles) describe a careful process of design, build and deployment. There are descriptions of the original research event where the socio-material practices of the researchers mutually resonate or “become together” (Michael 2012b, p. 169) with the socio-material practices of the care home staff and lives of the residents, and out of which the Photostroller emerges. The constraints of this practice were to explore computational aesthetics and issues in a situation of elderly care within a specific project timeframe. The obligations of the IRS are also connected to the epistemic practices in peer communities of Human-Computer Interaction and Interaction Design, and notably the annual ACM Conference, ‘CHI’. There has been a commitment by IRS to a community of design research in CHI, and an intellectual ownership of the aforementioned themes that the individual IRS research projects contribute to. Notably, this involves countering a dominant drive towards efficient, solution-led computational technologies and normative standards for design research (e.g. Zimmerman et al., 2007), and instead to argue for ludic aesthetic experiences, and generative and multiple approaches for doing design research (Gaver, 2012), as exemplified in the Photostroller project. However, these projects arguably become less of a focus after their dissemination in this community, and the ongoing details of which are then difficult for the wider design community to access.

Moreover, the possibilities for ongoing accounts are tied to the obligations of academic knowledge production and dissemination. This is a cycle that typically involves securing public funding to conduct research, engaging fixed-term researchers and permanent faculty, the outcomes of which are published through peer-review mechanisms; outcomes that, since 2014 in the UK, have contributed as ‘impact case studies’ for the Research Excellence Framework (REF), the results of which effect the UKRI annual grant to financially support university research infrastructure. The Photostroller CHI paper was submitted to the REF in 2014. As Lynda Grove describes (2017), academics are under increasing pressure to win highly competitive, external research funding, for short-term projects typically lasting three years; and thus, the timeframe of an academic’s research aspirations can become aligned with funding schedules and the REF cycle. Design research, as publicly funded research, is also tied to predefined issues and the short-termism of grants. The main point here is that the IRS practices have obligations that emerge from and are embedded in norms of academic knowledge production,

including the requirements to secure the next round of project funding. In other words, the obligations of the IRS motivates their practice towards ‘the next new thing’, and as such, the researchers retreat from an affective relationality with the care home and the device in the field.

The CQC reports and newspaper headlines indicate the recent political context of UK care homes. There are the obligations for the provision of elderly care in residential homes in England, as described in the CQC, for safe, effective, compassionate, high-quality care, that is ‘person-centred’, and includes care of premises and equipment.⁷⁸ Here, in the spaces and routines of the care home, care is an ongoing process (Mol, 2008, p. 11). But crucially, what is emphasised is a heavily scrutinised context in which the organisation of elderly care has been under threat. As Gill, Singleton & Waterton (2017) summarise in their overview on the relation between care and policy practices, in the UK there has now been a decade-long rhetoric of crisis coupled with the politics of austerity in sectors that include national health and social care. Policies have shifted notions of responsibility from state to individuals and are seen to marginalise rather than support people who are at risk or work in risky environments, such as care home residents and staff. As they put it, health and social care policy is “failing, if not causing harm, to those for whom it is supposed to care” (p. 4). As I have described, the negative media attention and the issue of scrutiny of care homes was raised as a methodological challenge for the original project (e.g. Blythe et al., 2010, pp. 162-163). This attention to the ethico-political context of the care home is now elevated again in my search.

Here, in my process, I come up against a disconcertment, because, to paraphrase an expression from Atkinson-Graham et al. (2015, p. 739), the different obligations and contexts of care between the researchers and the care home sat uneasily with another, they no longer mutually resonated. An idiotic question emerged as to whether there was “something more important” (Stengers, 2005, p. 994) than the simple retrieval of the device, and this affected me. Although I had presupposed that a phone call to the care home manager was the next thing to do as a methodological demand of the remote research situation, I recognised that to recover information about a missing design research device is not necessarily straightforward in an already scrutinised context where

78 See: https://www.cqc.org.uk/sites/default/files/20150324_guidance_providers_meeting_regulations_01.pdf [Accessed 21 March 2022].

there are sensitivities around neglect. I understood that this disconcertment required my attention and I let it complicate my assumption of the process of ‘just calling’ the care home and inform my next steps.

Phone call rehearsal

At this moment, the figure of the idiot invites me to slow down and not assume I know how to proceed. To stay with the disconcertment, I designed a situation to activate the idiot in practice. I asked a researcher from the original project and a past member of the IRS, Nadine Jarvis, to take part in a collaborative scripting and rehearsal of a phone call to the care home about the missing device. This involved writing and reading multiple scripts out loud together, to perform, and then annotate, several imagined phone calls. Our script rehearsal was not intended to engineer parameters of a conversational script, such as those used in telephone surveys, nor was it intended to rehearse lines and commit them to memory and then perform them. Rather it was a way of inventing an approach to re-open the project details and sensitivities in the doing of design research in the care home setting, and to speculate together on this communication. Sat in Nadine’s back garden in south London in October 2019, we invented possible phone call dialogues and other modes of contact.

Here is a fragment of our rehearsal and conversation:

Nadine (NJ): Hello. Howard House nursing home.

NJ: God, I’m trying to put my mind back to that point in my life. I didn’t have a huge amount of contact with the staff. I think once the project had been okayed, my job really was to go in there and make the participants feel comfortable with what we were showing them. I went to Jacob House a lot I have to say, you know, the staff would offer me tea, it was fine, I was ‘in there’. I think also being a woman I think I was more easily accepted.

Me (SP): Hello. Can I speak to Jennifer Smith please?

NJ: Can I ask who's calling?

SP: Yes, my name is Sarah Pennington.

NJ: Can I ask what it's about please?

SP: Yes, it's a bit of an unusual request for information. I'm a researcher from Goldsmiths University in London. The reason I'm calling is in relation to a design object that was placed in Howard House some time ago. I'm trying to locate the object now, and Jennifer is the person I'd like to speak to first.

NJ: This all sounds a bit formal.

SP: I feel like I need to give them information about the project.

NJ: I personally, would go more informal knowing what those settings are like. But this is more 'correct'. Because if you sound really formal, the bars will go up straight away.

SP: So what would you say is formal here?

NJ: I think "Design object" is a really serious term. I mean I know that we've thought about those terms for a long time and that's sort of the conclusion because it is relatively ambiguous.

SP: But then, the Photostroller doesn't necessarily mean anything to them either.

NJ: No you can't say Photostroller. I think I would literally be like "I'm looking for a TV-looking object which is beige with brown handles, but somewhere between if you imagine a Zimmer frame and a television spliced together. But an old television with a big box"! I don't know! That's probably what I would do. But I realise it's hard to manufacture humour quickly. It's kind of ridiculous isn't it, calling up and asking for this, so you might as well.

SP: Hi Jennifer. I'm calling with a bit of an unusual request.

NJ: Okay...

SP: I'm a designer from Goldsmiths University in London. A design object...

NJ: I mean I would definitely say ‘designer’ and not ‘researcher’ in that respect. You said that. It sounds like you are digging if you say ‘researcher’.

NJ: *I’m not sure I can help you. What’s the object?*

SP: *It looks like a strange kind of TV screen on wheels that has handles on the side. It’s a light brown colour. It also has a remote control that sits in a holder. It’s called the Photostroller.*

NJ: *I haven’t seen it. Sorry.*

NJ: I mean, I find it hard to imagine it still being used without facilitation, to be honest. I really do. I would say it’s the absolute hardest setting I’ve ever worked in. The convent of nuns was much easier in comparison. You know the term ‘Silver Surfers’, it’s a bit of a ridiculous term, and how the older we get the less willing we are to adopt new technology. It’s like you go into this place and they see you as a salesman or something, a sense of “I’ve seen it all before and I’m not interested”. It was really hard. I mean this even was my experience of going in with printed placards, not even any new designs...

I made this phone call rehearsal to slow down the action of contacting the care home, and for this, the figure of the idiot embodied in practice was useful. In slowing down this not-yet communication we also opened the account of project details. Nadine brought forward descriptions of activities and impressions that are unreported in the scholarly accounts, and that have not been made available to the design research community so far. This includes practices of naming processes in IRS, and her awareness of the impact of gender in relation to her role. As such, the activity can be considered a modest example of prompting an overflow and making possible descriptions that have not been counted in the existing analysis. Another point that can be seen in this exchange is that speculation is not simply about making futures in the present but can also include the temporalities of historicity (Marres et al, 2018, p. 29; Rosner, 2018); actively moving

between the present from the past and to the future via experiential and material means (Di Salvo, 2009, p. 58).

So far, the idiot figure and its use in practice had enabled an attention to what is not known about the first deployment of the Photostroller, a slowing down on *how* to proceed, and prompts attention to the obligations in different practices. However, the idiot is indifferent to how to proceed, by not proposing anything that “counts” (Stengers, 2005, p. 1001). Another way of saying this is that this idiot is good at highlighting matters of concern, but it does not instruct the researcher as to what to do about them. And yet, we can see that the rehearsal was also motivated by thinking through precisely this, evidenced in practical guidance about what to do, from someone who had worked on the project (such as simple advice to use the label ‘designer’ rather than ‘researcher’ in any contact). Arguably then, unlike the idiot, this activity did not remain indifferent to the concerns that prompted it – specifically, my concerns that the phone call had real implications and if it was not done with sensitivity then the care home staff might be upset that they had done something wrong or might simply refuse to engage.

In this I see another intersection between the idiot and care. Whereas previously, through an idiotic sensibility I found out *about* arrangements and contexts of care going on beyond the interests of the researchers, and this idiotic questioning effected a slowing down of the process, at the present point in the search, the idiot is *combined* with a modality of care in two ways. It is *mitigated* with care, where care signifies an affective and ethical doing (Puig de la Bellacasa, 2011, p. 90), that helps me to render the soon-to-be-made ‘out of the blue’ phone call to the care home seeking an overflow of a project more approachable. But furthermore, this idiotic activity was also *underpinned by* sociability (including keeping in touch with a former colleague over a number of years), or in other words, affective relations that can arguably be brought under the auspices of care. Thus, in the phone call rehearsal, I combine the idiot and care in the practice of the search.

In the following months, many of my phone calls to the home did not get past the reception desk, and when I eventually spoke to the manager, she did not know anything about the project and did not recognise the Photostroller from my description. It seemed like I’d reached an impasse, of which there had been a number – including a poet who had been involved to document the deployment but who couldn’t remember anything

about the project; and there was the problem of information about the project sitting in computers now long-since redundant. Then, once Covid-19 emerged, and the care home became even more inaccessible, I approached a psychic whose practice involved readings based on lost objects to ‘look for’ the device. The rationale was that this fits with the repertoire of IRS activities for using “cultural commentators” – a method of inviting storytellers and analysts from outside the design research community who produce different perspectives on research prototypes (Gaver, 2007); and in this case, a missing research device. I also involved two design graduates who helped plan materials to capture the project.⁷⁹ These activities also helped to maintain my own commitment to the project search.

Laminated poster

The care home manager was away on annual leave. Over the phone, I spoke to a woman who was covering for her. “Your poster worked!”. Prior to this, during an easing of a Covid-19 lockdown in summer 2020, I had sent two A3 posters to the home, with an image of the Photostroller, laminated, wipeable, addressed to the manager, and asked her to place them on a noticeboard for the staff to see (Fig. 28). It had been carefully worded. The interim manager told me the poster had made a difference and had prompted discussion about the missing device; but still, she said, “It’s been binned”, “but there is a nurse who remembers it” and “ring back next week when she’s on duty”. I was given the best times to call when the staff were least busy, and I eventually managed to speak to the nurse after a series of attempts.

Extract from my conversation with a nurse from Howard House, 21/10/2020.

Yes. I mean, I’ve not seen the Photostroller... it was one of those things, it was in one of the sorts of offices, for a long time, for so long that...it was kind of just part of the furniture really. And then I don’t know what happened to it. In terms of its use, I remember it was used several times,

⁷⁹ Sasha Lychagina and Alfredo Ramirez Raymond

and I think the idea was to try and get a group of residents together, and if I'm remembering it correctly, they could dial up a subject and you would get the photographs, and it would prompt memory and discussion ...

I think part of the problem at that time was we didn't have an Activities Coordinator. Whereas now we have much more group...well everything of course has suffered at the moment...groups of residents getting together, doing memory activities. Activities have now been showed to be so important... back then it wasn't utilised, the time wasn't put aside for activities as it is now. So it wasn't utilised to its potential. It's a much more structured situation now, you could say, "let's get the Photostroller out, let's get a group together". You could possibly just have it round and residents would use on their own. But that doesn't happen. I mean, those that use their own TVs would probably not want to access it. So the group that it's going to be most beneficial for, you would need to facilitate it.

I'm trying to think, I might go and ask one of my colleagues actually, it was in one of the sitting areas for long enough, then it got demoted to a small office, and it kind of found its way under a shelf. But for quite a while it was out there. It was put in amongst the chairs and everything. It would be the handyman who would know. You know I was so sort of familiar with seeing it, that if you actually came to me and said "where is it?" I would have said, "oh let me take you". Because it would be where I would expect to see it. You know, when I was actually told, "well no, it's gone", I said, "what do you mean it's gone?" You know how your mind's eye creates where things should be. I would have to [do] a double take because I would expect to see it in a certain position. It isn't. Because I thought, it is in the garage now, you know? Is it down in the garage? No, it's not there... So I was going to say our handyman, he would be the person who would have, if you like, put it to its final resting place. I could ask him if he can remember... maybe I could email him, just saying can you remember this, you're not going to be jailed for this, so don't worry.

Dear Howard House staff,

Do you remember the Photostroller?

It was given to Howard House in 2012. If you remember it – even vaguely – I would love to speak to you. It doesn't matter if the object is lost or destroyed, I am interested in gathering your recollections. Thanks for your help!



Please contact:

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Designer at Goldsmiths University
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Fig. 28: Laminated poster sent to the care home.

At the current point, the ‘missing’ poster proactively prompts the overspill that gives a glimpse of the Photostroller re-deployment and the interactions with this device. I had sent the poster off to Howard House with the aim of inviting the possibility for sociality (Michael, 2016, p. 653); and in October 2020, I spoke to a nurse who had worked at the home when Mark moved the Photostroller there almost a decade earlier. I take her slightly jokey comment about imagined repercussions (“jailed for this”) as a sign that highlights the scrutiny of care homes and justifies my earlier sense of caution to mitigate idiotic invitations with a relatable tone in the poster (“Dear staff”, “love”, “it doesn’t matter if it is lost”), the design of which used knowledge gained from the phone call rehearsal.

The nurse indicated the behind-the-scenes requirements for the Photostroller device. This included its facilitation by activities coordinators and student volunteers, and involved a handyman, and storage spaces. Requirements of support had been raised in the original CHI paper – Gaver et al., wrote “without facilitation from staff, visitors or ourselves, it seems that the tuner is rarely used” (2011) – and as such, my findings do not contradict the original project framing, but add to these observations. The nurse’s description also tallies with those of the IRS researchers, gathered during my search, concerning the breakdown and repair of the device during the initial deployment. Phone calls from researchers local to Jacob House for advice on how to change the batteries in the tuner, and the requirements of making a completely new tuner because the original had been dropped and broken were taken as indicative of the device’s ongoing use (Boucher, personal communication, 5/2/2021). What is clear is that this computational object is not solely an instrument of actualising ludic engagement as a form of elderly care, but also requires care, facilitation and maintenance itself (Mol, 2008). This work is not limited to designers but may also include actors who are not heralded as inventors (Suchman & Bishop, 2000) such as over-worked healthcare professionals, support staff, volunteers, and users. At this point, another conceptual figure emerges in the account – that of Shapin’s (1989) “Invisible Technician”, or the one who signifies the assembling, mediating, care and maintenance labours that are typically written out of technoscientific discourse (also see Farías, et al., 2016). The invisible technician is here an additional figure that offers the idiot, or the idiotic prototype, support to do its work.

The nurse’s story describes a device that gradually becomes part of the furniture, more-or- less unused for the purposes it was designed for, a regular fixture of the care home, so much so that no one really knows when it was last seen. It had become, what Michael describes as “familiar to the point of invisibility” (2012b, p. 169) and to argue that it is precisely this that we should be finding out about in our knowledge practices, in order to empirically engage with human–non-human relations, using an idiotic sensibility that “renders what is familiar in everyday life unfamiliar” (p. 169). Moving this point towards a discussion next, what can be proposed here on the ‘after-care’ of an idiotic device? And what have I learnt about how to keep on caring for accounts of practice?

Caring for accounts of design research

To keep caring for accounts that are deemed to be finished, first involves considering what is included, or not, in the things that we study. This in itself is an idiotic and speculative lure for the researcher to take. In the present case, the idiot invited questions about what happens to projects and devices when the funding schedules end, when affective relations and interests wane, and researchers move on to new projects – aspects that are not normally taken into account when discussing the knowledge produced in research. This is also a point made in feminist epistemologies, discussed at Care-politics-4, where the questions of who or what has been excluded from knowledge (such as the influence of gender on a researcher's role), and in the concept of Care-politics-1, to show 'possible' worlds that are ongoing but overlooked.

The idiotic lure that has been set off can then go in different directions. The figure of the idiot can help design researchers to reappraise the world in which we operate and draw attention to other worlds that are ongoing. In the present case, I assumed that my duty was to find or look after the device. Yet the idiot prompted me to step away from these assumptions, and provided an opening to other kinds of logics and obligations of care that were going on: namely, to the obligations of the design researchers on the project in relation to their academic epistemic practices; to the political contexts of participants, in relation to austerity and scrutiny in UK elderly care; as well as to the ongoing requirements of the maintenance and repair of speculative prototypes. The idiot can also help us to slow down and question our ways of proceeding with our accounting processes, to not assume that conventions for acquiring knowledge (in this case, a visit seeking answers) are the best approaches. Therefore, in considering how to care for this account, the idiot provoked an overlooked story, denaturalised care away from being a moral duty, and summoned disconcerting moments. The use of the idiot also resonates with Sonia Jerak-Zuiderant's (2020) proposition that ways of caring for accounts should be an open question.

But I also understand that the idiot can only get us so far. It can help the researcher to slow down, and speculate, but it does so with indifference; whereas to hesitate as a way of 'staying with the trouble' as care, requires a response (López-Gómez, 2020). We also need to be careful with the idiot when, as was the case here, to attend to the overspill, its

un-affective disposition had to be tempered with care as the doing of the search raised ethical sensitivities. Indeed, part of the challenge in this case study has been to connect with a care home that neither I nor the IRS have been in contact with before. In my case, this has involved practical tasks related to communication, such as calling the home and connecting with researchers, that are “difficult to value, to reduce to a schedule...” (López Gil, 2007), and making affective relations that are not normally considered in academic scholarship (Puig de la Bellacasa, 2017, p. 62). In being careful with the idiot, I also wonder if my idiotic slowing down went too slowly at times? Because although this was compounded by Covid-19 lockdowns when it was unethical to contact the care home, from the perspective of the device care this hesitant pace may not have been appropriate, especially if it had been thrown away in the timeframe of my search. It is therefore important to realise that the slower pace of the idiot might not always match the temporal frame of a required response (Farías, 2021, p. 37). Furthermore, we also need to be careful of situations when the uptake of the notion of the idiot suggests that the researcher might need to resist the consensual use of that very notion.

Caring for idiotic devices

Does this story offer insights on the ‘aftercare’ of an idiotic device? For Michael, the scope of idiotic or speculative processes take place *during* the research event. He argues that once the idiot is ‘deployed’ is it no longer an idiot because “we have also tamed it” (2012a, p. 536) as our assumptions have then been questioned and the possibilities for inventive problem making and speculation decline. Given this, we might assume that the Photostroller is not followed up on because the mutuality of research event is over and, as in this case, speculation on computational technology in elderly care was achieved. However, because idiocy is also described as an epistemic process of ‘serial’ open-ended-ness, then there is the possibility that this seriality might extend beyond the confines of that original research event, to inform (as I have presented in this chapter) the ways in which we can attend to its overflow. Furthermore, this seriality implies the potential for the idiotic research device to be supported to occasion further speculation.

But what might this involve in practice? Returning to the empirical material, I have described how changing the setting through re-deploying the device to a new care

home engenders an overflow, but also arguably lures speculative possibilities with new participants. In the present case, this was accidental, when (as I found out) Jacob House was closed in 2012 because it was a 'prime site' to be redeveloped for luxury flats. Mark rescued the device and moved it to Howard House at that point. However, what can also be heard in the comments from Nadine and the nurse on the 'facilitation' or 'coordination' of the device, is that for the Photostroller to occasion further idiotic open-ended speculation (or even just use!) requires device-care: technical maintenance, repair, and staging, in order to access the common understandings and assumptions that the idiot would help us to question. This correlates with Stengers' argument that for an idiotic process to have impact it needs other mechanisms to take part in the staging of the issue (2005, p.1002). Here, I propose that re-deployment, care through a doing of maintenance, and re-staging may occasion *further* speculation with a research device. Having said this, even with staging, speculation through the idiot is not a given (Wilkie et al., 2015, pp. 98-99, referencing Stengers 2010) – it is a decision. We, and others, as this case shows, might be busy doing something else instead.

Conclusion

This chapter has provided an account of how the epistemic figure of the idiot and a care sensibility are employed in research through the situation of a project search. I have also described different versions of Care-politics encountered in the search. I noticed a decade-long re-deployment of an artefact of design research (that operated with Care-politics-2), located in a care home (Care-politics-5). This noticing came about through both a care sensibility towards the overlooked (Care-politics-4; Care-politics-1) and the idiot's attention to overflows. In the literature so far, the idiot and its associated behaviours have been applied to either speculative design artefacts, or to overflows of research, but not, I would argue, to the overflow of a speculative design artefact. This is also more generally to say that the ongoing stories of research devices are not typically considered in design academic accounts, once the speculative event is over, and where novel devices are privileged over the existing. While one argument is that once a speculative research event is over, we cannot expect an idiotic object to remain idiotic in its behaviour, I propose that idiocy may beget further idiocy. This includes

the ways I have noticed and accounted for this missing speculative device in this case study. I have used idiotic behaviours of slowing down the search, to consider what has not been taken into account. I have added to knowledge from the original research event, including human and non-human relations with technologies (the requirements of maintenance of the Photostroller) and as well as the contexts that the artefacts are deployed within (the more recent political context of care homes). I have also proposed that acts of re-deploying and re-staging the existing artefact may still open possibilities for speculation from participants.

The idiot has also helped to keep the question of how to care for our accounts an open one, to not assume that caring for accounts should involve moral duties. But to attend to this overflow I have also used care as a modality of practice. So what difference has care made to this account? Care has helped to affect the 'doing' of this account with a sensitivity to ethics and politics in the obligations and practices at play. These are values that support the indifferent, insensitive idiot. Furthermore, care draws attention to the researcher's relationship to the settings, participants and research devices once the initial deployment is over. Although there was a mutuality between the obligations of the IRS and the context and participants of elderly care in the original research event, academic obligations limit what is, and is not included, in accounts of practice. Re-accessing accounts was not straightforward, and the times when I was calling the care home during the pandemic, I wondered if this ongoing account really warranted revisiting. Finally, care has also made a difference in how I present the knowledge in this chapter, to describe how I affect and am affected by the thing I research (or Care-politics-1). I have drawn attention to the unplanned arrival of the project, prioritised descriptions of the transmission of affects, relations, and tasks of mundane communications, again, not typically considered in design research accounts. And while the desired, or assumed outcome, was either to recover the Photostroller and bring it back to the IRS project archive, or to find out what happened to it, or leave it in use, it nonetheless remains an account with an open ending.

7

Towards a care sensibility in design

Introduction

In this final chapter, I revisit the research questions raised at the beginning of this thesis. To recap, they were: Why should care matter for design? What versions of care operate in design? What emerges when design research and teaching, concerned with inventive problem making and speculative processes, is approached through the lens of a feminist matters of care? Moreover, what are the pitfalls and constraints of care? Methodologically, I have addressed these questions by developing case studies that have let me participate in and observe multiple versions of care in design. I have intervened in design research and teaching settings with projects that seek to understand how care, described as an affective practice with ethico-politics (Puig de la Bellacasa, 2017, p. 4-7), changes my involvement in my scholarly work. I have taken the description of care from feminist STS scholarship seriously, and it has recurred through this doctoral research. This description maps onto key contributions I will describe, and that cut across the chapters, to argue that focusing on care as an affective and ethical practice is a promising approach to design research and teaching. This thesis makes three key contributions. First, I develop a typology in order to differentiate between versions of care, and their instantiations in design practice, and I show that orderings of care can change over time. Second, I reveal pitfalls and constraints for working with care – including situations when

affect becomes gendered and where care practices of repair and maintenance limit ‘the new’ that is associated with design. Lastly, I take up feminist ethics towards inventive problem making in speculative processes and develop a contribution of ‘inventive ethics’. This is also to say that this research takes key concepts derived from STS, such as inventive problem making and the figure of the idiot, already applied to the analysis of design research. Throughout, I describe how the thesis contributions may be further developed. I end by considering future directions for this research that aim to expand on the conceptual, methodological, and practical relationships that have been made.

Exploring care in design

Care is not a new topic in STS or design, but a key contribution of this PhD study is to identify and differentiate between versions of care, or ‘Care-politics’, versions that I have also identified operating in design. This contribution is first of all an important addition to the discussions on care in feminist STS, where scholars have called for ways to organise different enactments of care in order to debate what is meant by care (Mol et al., 2010, p. 7; Martin et al., 2015, p. 6). It is also a significant contribution to design because, before my typology, previous design literature typically lumped care together as ‘one thing’, or only associated care with feminised, emotional work in typical care professions. In other words, this research makes an important clarification for the wider discussions on care, which is also helpful and necessary for understanding care in design.

Crucially, I have adapted Latour’s approach to the adjective ‘political’ in *Turning Around Politics* (2007) to develop the notion of ‘Care-politics’. Just as ‘everything is political,’ when ‘care is everywhere’ it becomes meaningless and so it is important to distinguish between different types of care. By keeping ‘politics’ in Care-politics, I have foregrounded how “acts of care are always embroiled in complex politics” (Martin et al., 2015, p. 3). In Chapter Two, I identified five different types of care that I named Care-politics-1 to -5: Matters of Care (Care-politics-1), Concern (Care-politics-2), Pastoral (Care-politics-3), Feminist Epistemologies (Care-politics-4) and Biopower (Care-politics-5), and as a ‘Typology of Care-politics in Design’. Through my typology, I identified variations of care in design practice and allowed for different versions to exist simultaneously. In other words, the point is not whether there is care or not, but that there are different

types of care in design. The typology provided me with an analytical tool to review the literature on care and prior design examples. It also provided me with a way to examine the empirical case studies in this thesis, to trace the different meanings and applications of Care-politics in practice. I intervened in making Care-politics in my case studies of a conversation at a design conference centred around an issue of concern, through teaching briefs guided by Care-politics-1, and the search for a missing design research device, lost in a care home. I argued that to study care in design practice and remain open to multiple versions of care that are operating, I principally used a method of participant observation, as well as interviews to capture descriptions of practice, and through collaborative arrangements with other researchers, students, and educators.

Using the typology, I have critically analysed how the student responses to the 'Caretakers' teaching brief enacted the Care-politics I had already identified. For example, one student project that took a car driver participant and attempted to 'nudge' his behaviour to become a cyclist through producing a public-information film enacted Care-politics-3 (pastoral care). Moreover, the search for the missing Photostroller simultaneously occasions Care-politics-4 (a feminist attention to overlooked or hidden care roles and maintenance labours as indicative of 'gaps' in knowledge), Care-politics-5 (in routines of the care of the elderly), Care-politics-2 (where research devices emerge through and provoke issues of concern) and Care-politics-1 (non-human machine care and the temporality of its ongoing use). Practically, I used the typology in discussions with lecturers and tutorials with students to flag that there are multiple versions of care that operate in design. I did not explicitly refer to the different Care-politics identified in those situations because I wanted to keep open to these and other versions of care potentially operating in practice.

If one project could have three simultaneous types of Care-politics, they could also change over time. Latour's model, described in *Turning Around Politics*, provides a temporal dimension. Latour asks, "are we able to qualify different moments in the trajectory of an issue with different meanings of the adjective 'political'" (2007, p. 815) and offers 'Politics 1-5' to follow the different aspects of the same issue. This point about temporality resonates with discussions in the social sciences on how practices and materialities of care are not static but change over time (Fox, 2016; for example, how the design of hospitals provides a snapshot of different models of care in particular times,

e.g., Miller, 1987, p. 124). Following this, the typology also offers a way to capture the continuity and change in Care-politics as they shift through the course of a design project. Applying this temporal lens towards the analysis of Chapter Four – the collaborative conversation on sexism that took place in the DRS conference – I can see how the design of the conversation operated with Care-politics-2 (by raising gender bias in academia as a matter for discussion), Care-politics-3 (when our approach of flattening the hierarchy devolved responsibility to create a pastoral version of care) and Care-politics-4 (our interest in the genderscripts of overlooked, mundane materials such as timetables and reading lists), and how our various activities foregrounded these Care-politics within the same 90-minute session and moved the issue of sexism through them.

The typology therefore enables a sociological analysis of the Care-politics that arise in different situations, to ask *why* were specific versions of Care-politics at play here, and why were other versions absent? For example, when we focused on the gendered bias in administrative and teaching materials in the Design academy, this was partly because we wanted to attend to scripts in the materials of this workplace, but also because we were concerned with how to hold a potentially difficult conversation sensitively and the focus on materials would help to direct the spotlight away from ‘naming and blaming’ individuals. Care-politics-4 (feminist epistemologies) is foregrounded at these moments, and concerns with how overlooked non-human actors are embedded in practices that materialise gendered discrimination. But the decision to flatten the hierarchy of participation worked to distribute responsibility for the ongoing care of the issues raised to the conversation participants, curtailing the commitment to an ongoing ‘doing’ of Care-politics-1, and instead remained as Care-politics-2, gathering a matter of concern, and foregrounding Care-politics-3 and a reliance on others to do care. This is also to say then, that the Care-politics are situated in and contingent on the issues and proceedings at hand.

Overall, the typology is an important analytical tool for designers and social scientists who seek to understand how care is not a simple, single configuration. It makes it possible to identify multiple arrangements of care (Mol et al., 2010), the political ‘worlds’ they bring with them, and how, when and why within our practices we invoke different Care-politics, including versions that we may not intend to invoke.

Pitfalls and constraints of care

Matters of care is presented as having both possibilities and problems (Martin et al., 2015) – with potential as a reflexive feminist ethic for knowledge-making practices but that also has “complex politics” (p. 3). An exploration of the pitfalls and constraints of care was made possible in my research in three ways: through a focus on how the ‘affect’ of care can be genderscripted, through methods of repair that restore the present, and by disrupting care as a moral obligation.

At Care-politics-1 in the typology, I described how feminist STS scholar Michelle Murphy has urged an “unsettling” of care as a critical practice, and this involves noticing if and when care gets automatically associated with comfort and warm affections (2015, p. 717), in other words, a positive, affirmative care. I introduced literature that described how care could be easily associated with emotionally charged affective protocols – such as sitting in circles and taking turns to share. In other words, at the same time as the requirements of a practice of care emerges from situated relational arrangements between human and non-human actants, care also has specific ideas that stick to it. This is problematic because it limits and contaminates conceptualisations and practices of care to something that is automatically ‘good’ (Puig de la Bellacasa, 2017, pp. 10-11) and it is necessary to recognise that care has pitfalls and constraints. In this thesis, I analyse how and when these pitfalls are manifest in the practice of the case studies, as a contribution to unpacking how meanings of care can be reenacted.

Returning to the account of the conference workshop that aimed to explore the possible genderscripts in university administrative materials such as course timetables, reading lists, and job advertisements, I analysed how another genderscript was made on an affect of care. To return to the definition of care as an affective and ethical doing, this case study required a review of ‘affect’. Using recent literature on affect from human geography (Anderson, 2014), I understand that human and non-human phenomena have affective capacities, and that the transmission of affect can be organised. So, keeping in mind Murphy’s argument of the conflation of care with warm feelings and affection, I suggested that care itself can come with a set of ‘positive’ affects, that these affects can attach to human and non-human things, and that care is something that affects attach to. I argued that when we organised a participatory format that was supportive

and affirmative – including collectively developing the ethical guidelines for the session as a way of ‘caring for the conversation’ and enquiring into the participants’ feelings at the start and end of the session – this scripted an affect of feminised care to the conversation. In this academic workshop setting, on this specific topic of gender bias and where there was an explicit aim to care for a concern, I found that these affective protocols contributed to an atmosphere that was not useful to the issue at hand (sexism in design) and tied caring for gender issues to the ‘naturalness’ of women’s caring. The ‘positive feelings’ that are a pitfall of care were designed into the event’s social interaction and served to reproduce the very systems that it was set up to interrogate.

By providing an empirical example of the equation of care with positive affects, this analysis feeds back into the doing of Care-politics-1 and the requirements of critically examining care. It also helps me to understand that there are some concerns for which care may not be possible, or appropriate, particularly if it is only left to those affected by an issue. Moving forward, this case study suggests that for designers and social scientists engaged in these types of gender matters of concern, an understanding of the narratives within Care-politics-4 – where a normative and essentialised ethics was both developed and critiqued – would sensitise them to legacies of care that may be operating. Reproducing these problems with Care-politics-4 may be therefore avoided with this knowledge. Furthermore, by capturing the ways in which the arrangements of the DRS session – the format and the interactions – became attached to an affect of ‘feel-good’ or feminised care, I have argued that atmospheres and social interactions can also be scripted with a gendered affect, thus bridging affect and script theories. Therefore, this analysis contributes to existing scholarship on genderscripts, scholarship that has so far focussed on the design of products, services and digital interfaces that shape and are shaped by gender, but not the scripting of gendered atmospheres.

The practice of Chapter Five reveals a constraint of care. Maintenance and repair activities are typically connected to a care practice (Duclos & Criado, 2020, p. 159). An attention to maintenance practices has long been recognised in STS, but is less dominant in Design (cf. Irani & Silberman, 2009; Jaque, 2018; Rosner, 2018). I described activities developed as part of the Caretakers teaching brief that promoted a method of repair and ongoing tinkering with existing objects and sites (Mol et al., 2010, p. 14). The analysis of the students’ responses brought me to a question about whether repair

and maintenance methods are antithetical to creating new arrangements of humans and non-humans – an ambition in design practice. This question was aligned with a similar tension raised in Participatory Design, between supporting existing practices ('tradition') and enabling new ones ('transcendence') and how design should seek to bridge the two (Ehn, 1988, pp. 128-131). I understood that repair and maintenance as a practice of care does have speculative qualities, such as helping to draw attention to overlooked actants (for example, in roles, Shapin, 1989; infrastructures, Star, 1999; and technologies, Suchman, 2007, p. 219). The speculative qualities of maintenance were seen in the student project that made devices to remove the graphic-designed stickers on the walls of a residential complex, and that provoked ethico-political trouble in the cleaning of this designed space (Hou & Liu, 2020).

However, at the same time, care, and activities of repair, can literally maintain or prolong existing orderings, as seen in the student response that elevated the representation of slowly fixing holes in fabrics and objects. For design educators and researchers who promote a form of practice that involves redoing and remaking the already there, including through acts of maintenance and repair, it is important to acknowledge that a constraint of care is that it can restore and make stable existing artefacts and their ontologies. Discussions and design activities around 'who' or 'what' is being maintained should be factored into teaching briefs. Furthermore, it should be said that there was a general assumption among some of the design students we worked with that maintenance, administration, repair and tinkering activities were challenging to their perception of design practice. Therefore, while STS studies on maintenance and repair are useful for designers to expand our understanding of sociomaterial work, there are challenges in taking an STS-Design approach that seeks to decentre innovation at the same time as promoting the making of something new. The Caretakers projects that *did* manage to make new arrangements bridged 'tradition and transcendence' (Ehn, 1988) through reconfiguring human and non-human arrangements in the situations of their projects, and through a recognition of emerging ethical problems – a contribution that I will come to in the next section.

A further pitfall of working with care is the view of care as a moral duty or obligation. To unsettle this, in Chapter Six, I drew on Stengers' notion of obligations (2010, pp. 49-55), which was adapted by Puig de la Bellacasa towards a discussion on ethics (2017, pp. 151-

154). Stengers argues for an understanding of obligations that are immanent to practices, and that produce constraints that are not limiting, but enable a specific practice (2010, p. 42). I used this understanding to approach the question of ‘what has been cared for?’ in the still-in-deployment, unknown story of the Photostroller research device. What are the lessons here for researchers, particularly those concerned with exploring and accounting for overspills of sidelined practice, as in this case? It is important to understand that different practices – in my study, those of the IRS and the care home staff – have different ethical obligations that define and enable the possibilities of a practice – that is, of academic knowledge production, and of the elderly residents. This understanding of obligations contributes to the view that configurations of care are relative to and emerge from the constraints of a practice. It enables me to avoid taking a moral standpoint that would have been easy in this case, such as that participants and collaborators had been neglectful towards the device in this study, or that they ‘should’ have acted in a certain way, such as maintaining relations with participants over an expanded timeframe. Instead, it promotes an engagement with the specificities of ethics as related to the constraints and obligations of design research practice and nursing practice.

Inventive ethics

What I have found in this thesis is that the concept of Care-politics-1 from feminist STS brings about new ways of working with and doing ethics in design practice. This comes about through the dimension of ‘ethico-politics’ in care. As I described in Chapter Two, care attunes to exclusions, but exclusions shift over time, and this distinguishes care from concern. However, Puig de la Bellacasa’s written, philosophical accounts of speculative ethico-politics are not necessarily easy to relate to a material practice in design. In this research, I have provided empirical accounts of ethics in design practice considered as speculative and inventive problem making.

In Chapter One, I argued that ethics in design and design education are considered underdeveloped. I described how ethics are typically restricted to normative codes or explicit institutional ethical guidelines typically adapted from the social sciences (which is, in part, also an approach to ethics taken in this research, described in Chapter

Three). Ethics are often seen as a negative problem, written and reviewed before any practice proceeds. Furthermore, I argued that practices of SCD displace ethical issues to imagined social contexts, rather than considering the ethical implications of the design work itself. I also described in Chapter Three how the approach to design in this thesis is to understand that solutions are temporary and will inspire problems, a process described by Michael as “serial inventive problem making” (2012b, p. 178).

In Chapter Three, I made a distinction between an ethics of care from feminist scholarship in the 1970s and 80s that set out normative values on what ‘good’ care entailed, and an understanding of ethics from feminist STS that is a “speculative ethics” (Bellacasa, 2017) or “empirical ethics” (Pols, 2008, 2015) (also see Lindén & Lydahl, 2021, p. 5 on this distinction). A speculative ethics indicates that what is ‘best’ or ‘good’ cannot necessarily be known in advance, but emerges from relational encounters in shifting situations, or in other words, considers ethical problems to be made in practice. I aligned this with Fraser’s (2010) suggestion to let problems ‘speak’ in inventive ways. Then, in Chapters Five and Six, I described how Fraser’s arguments have been taken up by Michael (2012a, 2012b) concerning inventive problem making in speculative design processes. But while an aspect of Fraser’s original argument is an attention to ethics in problems, when Michael takes up inventive problem making to speculative processes in Design, he does not explicitly point to ethics as the problem to be acted upon through design. What I clarify through this thesis is that ethics are immanent to problems, they inhere in problems. Therefore, if Michael has contributed the notion of inventive problem making in design, then this thesis adds to this notion with a methodological contribution of ‘inventive ethics’ in design.

An important upshot of the analysis of Chapter Five is that emergent ethics in the specific situations of practice were productive for re-directing and extending that practice – for inventive problem making. The attention my analysis brings to ethics as being productive in this regard is significant because it has not necessarily been evident how to accomplish inventive problem making in design (Lindström & Stadhl, 2014, p. 51); because speculative design prototypes have been “characterized by their ‘idiocracy’ of dealing with the complex and elusive, rather than the actual process of ‘inventing problems’” (Jönsson, 2014, p. 124); and because there has been a focus in SCD of staging encounters between speculative artefacts and generalised audiences, rather

than speculative processes that can be made and learnt (Guggenheim et al., 2017, p. 145). A key difference that a care sensibility has enabled in this research is the insight that speculative processes of inventive problem making include ethical problems. In other words, inventive problem making begets inventive ethics making.

This insight first emerged from my analysis of the ‘Caretakers’ teaching brief. I gave detail to student projects that invented problems in their settings, through processes and outcomes that provoked issues, and transformed research questions and existing arrangements of humans and non-humans. ‘Re- methods’ – such as the repair exercises in ‘Caretakers’, and the rehearsal in Chapter Six – were an approach taken to open up the unfinished or unexpected consequences, including ethical consequences, through re-considering already-there objects. It also required a responsive reformulation of teaching approaches. Furthermore, I described the ethical consequences that emerged unexpectedly in some of the students’ responses. The design students who made the project *Right Old Laugh* (Ju et al., 2019) realised that what they had been caring for in the workshop to repair the café’s Google reviews had shifted, that ethical trouble had emerged through their interventions. They had ended up in possession of the participants’ confidential data, such as passwords. Rather than brushing over this as an inconvenience or a failure, we encouraged the students to make further material responses, to extend the practice. They then made a guide and workshop for elderly participants on using Google accounts. When another group of students designed bespoke cleaning tools to remove the stickers from a residential space, they inadvertently took away valuable information required by a tenant, but re-directed their practice to attend to this issue through the sticker archive (Hou & Liu, 2020). In these examples, the material and spatial requirements of design were idiosyncratic and related to concrete situations, but these situations were revealed as precarious and unpredictable when ethics emerged.

Similarly, in Chapter Six, when considering the different obligations in the practices of the IRS, the care home, and my assumptions about locating the missing device, I slowed down to stay with potential trouble, and then re-routed the practical doing of the search towards rehearsing a phone call to the care home with a researcher from the project. This was a method of accessing the possible ethical consequences of this act, and is another example where responding to ethical trouble was used to shift the direction of practice. This case study also offered a way of asking questions about what

happens when inventive problem making projects are over, or to not assume they are finished, as after-the-fact ethical problems may have arisen. I was able to add to accounts of knowledge using the overflow, including descriptions on the contexts that the artefact was redeployed within (e.g. the recent political landscape of care homes), and interactions with the device after the researchers had moved on, including the requirements for the maintenance of the Photostroller.

Care has therefore brought attention to how I affect and am affected by ethical problems in my research. I argued that to attune to ethical troubles (such as worry or embarrassment that a designed object or process had created a problem) involved an affective method of disconcertment, but is by no means predictable in practice. In Chapter Six, tuning in to disconcertment on unexpected ethical problems helped to draw attention to the shifts of what 'we know' in our practice – a speculative attention. Furthermore, enabling the ethical problem to 'play out,' that is, not to see the problem as a failure because it was not spotted upfront, can help to choose which actants to follow and to make further interventions, invent further problems. In other words, I have described speculative processes in this thesis that are not a 'leap' of imagination authored by the designer that is then given form through designed objects, as in SCD, a dominant version of speculation in design. Instead, the speculative processes in Chapters Five and Six were not guaranteed but achieved through recognising emergent or unexpected ethical arrangements in design practice, and using them to reroute and extend that practice. This can also be thought about in relation to the shift from matters of concern to matters of care, where rather than stopping at the discovery or articulation of a matter of concern through designed outcomes, design as a matter of care would respond to the fragility of those arrangements.

In this way, this thesis contributes inventive ethics to the field of design research and practices concerned with understanding processes of speculation and inventive problem making. By contributing empirical descriptions of speculative processes and care processes so that they can be understood and learnt, I hope this research is of interest to scholars, design educators and students working with speculative processes.

A contribution to STS-Design

This thesis contributes to ongoing disciplinary crossovers between Design and STS, by using feminist STS as a theoretical and analytical resource for re-thinking design research and teaching interventions ‘with care’. But this research also takes up other approaches used by STS in processes of knowledge production, and by drawing on the figure of the idiot in Chapter Six, I have begun to work with conceptual figures in design research. In STS research, figures are conceptual characters that have been observed analytically in sites of production, to think through accounts of science and technology, (e.g. the figure of the cyborg is used to provoke and complicate relations between humans and technology by Haraway, 1997, p. 179), and crucially, they are emergent and empirically based. I have described how, in design research, figures have been used to explore how designed objects eventuate speculation (Michael, 2012a, 2012b, Wilkie et al., 2015). The use of figures in this thesis draws on but also contributes to empirical-theoretical work in Design and STS. In the process of searching for the Photostroller in Chapter Six, I provide a description of how and when I embodied the idiot in practice, thus contributing to the call for more transparency on speculative processes (Guggenheim, Kraftner & Kroll, 2017). Furthermore, I show that there are limits to the use of this figure as a solitary device, because other figures emerged and different sensibilities were required in the process of the search. This latter point corresponds to recent arguments that the figure of the idiot needs to be supplemented with other additional figures, and to recognise that an “ecology of values” is in play to promote speculative processes (Wilkie & Michael, forthcoming). In my case, to attend to the story of the missing device, idiotic processes that helped to question what was known/unknown were also moderated with an ethical and affective doing.

The intersection of the figure of the idiot and other values of care were considered in the Photostroller search. To give this more detail, first I argued that the missing device was an overflow of practice. An attention to overflows has been proposed by Michael (2012a) through the figure of the idiot (derived from Stengers, 2005, p. 994) because it provokes us to examine what is known and not known in our practices. I argued that this attention to overflows also resonated with aspects of care sensibility that draws attention to the “neglected things” in our knowledge (Puig de la Bellacasa, 2011, p.94).

Then, I questioned whether idiotic processes had helped me further, in the process of searching for the Photostroller. I argued that the figure of the idiot was embodied and deployed in the actions and artefacts of the process at some points, but at other points, a care sensibility was required. I found that the idiot was useful to slow down and question how to care – to not assume that caring for accounts should involve moral duties or a pre-ordained outcome of what was best. In other words, the idiot helped to mitigate the normative, essentialised aspects that are easy to slip into when working with care, and to keep open to the possibilities for how to care in a situation of practice. I first encountered this ‘slip’ in the DRS Conversation. However, the idiot could not access affective processes, nor could it propose how to proceed and make a response. For this, a care sensibility mitigated the idiot. Care has helped to affect the search with a sensitivity to ethics and politics in the obligations and practices at play – values that support the indifferent, insensitive idiot. A care sensibility let me access a feeling of disconcertment about the potential implications of cold calling the care home after a decade of minimal follow-up, and led me to rehearse this phone call interaction as an ethical problem, previously discussed. Furthermore, a care sensibility also drew attention to the requirements of maintenance work (of the IRS team and the caretakers and nursing staff) for the upkeep of the Photostroller and, therefore, the device’s potential for occasioning speculation on technological aesthetics and older people.

By drawing on STS approaches, I am also able to consider how additional figures in this chapter might engender different Care-politics. If the concept of Care-politics-1 (matters of care) requires a different pace, then the idiot helped to slow down and question the possibilities for care in a situation. Then, if Care-politics-1 and Care-politics-4 (feminist epistemologies) share ‘tuning in to neglected things,’ including invisible labours, then the figure of the Invisible Technician (Shapin, 1989) signals the assembling and maintenance labours that are typically written out of technoscientific discourses. The nurse’s story of caretaking activities, including the Photostroller’s use and storage, signal this additional figure that supports the idiotic or speculative prototype to do its work. Furthermore, if Care-politics-1 involves ways of unsettling care as affirmative, ‘nice feelings’, and instead to understand that ethics of care emerge from practical, material and affective obligations and constraints (Bellacasa, 2017, pp. 152-153), then arguably the figure of the Diplomat (Stengers, 2005, p. 1002) can also

be seen to emerge through capturing the divergent obligations and constraints of the researchers and the care home staff.⁸⁰

But to work with figures and figurations does not mean we have to accept those figures that are already there – we can invent new ones. This leads me to consider a figure of care. This is also to say that in Chapter Six, when I empirically explore the idiot and other figures, and their associated behaviours, I am aware that I do not discuss or propose a figure of care, or perhaps a figure of ‘the carer’ at this point. To motivate the contribution on inventive ethics towards figuration, I propose the figure of the carer to be the one who registers shifts in the ethical conditions of specific situations and forms a response. This will be a useful figure to take to future directions in design research and teaching, as a critical analytical lens on ethical shifts that promote speculative processes and practice.

I hope that social scientists and designers find this thesis a useful example that offers ways to intersect STS thinking and written outcomes with practice-based research. The methodology chapter is positioned between disciplines and offers an example of a practice that combines inventive approaches from social science and design research. My approach to writing the case study chapters, perhaps notably in the chapter on the missing Photostroller, mixes descriptions from the research process, and material artefacts along with empirical analysis and concepts from STS. It is an approach that I am keen to develop further, including on projects that revisit prior, overlooked studies of design research artefacts and technologies.

Future directions

As I conclude this thesis, I reflect on this study’s conceptual, methodological, and practical potential for the research beyond this thesis. Conceptually, there is the possibility to develop the typology because is not fixed and can be added to with additional examples of Care-politics. Researchers in the social sciences and design can use the typology to trace versions of care operating in practice, to understand what types of care are being enabled through design, and what types are not, and to adjust practice if required. In

⁸⁰ Relatedly, design scholars Tom Fisher and Lorraine Gamman use the figure of the trickster – a figure that provokes and unsettles, rather than provides solutions – to inspect the challenges for ethics in design when it is confronted with complex ‘wicked problems’ (2019, p. 2).

other words, it can be used to promote a critical literacy on different types of care. I also see that the lens of the typology can be conceptually applied to the work of other authors writing about care, to bring another form of specificity to the types of care in the case studies they describe. For example, in their introduction to a special issue on *Materialities of Care*, social scientists Christina Buse, Daryl Martin and Sarah Nettleton (2018) offer a material focus to care through three themes – spatial, temporal and practice. A spatial focus prompts a consideration of how care is configured or facilitated in different spatial contexts; a temporal focus relates to how care infrastructures can be made out of routine activities; and a practice focus gives attention to material and bodily action. This material focus is clearly useful for designers, but if these themes were added to with the typology of Care-politics, it would offer a way of locating a spatial example of Care-politics-5, or a temporal example of Care-politics-1, and so on. The arrangement of furniture in medical examination rooms that works to restrict and direct the patient's bodies is arguably a spatial example of Care-politics-5, for example. The typology therefore offers a further way of being more specific about the types of care we are encouraging through designed materials. It also has a potential application as a teaching activity, inviting design students to identify different types of Care-politics in designed material, spaces, rituals, practice, etc., and at the same time understand that these materials may not fit the typology, which can then be extended.

A concept that has been minimally addressed in this thesis is cosmopolitics, or the composition of an 'ecology of practices' (Stengers, 2010, p. vii) that contribute to making the "good common world". It is an unspoken conceptual backdrop to the perspective taken in this thesis. For example, the figure of the idiot, used in Chapter Six, is Stengers' proposition for ways to slow down the making of the common world, and to question what is 'good'. But there are other aspects of this thesis that could be reconsidered or reworked using a cosmopolitical sensibility, including the use of the typology. To develop the application of the typology for practice and empirical analysis, the various Care-politics I found can be taken and understood as operating amongst 'ecologies of care practices'. This would seem to offer a way of describing how multiple Care-politics can operate simultaneously in practice – such as the array of different Care-politics in the students' Caretaker projects that came out of the same brief. Thinking with an ecology of care practices could also offer a way of framing different registers of care

in the various case studies, such as how care was an aim of scholarship, a method of doing and a political issue (the precarity of care homes). This latter use of an ecology of practices for the purposes of care resonates with an approach taken by the organisers of a Salon centred on STS-Care that I have been involved with during my PhD (Nicholls, Vu Henry and Dennis, 2021, pp. 65-76) as part of CISP at Goldsmiths, discussions that have greatly contributed to the thinking in this thesis.

Next, I am excited to take the contributions back to research and teaching as methodological and practical extensions of this research, including with colleagues I developed relationships with as part of this study. I hope to do this in contexts where STS already contributes to Design, or where there is the opportunity to develop this further. In addition to the use and development of the typology as I have described, based on this research's findings, I would like to encourage further exploration of the inventive quality of ethics in design practice and the figure of the carer. I am developing ways to do this in teaching, by iterating lessons from the Caretakers brief. This involves changing the temporal timeframe I teach and research within, so that ethics-in-the-making are given time to emerge and be acted upon. In one project, I have redesigned the typical structure of the module to create a 'false end' three weeks before the 'official end' of the module, so that the students work towards a set of outcomes, but then also have time to reflect on potential ethics that have emerged, that can be followed to invent further problems. Similarly, the NOT workshop described in Chapter Five will also be iterated, to be used as a way of accessing the excluded or neglected things that reside in the student projects, rather than in response to issues in newspaper articles that we organised in the workshop. Therefore, it is teaching briefs that will initially enable a continuation of the contributions described in this chapter, including extending the typology, and the question of why care should matter for design into practice and teaching. Because although care has pitfalls, and it can be made in multiple ways, by designing with care in this thesis I have stayed with what was sidelined after a research project was published; I have promoted a situated and affective research practice; and I have become better equipped to deal with uncertainty in research, by considering emergent ethics as productive for inventive problem making and speculative processes in design research.

Appendix

A1: 'Caretakers' teaching brief

IS CARE ALWAYS ABOUT BEING NICE AND LOVE HEARTS AND HOLDING HANDS? AND DOES DESIGN HAVE TO BE A PROCESS, LIKE CONSULT> RESEARCH> IMAGINE> PLAN> CREATE> TEST> REPEAT>>>>>?

IN THE PROJECT CARETAKERS WE WILL THINK THROUGH AND PRACTICE HOW AND WHY CARE MATTERS FOR DESIGN...

WHY CARE?

On the surface, the question of care in design may seem to be obvious. Surely care is already part of design's core assumptions? If we consider design practices and their outcomes, then we see care everywhere. As design theorist Lauren Vaughan observes, care is made manifest in the design of materials, communications, products, services, buildings and infrastructures that 'do care' in any number of settings [1]. For example, in the domains of health, social care and education we see care in design operating in standards and performance measures, in design that celebrates hand-craft, in design that protects or mitigates risks, in design that gathers publics around matters of concern, or design that asks questions about 'who' or 'what' does care. As social scientists Rob Imrie and Charlotte Bates argue, writing in the context of urban design, there are diverse understandings and approaches to care in design [2]. However, while care is a core assumption and key preoccupation of design and the design of objects, experiences and the built environment, for instance, our understanding of the notion of care in design remains poorly understood in design discourse and practices [2]. So while care in design seems obvious, we think it is underexplored.

In this brief, we want to work through what care might mean in relation to our design practice. Can we redefine what is meant by understandings and practices of care through our work as designers? Can we imagine new ways of practicing design by examining the role of repair, maintenance and tinkering? Can we craft affective engagement? And attend to ethics that arise?

[1] Vaughan, Laurene, (2019) *Designing Cultures of Care*, Bloomsbury Visual Arts, London.

[2] Bates, Charlotte, Imrie, Rob and Kullman, Kim. (2017) *Care and Design: Bodies, Buildings, Cities*

In this document you will find:

- i) an **overview** of the brief and the phases of the project.
- ii) a **timetable of the scheduled activities** that will be happening. This will include tutorial dates, deadlines, presentations.
- iii) a **set of exercises** for a variety of activities for students to tune in to different practices of care. Some will be scheduled; some are unscheduled and can be done in your own time. Please note the different start times of exercises.
- iv) additional **readings/sources**.

OVERVIEW

There are three main phases for the project.

Phase 1: Tuning-In to Practices of Care (Weeks 1-3)

The first thing we will do is take a diagnostic together about how we should set up a practice, what tools/tech we can use, where we all are located. This is a new experience for all of us and we want everyone to be involved with the decisions on how to work and support each other.

The first phase is about tuning in to different practices of care as a set of actions. It is also about looking for and listing care in the current crisis of Covid-19. The first phase does not follow a linear iterative path, but provides a set of exercises that you can engage with. Some exercises will be scheduled (see timetable and exercises for details) and will be introduced with talks/discussions. The scheduled exercises are: Setting Up A Studio, Lists of Care In Covid-19, Digital Cleaning, Damage Detection with Celia Pym and Look After Something For One Week.

You will be expected to make reflective documentation throughout the project phases that will be shared with tutors/peers and added to the main submissions of the 'Manuals'. Specific support for this documentation from George Habgood and Alf Ramirez Raymond.

Phase 2: Noticing overlooked things (Week 4)

Week 4 consists of a two-day workshop with Liam Healy. Using a set of news articles, we will begin by mapping practices and relations of human and non-human care. The maps and diagrams produced will be used to ask questions about what is and is not included in configurations of care. You will then develop speculative

proposals that invite, include, amplify and expand overlooked things. These proposals can take any number of forms, for example performances, interviews, written work like poems, sound recordings, or images.

Phase 3: Ongoing commitments (Weeks 5-11)

This phase is about taking up/continuing with/intervening in the ideas developed through the first two phases. You will be supported to decide on ongoing design commitments. We are also open to suggestions here on how to work – so we are open to collectively working on one project where we all take roles, or independently, or two or three projects, for example. This will become clear as the work evolves. Students will be involved in collective decision making. Tutorial delivery with Katherine and Sarah and additional tutors will reflect this choice of direction (i.e. group tutorials or independent). Support for your documentation will continue.

Assessment

The main submission is a Manual – a document of your progression over the project. You will be summatively assessed on your Manual. You will also be required to write a short reflective component to add to your Manuals (of a minimum 1000 words). The details of this will be agreed through tutorials in relation to whether you are working individually or as a group. Formative opportunities to help you to reflect on your learning include workshops, discussion formats and tutorials.

What do we mean by A Manual? A 1000 words submission? A document that reflects on your practice? This is a guide to your Caretakers project. Through it you will demonstrate your critical and contextual understanding of your work and communicate the configurations of care in your projects. Apart from the word count of 1000 words (minimum) there are no hard and fast rules. Ultimately, the way you make your Manual will relate to your project direction. Tutors will guide you in response to your projects. For example, if your main output is an audio work, then you might want to add links to audio in your PDF; if your main output is a collection, your document might take the form of a catalogue with images and writing. You might include background research, projects you have found inspiring, collage, drawings, found writing, sketches, photos, films, audio, scripts, stories – it might be a combination of these things, and more. But this all depends on your project direction. Tutors will also guide you in relation to submissions of students working in groups. In the meantime, as the project progresses, you should develop your writing alongside your exercises and design work. If you can describe and reflect on the Exercises and Tutorials, then you will be developing pieces of writing that could be useful later. You might choose to highlight one or two Exercises that led to your project direction.

Hand-In: All Manuals should be uploaded to the VLE 09.30am, 9th July

For Group projects, each group member must upload a copy of the Manual onto the VLE. Further submission details around the format will follow as the project progresses.

Students who successfully complete this module will:

1. Advance your skills in modelling, prototyping, representing and testing of ideas at various stages of a design process. (Phases 1, 2 & 3)
2. Explore and debate wider implications and consequences of ideas, approaches and proposals. (Phase 1 & 2)
3. Gain a deep understanding of the individual (or collective's) designer's complex interrelationships with design contexts, systems and paradigms. (Phases 1, 2 & 3)
4. Demonstrate an advanced ability to locate, identify and describe emergent issues and discourses in design and futures. (Phases 2 & 3).

TIMETABLE

WEEK	DATES	TUESDAY	TUTORS	THURSDAY	TUTORS
1	28/4 & 30/4	Brief Launch Exercise 1 / Exercise 2	KM, SP, JL	Exercise 3 / Exercise 4 How to Make a Manual, 12pm GMT	SP, KM GH, AR,
2	5/5 & 7/5	Launch of Exercise 5	KM, CP	Exercise 5 - practice	KM, CP, SP
3	12/5 & 14/5	Exercise 5 - practice	GH, AR	Group tutorials on Exercise 5	KM, SP, JL, LH
4	19/5 & 21/5	NOT – description to follow	SP, LH	NOT	SP, LH
5	26/5 & 28/5	Tutorials	KM, LH	Support for Documentation/ Tutorials	GH, AR / KM, SP, LH
6	2/6 & 4/6	Reading Week		Reading Week	
7	9/6 & 11/6	WIP	SP, JL	WIP	KM, JL
8	16/6 & 18/6	Tutorials	KM, SP, JL	Ongoing work	No tutors
9	23/6 & 25/6	Tutorials	KM, SP, JL	Support for Documentation	GH, AR
10	30/6 & 2/7	Tutorials	KM, SP, JL	Support for Documentation	GH, AR
11	7/7 & 9/7	Ongoing work	No tutors	Final submissions 09:30 GMT & Presentations *new* from 10-4pm	KM, SP, JL + guests we hope

EXERCISE 01: CATALOGUING CARE

10:30 GMT TUESDAY 28/04/2020: 60-90 minutes

This activity will allow you to share images, quotations, and readings as a group activity and to gather a set of resources that relate to care.

1. Everyone brings in readings, photographs, quotations, or objects etc, that are significant to care.
2. Spend 10 minutes laying out your readings, photographs, quotations etc. on a page/document.
3. Add this to the Studio Wall. In our case, this is online.
https://docs.google.com/presentation/d/1atSluM8pzUVHIWkxArh0oacfSMiOKopNhlOmThDug/edit#slide=id.g7ff7717a72_15_0
4. Discussion prompted by the materials on Studio Wall.
5. Make a commitment to continue to suggest readings/photographs by posting items on the Wall in the coming weeks. Determine how you will return to this activity each week (informal dialogue, scheduled presentations from research pairs, required 'posts' etc).

Reflect on what are the various versions of care we see here? Reflect on how to work together as a studio?

EXERCISE 02: LISTS OF CARE IN COVID-19

10:30 GMT TUESDAY 28/04/2020. THIS IS AN ONGOING ACTIVITY

Together, we will put together a list of the various care narratives that we see happening in the current context of Covid-19. This is an opportunity to work together to build one shared document. We will collect our observations and links to examples that foreground care, such as care labour, mutual aid, care technologies, repair and maintenance and tinkering during the pandemic. This is an important moment in relation to care and politics. We will first gather examples as a list. We will discuss the best platform to do this with so that everyone can access it, but something simple, like Google Docs. This will be an ongoing activity that can last for the duration of the project. During Week 4, we can use these examples/materials in the Workshop to map concerns and care.

https://docs.google.com/document/d/1gpS5KhX_HerTkhXpxGuKuvarWajuPyRnDRpurZEwGOo/edit

If you cannot access this, please let Sarah or Katherine know.

Reflect on: What are the politics of care in Covid? Can we find categories of care in our lists?

EXERCISE 03: DIGITAL CLEANING

10:00 GMT THURSDAY 28/04/2020

We will meet to collectively begin a digital cleaning session. We will come together after an hour to discuss this cleaning practice and move on to Exercise 4. Alongside this we will develop our own habit of organising and cleaning digital files on our desktops, laptops, and in our archives, allocating time for digital cleanings as part of our weekly cleaning.

Additional references:

Film, *The Cleaners* (2018) <http://gebrueder-beetz.de/en/productions/the-cleaners>

Lily Irani (2015). *Justice for Data Janitors*: <http://www.publicbooks.org/justice-for-data-janitors/>

Roberts, S. (2019). *Behind the screen : Content moderation in the shadows of social media*.

(Available at Goldsmiths Library Catalogue:

<https://ebookcentral.proquest.com/lib/goldsmiths/detail.action?docID=5783696>)

Hillel Arnold, "Critical Work: Archivists as Maintainers," blog (August 2, 2016)

<https://hillelarnold.com/blog/2016/08/critical-work/>

Reflect on: When we think about cleaning, do we mainly think about cleaning or maintenance of physical designed spaces? Here we extend cleaning and 'reproductive labor' to include the maintenance of digital files in computers, software and digital archives. How is the labor of care made visible or invisible? What practices of care can we see here? To extend this activity, exchange with designers, researchers, accountants – or with those whose occupations involve digital maintenance. How do these occupations do digital cleaning?

Adapted from: Choi, Binna et al. (2018) *Unlearning Exercises: Arts Organisations as Sites for Unlearning*, Casco Art Institute, p. 31.

EXERCISE 04: DAMAGE DETECTION

09:30 GMT TUESDAY 05/05/2020 AND 09:30 GMT THURSDAY 07/05/2020: 1.5

HRS workshop plus Slow TV sessions throughout the day.

Mending Workshop

Dear All,

Looking forward to seeing you for the Mending Workshop. We will be doing woven darn techniques that are good for sweaters and socks. Materials list is below - please bring what you can and anything you're missing or not sure about we'll troubleshoot and figure out alternatives in the workshop.

Hope you're all well and see you at the workshop!

Celia

EXERCISE 05: LOOK AFTER SOMETHING FOR ONE WEEK

LAUNCH 09:30 - 10:00 GMT THURSDAY 07/05/2020

For one week, we want you to look after something. One thing. This 'something' should not be an act of care that you are already doing anyway as part of your daily life, such as making dinner or looking after a pet, in a way that you normally do. Instead, we want you to expand the places in which you look for and do care, or to do mundane acts of care in an exaggerated or obsessive way.

If you are stuck, the following exercises in this document might be useful. You might want to choose one and adapt it. Additionally, we will present a range of examples of care/maintenance to launch this part of the project.

As part of this exercise, you will also make an Instruction, so that someone else could care for the thing that you have looked after. Also, make visible the labour (your labour and others*) required to organise this exercise. (This could be collaborators, friends, family, community, participants, other humans and nonhumans). You will present your Instructions and reflections back to the group in one week-time.

Reflect on: different and varied practices of care, spaces of care, temporalities of care.

A2: Rehearsing contact, script examples

1. Haven't seen it
2. Blocked by reception
3. Overworked staff
4. Is this an inspection?

1. Haven't seen it

[Dials number]

Hello. Howard House nursing home

Hello. Can I speak to Jennifer Smith please?

Can I ask who's calling?

Yes, my name is Sarah Pennington.

Can I ask what it's about please?

Yes, it's a bit of an unusual request for information. I'm a designer from Goldsmiths University in London. The reason I'm calling is in relation to a design object that was placed in Howard House some time ago. I'm trying to locate the design and Jennifer is the person I need to speak to first.

Ok I'll put you through to Jennifer. Wait a minute please. [Call gets transferred]

[Phone is picked up although it takes a bit of time] Hello, Jennifer speaking.

Hi Jennifer. I'm Sarah Pennington and I'm calling with a bit of an unusual request.

Okay...

I'm a designer from Goldsmiths University in London. A design object that was made at Goldsmiths was placed in Howard House quite some time ago, back in 2011. I understand that you weren't working at the care home at that time, but I'm trying to locate the design and I wonder if you can help?

I'm not sure I can. What's the object?

It looks like a strange kind of TV screen on wheels that has handles on the side. It's a light brown colour. It also has a remote control that sits in a holder. It's called the Photostroller.

I haven't seen it. Sorry.

2. Blocked by reception

Hello?

Hello. Can I speak to Jennifer Smith please?

Can I ask who's calling?

My name is Sarah Pennington.

And what's it regarding Sarah?

It's a bit of an unusual request. I'd like to speak to Jennifer about a designed object that was put in Howard House in 2011.

In 2011? Well it's unlikely that Jennifer will know anything about this. That's before her time.

I would still like to speak to Jennifer if possible.

[Sighs]. A design? What sort of design?

It's called The Photostroller. It's like a TV on wheels with handles. Light brown. Jennifer might know something about it.

A light brown TV on wheels? Never seen it.

Yes, it was installed in 2011 or possibly 2012.

That was quite a while ago.

[put on hold]

I'm afraid that Jennifer is in a meeting right now.

Ah ok. When would be a good time to call her back?

If you leave me your number, I will ask her to call you.

3. Overworked staff

Hello, Howard House Nursing Home. Are you okay to hold?

Yes, sure. [On hold; music plays].

Hello, Howard House Nursing Home.

Hi. I'm on hold.

Are you okay to hold again?

Yes, sure. [On hold; music plays].

Hello, can I help?

I'd like to speak to Jennifer Smith please?

Can I ask who's calling?

Yes, my name is Sarah Pennington.

Ok, I'll just try and find her for you Sarah. What's it regarding?

It's a bit unusual. I'm a designer from Goldsmiths University in London. The reason I'm calling is in relation to a design object that was installed in Howard House quite some time ago, back in 2011. I'm trying to find it.

Ok Sarah. I'll just try and transfer you.

Thank you.

[On hold. Music plays. Phone gets disconnected].

4. Is this an inspection?

[Dials 01904 416904]

Hello. Howard House Nursing Home.

Hello. Can I speak to Jennifer Smith please?

Can I ask who's calling?

Yes, my name is Sarah Pennington.

Ok, I'll put you through to Jennifer. Wait a minute.

[On hold. Music plays]

Sorry, can I ask what you're calling about please?

Yes. It's a bit unusual. The reason I'm calling is in relation to a design object that was installed in Howard House quite some time ago, back in 2011. I'm trying to find it.

Ok. Wait a minute.

[On hold. Music plays]

Sorry, can I ask where you are calling from?

I'm a designer from Goldsmiths University in London. It's not a problem if you can't find it.

Okay...I think it's best if you contact the Joseph Rowntree Foundation. I'll put you through.

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